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# CREATING HOLDUP THROUGH VERTICAL INTEGRATION: FISHER BODY REVISITED\*

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## ABSTRACT

General Motors's (GM's) 1926 acquisition of Fisher Body has long served as a cornerstone of hold-up arguments for vertical integration. This paper utilizes primary historical evidence to make three related claims. First, it shows that GM's initial investment in Fisher Body occurred primarily to gain access to the Fisher brothers' specialized human assets. Second, it shows that holdup was not the cause of GM's purchase of Fisher Body. Instead, the primary factors leading to vertical integration were GM management's fears over the Fisher brothers' impending departure, coupled with problems of financing new body plants. Finally, I show that while holdup was not an issue prior to integration, the Fisher brothers successfully held up GM after they became employees. Far from reducing opportunistic behavior, vertical integration increased GM's vulnerability to rent-seeking behavior based in human asset specificity.

SIXTY years ago, R. H. Coase asked why some transactions are carried out in the market, while others take place within firms.<sup>1</sup> Over half a century later, many economists concur that transactions are particularly likely to move from market to firm when incomplete information is coupled with asset-specific investment, thereby raising the costs associated with devising, monitoring, and executing contracts. Despite this accord, important conceptual differences remain concerning the details of this argument. First, there has been ongoing disagreement over the role of holdup in vertical integration. Benjamin Klein, Robert Crawford, and Armen Alchian argue that investment in highly specific assets creates an incentive for one party to realize gains at the expense of the other, and they further contend that the elimination of such hold-up costs constitutes the most significant saving to

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<sup>1</sup> R. H. Coase, *The Nature of the Firm*, 4 *Economica* (n.s.) 386 (1937).

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be realized from unified ownership.<sup>2</sup> Coase strongly objects to this formulation, arguing that potential hold-up problems can be resolved through contract.<sup>3</sup> A second disagreement concerns the role of asset specificity in the make or buy decision. Most accounts focus on physical assets, arguing that vertical integration is driven by investment in specialized plant and equipment. There is considerably less agreement about the role played by “human assets,” or specialized knowledge, in the make or buy decision. Here, an entire spectrum of views exists, from those who argue that unified ownership offers no advantage over the market in reducing the transaction costs associated with human asset specificity to those who contend that hierarchical fiat is capable of redressing such problems.<sup>4</sup>

General Motors’s (GM’s) 1926 acquisition of Fisher Body (hereinafter Fisher) serves as the paradigmatic case invoked in debates over both the importance of holdup and the role of asset specificity in shaping the boundaries of the firm. Following Klein, Crawford, and Alchian’s seminal article, it is widely accepted that GM’s purchase of Fisher reduced transaction costs by eliminating holdup. The Fisher case is also invoked in debates over the role of physical and human asset specificity. Although Klein focuses primarily on the role of physical assets in the Fisher purchase, he acknowledges that issues of human asset specificity were also at work.<sup>5</sup> Moreover, while various analysts provide different explanations of how the unified ownership resolved issues of human asset specificity, most agree that GM’s purchase of Fisher most likely reduced such problems. The GM-Fisher case is thus the most widely cited example of vertical integration reducing problems of physical and human asset specificity, and it serves as an empirical cornerstone for hold-up explanations of unified ownership.

This article draws on primary historical data to reexamine the Fisher case and to address the role of holdup and human assets in determining the boundaries of the firm. Showing that the standard account of the Fisher case is grossly inaccurate and misleading, I make three related arguments. First,

<sup>2</sup> Benjamin Klein, Robert G. Crawford, & Armen A. Alchian, Vertical Integration, Appropriate Rents, and the Competitive Contracting Process, 21 *J. Law & Econ.* 297 (1978); Benjamin Klein, Vertical Integration as Organizational Ownership: The Fisher Body–General Motors Relationship Revisited, in *The Nature of the Firm: Origins, Evolution, and Development* 213 (Oliver Williamson & Sidney Winter eds. 1991); and Benjamin Klein, Contracts and Incentives: The Role of Contract Terms in Assuring Performance, in *Contract Economics* 149 (Lars Werin & Hans Wijkander eds. 1992).

<sup>3</sup> R. H. Coase, The Nature of the Firm: Influence, 4 *J. L. Econ. & Org.* 33 (1988).

<sup>4</sup> For an example of the former, see Armen A. Alchian & Harold Demsetz, Production, Information Costs, and Economic Organization, 62 *Am. Econ. Rev.* 777 (1972). For the latter view, see Oliver E. Williamson, Comparative Economic Organization: The Analysis of Discrete Structural Alternatives, 36 *Admin. Sci. Q.* 269 (1991).

<sup>5</sup> Klein, Vertical Integration as Organizational Ownership, *supra* note 2, at 217.

I show that GM's decision to acquire a 60 percent share of Fisher and, to a lesser extent, its later decision to purchase Fisher outright were caused primarily by the desire to acquire and retain the specialized knowledge and services of the Fisher brothers. Unified ownership was thus driven much more extensively by the attempt to capture scarce knowledge than has been recognized. Second, I show that GM's 1926 decision to purchase Fisher was not motivated by a desire to eliminate holdup. Indeed, evidence suggests that holdup never occurred, and events that have been interpreted as indications of holdup revolved primarily around GM's attempts to retain the services of the Fisher brothers. General Motors's 1926 purchase of Fisher did involve issues of strategy, knowledge, and asset specificity of both the physical and human variety, but it did not occur because Fisher took advantage of the contract between the companies. Third, I show that while holdup was not an issue prior to integration, the Fisher brothers successfully held up GM after they became employees; far from reducing opportunistic behavior, vertical integration increased GM's vulnerability to rent-seeking behavior. Drawing on this evidence, I turn to a discussion of the implications of the Fisher case for existing theories of the firm.

#### I. FISHER BODY: THE ACCEPTED STORY

Hold-up explanations of vertical integration achieved widespread currency following Klein, Crawford, and Alchian's seminal account, which uses the GM-Fisher case as both an example and a cornerstone of theory development. As a consequence of Klein, Crawford, and Alchian's article, the basic story behind GM's purchase of Fisher is well known: on September 25, 1919, General Motors purchased a 60 percent interest in Fisher. At the same time, the two companies entered into a contract whereby GM agreed to buy all of its closed automobile bodies from Fisher for a 10-year period. But on June 30, 1926, 3 years before the contract had run its course, GM purchased the remaining 40 percent of Fisher, making the world's largest automobile body manufacturer a wholly owned division of GM. Following Klein, Crawford, and Alchian, most scholars agree that GM purchased Fisher to eliminate holdup emerging out of asset specificity. Knowing that GM had no alternative source of supply for closed bodies, Fisher took advantage of contractual provisions that allowed them to extract rents at GM's expense. The automaker responded by purchasing Fisher outright, thus eliminating the holdup.

Klein, Crawford, and Alchian contend that the incentive to hold up GM was itself a consequence of key provisions in the 1919 contract between the two companies. In order to provide GM with its closed-body needs, Fisher had to build body plants adjacent to GM manufacturing facilities and to in-

vest heavily in costly body-making dies specific to GM car models. Both types of investment were essentially nonredeployable, raising the possibility that GM could hold up Fisher by threatening to curtail or terminate body purchases unless Fisher offered better prices. To reduce GM's ability to behave opportunistically, the 1919 contract contained an exclusive dealing clause, thus ensuring that GM could not threaten to seek alternative sources of supply and, in turn, encouraging Fisher to make investments in asset-specific plant and equipment.<sup>6</sup> Similarly, because GM had no alternative source of supply for closed bodies, the possibility existed that Fisher could demand a higher price or could reduce quality in order to raise its profits at GM's expense. To avoid this possibility, the two parties agreed to a cost-plus pricing formula, wherein the price of bodies would be equal to cost plus 17.6 percent.<sup>7</sup> This, along with the provision that GM would not be charged more than other manufacturers buying similar bodies, was designed to foreclose Fisher's ability to hold up GM. Last, the contract made provisions for compulsory arbitration should disputes over pricing arise. Despite these precautions, according to Klein, Crawford, and Alchian, unforeseen contingencies developed that allowed Fisher to hold up GM. Between 1919 and 1926 the demand for closed bodies increased significantly, leading to a rapid increase in Fisher's sales to GM. Klein contends that this allowed Fisher to hold up GM "by adopting a relatively inefficient, highly labor-intensive technology and by refusing to locate . . . body-producing plants adjacent to General Motors assembly plant[s]."<sup>8</sup> Since labor and transporta-

<sup>6</sup> *Id.* at 214; Klein, Crawford, & Alchian, *supra* note 2, at 308.

<sup>7</sup> Klein summarizes the contract's pricing formula but does not reproduce it, and the contract is not in the public domain. For Klein's summary, see Klein, Vertical Integration as Organizational Ownership, *supra* note 2, at 216. See also Klein, Crawford, & Alchian, *supra* note 2, at 309. Additional information in these paragraphs comes from these two sources. For a more detailed summary of the formula, see Letter from Fred and Charles Fisher to General Motors Corporation (September 25, 1919), Gov't Trial Ex. No. 426, *United States v. E. I. Du Pont de Nemours & Co., General Motors, et al.*, Civil Action 49C-1071, 126 F. Supp. 235 (N.D. Ill. 1954). Unless otherwise noted, all exhibits, depositions, and testimony cited are from this suit, the initial U.S. antitrust suit against Du Pont and General Motors charging them with violating the Clayton Act. In the initial suit, the U.S. district court judge decided in favor of the defendants, averring that they had not violated the Clayton Act. This decision was reversed by the Supreme Court in 353 U.S. 586 (1957); details concerning the disposition of Du Pont's stock holdings in GM were decided in 366 U.S. 316 (1961), which gave the final order for Du Pont to divest itself of GM holdings.

<sup>8</sup> Klein, Vertical Integration as Organizational Ownership, *supra* note 2, at 215–16. This claim is based on the deposition and testimony of Alfred P. Sloan, Jr., in the U.S. government antitrust suit against GM and Du Pont, which occurred some 30 years after the events transpired. Documents show no evidence of disputes regarding Fisher's production techniques, and disagreements regarding the location of assembly plants did not revolve around issues of holdup (see below). For Sloan's statements, see Deposition of Alfred P. Sloan, Jr., at 186, *Du Pont*, 126 F. Supp. 235; and Alfred P. Sloan, Jr., Direct Testimony, at 2908, *Du Pont*, 126 F. Supp. 235.

tion costs were subject to the 17.6 percent surcharge, these tactics increased Fisher's profits at GM's expense. The pricing formula and exclusive dealing clauses originally crafted to protect both parties thus allowed Fisher to hold up GM when unforeseen conditions arose.<sup>9</sup>

Following Klein, Crawford, and Alchian, most accounts of the Fisher case emphasize the importance that physical assets played in creating holdup, and they agree that vertical integration resolved such problems. Although different authors offer somewhat different explanations of how unified ownership resolves holdup, the general logic of their arguments remains the same: unified ownership creates a single owner with uncontested property rights over physical assets.<sup>10</sup> Oliver Williamson emphasizes that such rights derive from the different forms of contract law governing transactions in markets and firms. Whereas contracts between independent owners can be enforced by external parties, transactions occurring within a single firm are governed by the law of forbearance and are generally exempt from such intervention. "Accordingly, identical disputes within 'make' transactions . . . and 'buy' transactions . . . are treated differently—in that the courts will hear the one and will *refuse to be drawn into the other*."<sup>11</sup> In the GM-Fisher case, for example, courts would refuse to intervene in disputes over plant location or the price to be charged for car bodies once vertical integration occurred. Property rights approaches emphasize that unified ownership realigns incentives to invest in relationship-specific physical assets, thereby ensuring that such investments will be made.<sup>12</sup> Analysts thus concur that unified ownership resolves problems of physical asset specificity by shifting ownership, thereby realigning incentives and foreclosing outside intervention in transactional disputes.

There is much less agreement concerning the role played by human assets in the GM-Fisher case. Although Klein, Crawford, and Alchian provide no empirical evidence one way or the other, Klein himself concedes that "much of the specific investment" in the GM-Fisher case probably consisted "of Fisher human capital investments," and he further acknowledges that "many real-world examples involve human capital and not

<sup>9</sup> Klein, *Vertical Integration as Organizational Ownership*, *supra* note 2, at 216. In his most recent work, Klein retreats from the view that asset specificity per se played a role in Fisher's holdup of GM, arguing instead that the unanticipated shift in demand was itself sufficient to create contractual failure. He continues to argue that holdup was central and that it was motivated by the growing demand for closed bodies. See Klein, *Contracts and Incentives*, *supra* note 2.

<sup>10</sup> See Klein, *Vertical Integration as Organizational Ownership*, *supra* note 2, at 217–18; Oliver Hart, *Firms, Contracts, and Financial Structure*, ch. 2 (1995).

<sup>11</sup> Oliver Williamson, *Comments*, in Werin & Wijkander eds., *supra* note 2, at 285.

<sup>12</sup> Hart, *supra* note 10.

merely physical capital as the important firm-specific asset."<sup>13</sup> This admission raises an obvious problem, for, as Klein recognizes, vertical integration does not and cannot transfer ownership of human assets. How, then, does unified ownership resolve holdup arising from such assets? Klein contends that human-specific capital is usually possessed not by a single individual but by a team of employees. In the Fisher case, Klein conjectures that "it is unlikely that it was the Fisher brothers themselves who possessed all the relevant firm-specific human capital" for producing closed bodies.<sup>14</sup> This capital was instead shared by a collectivity of Fisher employees and had become embedded in the firm as a whole. By transferring ownership of the team's labor contracts to a central owner, vertical integration made it much less likely that the Fishers could utilize their specialized knowledge and skills against GM. "The primary reason a hold-up cannot occur after such a transfer of rights is because collusion is difficult with a large number of entities. . . . A threat that all the individuals [in Fisher] will simultaneously shirk or leave . . . generally will not be credible."<sup>15</sup> In this view, vertical integration alleviates hold-up problems originating in human asset specificity, even though ownership of human assets themselves does not change.

Later analysts concur that GM's purchase of Fisher most likely alleviated any problems of human asset specificity, but different approaches offer different explanations of why this was the case. In outlining his property rights view of the firm, for instance, Oliver Hart acknowledges that "control of physical capital can lead to control of human assets in the form of organizational capital," but he contends that such control over human assets is rooted in the ownership of physical assets.<sup>16</sup> Hart argues that human and physical assets are often complementary and that ownership of the latter affects incentives to invest in the former. In the Fisher case, GM's purchase of Fisher's physical assets made it "difficult at best for Fisher employees to find a substitute for this capital."<sup>17</sup> Lacking alternative physical assets to complement their specialized knowledge and skills, the Fishers could not exercise a credible threat to exit the relationship with GM. It was thus GM's ownership of physical assets that reduced the Fishers' ability to hold up GM, not the acquisition of human assets per se.

<sup>13</sup> Klein, Vertical Integration as Organizational Ownership, *supra* note 2, at 217.

<sup>14</sup> *Id.* at 219.

<sup>15</sup> *Id.* at 220.

<sup>16</sup> Oliver Hart, An Economist's Perspective on the Theory of the Firm, in *Firms, Organizations and Contracts: A Reader in Industrial Organization* 211 (Peter J. Buckley & Jonathan Michie eds. 1989); Hart, *supra* note 10; and Oliver Hart & John Moore, Property Rights and the Nature of the Firm, 98 *J. Pol. Econ.* 1119 (1990).

<sup>17</sup> Hart, *supra* note 16, at 211.

Williamson offers a different view, arguing that problems of human asset specificity are resolved through the use of hierarchical fiat or authority. In his view, the efficacy of fiat (and thus of unified ownership) is based in the contract doctrine of forbearance. Just as the courts will refuse to become involved in disagreements involving physical assets within a firm, forbearance prevents outside intervention in most technical disputes between employee and employer. "Access to the courts being denied, . . . parties must resolve their differences internally. Accordingly, hierarchy is its own ultimate court of appeal."<sup>18</sup> Employees with specialized knowledge or skills are thus inclined to cooperate with their superiors because they have no alternative. Cooperation is further encouraged through the manipulation of "low-powered incentives" internal to the firm and through monitoring and control mechanisms that provide detailed information to management. In this view, vertical integration works to reduce problems of human asset specificity in much the same way that it attenuates problems of physical asset specificity. Its efficacy is not contingent on specialized knowledge being embedded in a team, nor is it contingent on ownership of physical assets. Rather, integration predisposes employees to cooperate with their new employers by changing the likelihood that resistance will be successful and by realigning incentives. In this version of the story, GM's purchase of Fisher reduced problems of human asset specificity by making the six Fisher brothers and all of Fisher's employees subject to the authority of GM's management.

To summarize, GM's 1926 purchase of Fisher has been widely regarded as a case of vertical integration arising out of holdup. Following Klein, Crawford, and Alchian, most analysts concur that by purchasing Fisher, GM acquired property rights over its physical assets, thus enabling the automaker to put an end to the labor-intensive production techniques and plant mislocation that were at the root of the holdup. In addition, there is general agreement that the Fisher case entailed instances of human asset specificity that were ameliorated through vertical integration, though little or no concrete evidence on this point is offered. Different schools of thought provide divergent accounts of how unified ownership ameliorated holdup based in human assets. Klein and Hart agree that since human assets cannot be owned, vertical integration provides only indirect leverage, either because knowledge is embedded in team production or because control over physical assets creates leverage over complementary human assets. Williamson, on the other hand, contends that hierarchy allows for more direct control over human assets by creating fiat or authority based in the contract law of

<sup>18</sup> Williamson, *supra* note 4, at 274; Oliver E. Williamson, *The Mechanisms of Governance* (1996).

forbearance. All agree, however, that problems of human asset specificity are common and that GM's purchase of Fisher undoubtedly reduced the Fisher brothers' ability to hold up GM in this regard.

## II. FISHER BODY REVISITED

The accepted account of the Fisher story is erroneous on empirical grounds and problematic on theoretical ones. In the following sections, I provide historical data to make three related arguments. First, I show that GM's initial investment in Fisher was motivated primarily by a desire to acquire the Fisher brothers' human assets—their specialized knowledge of the body business. In order to acquire these assets, GM agreed to heretofore overlooked contractual provisions designed to secure the Fishers' continued employment. It was these provisions, and not disputes over pricing, that led to integration in 1926. Second, I concur with Coase that Klein, Crawford, and Alchian's emphasis on holdup is misplaced; primary evidence suggests that holdup never occurred in the GM-Fisher relation.<sup>19</sup> The contractual problems that GM and Fisher experienced in 1924—the putative source of GM's decision to purchase Fisher—were directly linked to the possibility of the Fisher brothers' departure and had nothing to do with Fisher taking advantage of the cost-plus pricing clause in the existing contract. Third, I show that although transaction cost considerations did play a part in GM's decision to purchase Fisher, the factors behind vertical integration were far more numerous and complex than existing accounts have recognized. They included GM's ongoing attempts to retain the Fishers, problems of plant location and financing, GM's endeavors to coordinate design and avoid leakage of key strategic information, and GM's desire to prevent competitors from using Fisher's services. The Fisher case thus suggests that the factors determining the boundaries of the firm may be much broader than has generally been recognized.

I begin with a discussion of the period prior to GM's purchase of Fisher. Klein, Crawford, and Alchian treat the period from 1919 to 1926 as one in which Fisher and GM coordinated transactions via contract. They scarcely mention that the contract between these companies was agreed upon only after GM acquired a 60 percent interest in Fisher, and they provide no explanation of why GM acquired a controlling interest in its supplier. In this section I show that GM's primary aim in purchasing an interest in Fisher

<sup>19</sup> R. H. Coase, *The Acquisition of Fisher Body by General Motors*, in this issue, at 15. Professor Coase and I carried out our projects independently, learning only late in the process of the other's work. I am very heartened to learn that, working independently, we reached virtually identical conclusions regarding the hold-up issue. I also wish to thank Coase and Richard Brooks for sharing their research and providing comments on my own.

and entering into a long-term contract was to secure the Fisher brothers' human assets. Because their efforts to secure the Fishers' continuing participation were complicated by both competitive pressures and the brothers' preference for autonomy, GM agreed to a number of contractual provisions that have heretofore been overlooked. These provisions, not issues of holdup or price, were the key factors shaping later negotiations and disagreements between the two companies.

The contract between GM and Fisher emerged in a situation of competitive uncertainty. In 1919, only 10 percent of the industry's output consisted of closed bodies, and the few autos that used closed bodies were expensive luxury cars. General Motors lacked both the knowledge and the facilities necessary for manufacturing closed bodies.<sup>20</sup> Yet its management feared that this new technology might become an important competitive weapon. These fears were magnified in mid-1919, when Fisher obtained its "largest order for closed bodies" ever from Ford.<sup>21</sup> Fearing that Ford was experimenting with closed bodies on the inexpensive Model T, GM management worried that they were about to fall further behind their primary competitor in an important strategic area. They thus set out to acquire both a source for closed bodies and a knowledge of the closed-body business.

General Motors initially attempted to acquire knowledge of the closed-body business by hiring four of the Fisher brothers as employees. Of the six brothers, two had contracts with Fisher that precluded their entry into the body business with any company competing directly in Fisher's market. General Motors President William Durant reasoned that he could hire the remaining four brothers, putting them in charge of body production at GM.<sup>22</sup> Merely obtaining the physical assets of Fisher was not sufficient, for acquiring a knowledge of closed bodies meant first and foremost securing the Fisher brothers. Moreover, GM did not want simply to purchase bodies from Fisher on the market, probably because Ford was already one of Fisher's biggest customers. Despite at least two attempts between fall 1918 and mid-1919, however, Durant was unable to lure the brothers away from Fisher; they preferred to stick together in the family-run business. Having failed in his attempts to hire the Fishers themselves, Durant turned to the strategy of procuring their services through buying an interest in Fisher.

General Motors's attempts to purchase an interest in Fisher were compli-

<sup>20</sup> On industry production, see Alfred P. Sloan, Jr., *My Years with General Motors* 152 (John McDonald & Catharine Stevens eds. 1964). On GM's capacity, see Direct Testimony of Lawrence Fisher, at 1549, *Du Pont*, 126 F. Supp. 235.

<sup>21</sup> Direct Testimony of Lawrence Fisher, at 1595, *Du Pont*, 126 F. Supp. 235.

<sup>22</sup> The four Fisher brothers in question were Alfred, Edward, Lawrence, and William. See *id.* at 1551. Information in the remainder of this paragraph and the following is from *id.* at 1549, 1597.

cated by the Fisher brothers' desire to retain autonomy and by competition for their services. Accustomed to the autonomy of running their own firm, the Fishers made it clear that they did not wish to sell their business to another company and to stay on as employees. Indeed, the Fishers believed that one way to retain their autonomy might be to enter the automobile business in order to compete directly with GM and other car manufacturers, and by 1919 they had begun to take steps to do so. Perhaps even more alarming to GM management, by mid-1919 at least two other firms were attempting to forge alliances with Fisher.<sup>23</sup> To GM's dismay, the brothers had entered negotiations with Cleveland financiers to manufacture car bodies for a competitor (Willys-Overland) by forming a new \$10 million company controlled and managed by the Fishers.<sup>24</sup> If GM was going to procure the Fishers' knowledge and services, it would have to outbid competitors while simultaneously providing the autonomy that the brothers valued.

The 1919 GM-Fisher agreement was an attempt to compromise between these conflicting imperatives. In order to prevent other firms from obtaining the Fishers' services, GM outbid the competition. Whereas the Cleveland group had offered Fisher \$10 million to set up a new body company, GM paid nearly three times this amount, purchasing 300,000 shares of newly issued Fisher common stock at \$92 per share.<sup>25</sup> The purchase agreement stipulated that negotiations with the Cleveland group would be discontinued, eliminating the likelihood that a GM competitor would hold a substantial interest in Fisher.<sup>26</sup> One important consequence of GM's ownership share was that GM acquired an advantage over Fisher's other customers. While Fisher would be free to make bodies for other buyers, such sales would be handled strictly by contract; only GM would have an ownership stake and representation on Fisher's board, provisions that presumably gave GM leverage that others did not have. Moreover, because the 1919 contract guaranteed that Fisher would meet all of GM's closed-body needs, it effectively gave GM precedence over other customers, especially Ford. The decision to purchase a 60 percent interest in Fisher was thus driven in part by GM's

<sup>23</sup> Arthur Pound, *The Turning Wheel: The Story of General Motors through Twenty-Five Years, 1908–1933*, at 291 (1934).

<sup>24</sup> Letter from Pierre S. du Pont to Fred Fisher (September 11, 1919), Gov't Trial Ex. No. 425, *Du Pont*, 126 F. Supp. 235.

<sup>25</sup> General Motors Corporation, *Annual Report 12* (1919); Lawrence Seltzer, *A Financial History of the American Automobile Industry* 218 (1928).

<sup>26</sup> The agreement is outlined in Gov't Trial Ex. Nos. 425, 426, *Du Pont*, 126 F. Supp. 235. The agreement further specified that if Fisher felt "morally bound" to continue with the Cleveland negotiations, "under no circumstances will any division of territory be considered and agreed to informally or otherwise."

desire to preclude others from entering into an arrangement with Fisher and to ensure that GM would have access to Fisher's knowledge and services.

The 1919 contract contained key provisions that demonstrate GM's emphasis on retaining the Fishers and that played a crucial role in shaping subsequent events. The contract contained powerful financial incentives designed to induce the Fishers to stay and manage body operations. First, up to two-thirds of the Fishers' net earnings would be paid out in dividends on Fisher common stock "until such stock shall have received at least a dividend of \$10 per share," a provision that would continue for 5 years.<sup>27</sup> As holders of roughly 20 percent of Fisher common stock, the brothers would realize a minimum of \$1 million a year in personal profits from this provision.<sup>28</sup> In addition to earning dividends on Fisher common stock and their regular salaries, four of the brothers would also receive 5 percent of Fisher's net profits.<sup>29</sup> Finally, the contract included provisions designed to meet the Fishers' demands for maximum autonomy. The 300,000 shares purchased by GM were placed in a voting trust overseen by two representatives each from GM and Fisher.<sup>30</sup> This prevented GM from using its majority ownership to control Fisher's internal affairs since any action decided by the trust had to be approved unanimously by the four trustees.<sup>31</sup> Similarly,

<sup>27</sup> Gov't Trial Ex. No. 426, *Du Pont*, 126 F. Supp. 235; and Agreement between Fisher Body Corporation and Fred J. Fisher (December 9, 1919), Gov't Trial Ex. No. 430, *Du Pont*, 126 F. Supp. 235.

<sup>28</sup> Ownership figures of Fisher common stock can be found in Letter from Pierre S. du Pont to Lammot du Pont (October 31, 1922), Gov't Trial Ex. No. 435, *Du Pont*, 126 F. Supp. 235. As owners of 60 percent of Fisher common stock, GM would obtain at least \$3 million a year from this stipulation, which it used to pay off the 5-year notes that helped finance the 1919 purchase.

<sup>29</sup> Letter from General Motors to Fred and Charles Fisher (September 25, 1919), Gov't Trial Ex. No. 427, *Du Pont*, 126 F. Supp. 235. In 1919, 5 percent of Fisher's net would have been \$231,874; by 1923 the amount was \$1,105,100. Between 1919 and 1924, this provision netted the Fishers some \$7.5 million in earnings. See Letter from Pierre S. du Pont to Sir Harry McGowan (October 21, 1924), Defense Trial Ex. No. GM-32, *Du Pont*, 126 F. Supp. 235.

<sup>30</sup> General Motors representatives were Chairman of the Board Pierre S. du Pont and President William Durant; Fred Fisher and Louis Mendelssohn represented Fisher. See Voting Trust Agreement (November 24, 1919), Gov't Trial Ex. No. 429, *Du Pont*, 126 F. Supp. 235. Other information in this paragraph can be found in Gov't Trial Ex. Nos. 425, 426, *Du Pont*, 126 F. Supp. 235; Pound, *supra* note 23, at 181.

<sup>31</sup> In the event of intractable differences, it was probably Fisher that held the upper hand. All of GM's Fisher stock was controlled by the voting trust, but of the roughly 150,000 shares owned by the Fishers and their chief financial backers, only 35,000 were controlled by the voting trust. The remaining 115,000 shares—the vast majority of stock not controlled by the trust—could be voted directly at shareholder meetings by the Fishers and their backers. See Direct Testimony of Lawrence Fisher, at 1559, 1574, *Du Pont*, 126 F. Supp. 235.

Fisher's 14-member board of directors was split down the middle, with seven directors from GM and seven from Fisher.<sup>32</sup> General Motors thus surrendered many of the prerogatives of ownership to entice the Fishers into accepting the contract. Yet even these provisions were not sufficient to meet the brothers' demands: they requested an option to leave Fisher if they became unhappy with the agreement. General Motors saw the retention of the Fishers as crucial, however, and would not proceed on this basis. Only after a compromise was reached that contractually obligated the brothers to remain with Fisher for a period of 5 years would GM consummate the deal.<sup>33</sup>

Klein, Crawford, and Alchian correctly emphasize that many of the provisions in the 1919 contract between GM and Fisher were shaped by transaction cost considerations and efforts to reduce incentives for holdup. Yet they completely overlook the role played by human asset specificity and the contractual provisions designed to keep the Fishers with Fisher. Crucial in this regard was the fact that all of the provisions designed to secure the Fishers' human assets—the brothers' labor contracts, the profit-sharing plan that set a minimum \$10 dividend while guaranteeing the brothers 5 percent of Fishers' profits, and the voting trust agreement that limited GM's ownership rights—were set to expire on October 1, 1924. Although the cost-plus contract wherein Fisher agreed to supply car bodies to GM covered a 10-year span, the continuing participation of the Fishers was ensured for only half that period. It was the threatened expiration of these provisions, not holdup, that was the primary source of contractual difficulty between GM and Fisher prior to mid-1924, and it was the impending expiration of these provisions, not holdup, that served as the primary impetus for contractual modification.

### III. MODIFYING THE TERMS OF CONTRACT

Klein, Crawford, and Alchian argue that GM's decision to purchase Fisher was made in 1924, when the existing contract between the companies became "intolerable" owing to holdup.<sup>34</sup> There are three important

<sup>32</sup> The agreement also created internal governance committees at Fisher that mirrored those in place at GM: a five-man finance committee with three GM representatives and a seven-man executive committee with two GM representatives. See Gov't Trial Ex. Nos. 425, 426, *Du Pont*, 126 F. Supp. 235.

<sup>33</sup> See Direct Testimony of Lawrence Fisher, at 1602, *Du Pont*, 126 F. Supp. 235; Gov't Trial Ex. No. 427, *Du Pont*, 126 F. Supp. 235.

<sup>34</sup> Klein, Crawford, & Alchian, *supra* note 2, at 310. The timing of GM's decision to purchase Fisher cannot be verified with certainty. Klein, Crawford, and Alchian cite three documents from the GM antitrust trial, none of which makes reference to when the purchase decision was actually made. Both Sloan and Lawrence Fisher later testified that negotiations for the purchase began in 1924, but Fisher indicated that he was not certain of this date. Internal documents show that the topic of purchase had been discussed on and off since at least 1922,

problems with this claim. First, the contractual disputes of 1924, which Klein, Crawford, and Alchian cite as evidence of holdup, revolved around GM's desire to retain the Fishers and the impending expiration of the brothers' labor contracts. General Motors executives were also concerned with issues of how to finance Fisher's future growth and investment, but these concerns were secondary to the issue of retaining the Fishers' human assets. Second, Alfred Chandler and Stephen Salsbury contend that in order to retain the brothers, GM modified the existing contract in October 1924, altering the cost-plus pricing contract and thereby foreclosing Fisher's ability to profit through the use of labor-intensive production techniques and the mislocation of body plants. If this claim is correct, the potential for holdup was eliminated almost 2 years before GM purchased Fisher. Third, even if Chandler and Salsbury's claim is mistaken, the changes made in 1924 clearly gave GM the power to control Fisher. The voting trust agreement that had limited GM's control over Fisher expired in October 1924. After that date, GM could easily have put an end to any attempt at holdup by voting its 60 percent of Fisher common stock. Taken together, this evidence strongly suggests that there was no holdup in the GM-Fisher relationship. Rather, the events of 1924 revolved around GM's desire to retain the services of the Fisher brothers themselves.

The contractual difficulties of 1924 centered on the impending expiration of the Fishers' employment contracts, set for October 1, 1924. The issue of what would happen once the contract expired had arisen as early as mid-1922, when Fred Fisher raised the possibility of a GM-Fisher merger.<sup>35</sup> Although a study was commissioned to investigate this prospect, the idea failed to go forward, probably owing to the Fishers' reticence to become GM employees.<sup>36</sup> The brothers sought to retain an arrangement whereby

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but there is no evidence of negotiations between 1924 and 1926. General Motors's statements to the press indicated that serious efforts to purchase Fisher did not begin until late November 1925, and internal reports on the desirability of purchasing Fisher did not reach GM's finance committee until April 1926. I will assume, *arguendo*, that the decision to purchase Fisher was made in 1924. See Direct Testimony of Lawrence Fisher, at 1603, *Du Pont*, 126 F. Supp. 235; and Deposition of Alfred P. Sloan, Jr., at 190, *Du Pont*, 126 F. Supp. 235. On the claim that negotiations began in 1925, see G.M. Would Acquire All Fisher Sales, 54 *Automotive Industries* 746 (1926). For reports recommending the purchase of Fisher, see Minutes of GM Finance Committee Meeting (May 4, 1926), Gov't Trial Ex. No. 505, *Du Pont*, 126 F. Supp. 235.

<sup>35</sup> Pierre S. du Pont, Fisher Body Relations with G.M.C., Memorandum (August 30, 1922) (Longwood Manuscripts, Pierre S. du Pont Papers, Accession 624, Hagley Museum & Library, Wilmington, Del.) (hereinafter cited as Longwood); and Pierre S. du Pont, Body Situation, Memorandum of Meeting between Pierre S. du Pont, Charles Mott, Alfred P. Sloan, Jr., Fred Fisher, and Lawrence Fisher (May 19, 1922) (Longwood).

<sup>36</sup> Letter from Pierre S. du Pont to Lamot du Pont (October 31, 1922), Gov't Trial Ex. No. 435, *Du Pont*, 126 F. Supp. 235.

they could “stick together as a unit,” for they “hated to see the family business completely disappear.”<sup>37</sup> The brothers, along with their primary financial backers, thus continued to resist the notion of a complete merger, and the question of their future with GM remained unresolved.<sup>38</sup> Equally problematic was the simultaneous expiration of the profit-sharing arrangement that paid the brothers 5 percent of Fisher’s net income. The brothers wanted an assurance of comparable financial incentives before they would renew their employment contracts, yet GM was loathe to continue an agreement that limited the funds available for Fisher’s future expansion. General Motors thus faced a dilemma. Its highest priority was to retain the Fisher brothers themselves, yet the brothers did not want to become GM employees. Moreover, if GM continued the profit-sharing arrangement with Fisher in order to entice the brothers into staying on as “independent” contractors, they would very likely limit Fisher’s ability to expand with GM. As the October 1 deadline approached, GM management searched desperately for a resolution that would keep the brothers from leaving. On the eve of the contract’s expiration, the two sides remained unable to agree, and both feared a “breaking up of relations” was imminent.<sup>39</sup>

An eleventh-hour compromise was reached that provided strong financial incentives for the brothers to remain with Fisher yet also helped to align the interests of the two companies. General Motors devised a plan that would continue to pay the Fishers earnings comparable to the \$7.5 million that the brothers had reaped from their profit-sharing arrangement. Instead of paying the brothers a portion of Fisher’s net income, the new agreement gave each brother a stake in GM’s stock incentive plan.<sup>40</sup> This arrangement had several advantages. First, the GM plan would be in effect through 1929; in order to collect their bonuses in full, the brothers would have to stay with Fisher until that date. Second, the plan freed up Fisher funds and probably provided more leeway for Fisher to reinvest accrued earnings in new plant. Third, the plan tied the Fishers’ remuneration to the performance of GM as a whole rather than to the performance of Fisher. Last, the agreement specified that the two senior Fishers—Fred and Charles—would leave the em-

<sup>37</sup> The first phrase is from Letter from Pierre S. du Pont to Fred Fisher (July 28, 1924) (Longwood); the second is from Alfred D. Chandler & Stephen S. Salsbury, *Pierre S. du Pont and the Making of the Modern Corporation* 576 (1971).

<sup>38</sup> Direct Testimony of Lawrence Fisher, at 1604, *Du Pont*, 126 F. Supp. 235.

<sup>39</sup> Defense Trial Ex. No. GM-32, *Du Pont*, 126 F. Supp. 235.

<sup>40</sup> *Id.* See also Interrogatory 7a and 7b, Managers Securities Company, Schedule F, Gov’t Trial Ex. No. 25, *Du Pont*, 126 F. Supp. 235. These changes were accompanied by a readjustment of Fisher stock, whereby four shares of \$25 common stock were issued in place of each share of existing no par common stock. See Letter from Pierre S. du Pont to Arthur Bishop (October 14, 1924) (Longwood); General Motors Corporation, Annual Report 10 (1924).

ploy of Fisher to take positions as GM executives. Together, these changes ensured the Fishers' continued employment and helped to align the interests of the two companies, thereby reducing the incentive for holdup. Because the brothers' remuneration was now tied to GM's performance rather than Fisher's, there was little economic motivation for Fisher to extract rents at GM's expense.

The foremost scholarly account of GM's early history provides an even stronger argument against holdup. Chandler and Salsbury contend that the contractual modifications made in 1924 introduced changes that eliminated the cost-plus pricing arrangement altogether, thereby foreclosing Fisher's ability to hold up GM via the tactics described by Klein, Crawford, and Alchian. According to Chandler and Salsbury, when the brothers' employment contracts were renegotiated, the cost-plus provisions were altered to ensure that Fisher's costs, profits, and prices "would be computed in the same manner as those of [GM's] . . . operating divisions."<sup>41</sup> In matters of pricing, accounting, and profit, Fisher would be treated like any of GM's other divisions. The new procedures rewarded return on invested capital, based price on operating volume rather than cost-plus accounting, and included provisions for the standard allocation of overhead.<sup>42</sup> Instead of levying a 17.6 percent surcharge on work for GM, Fisher would now set its prices in accordance with GM's accounting principles and transfer pricing policies. If these modifications were indeed put into place, they would have eliminated Fisher's ability to profit from the use of labor-intensive production techniques or the mislocation of assembly plants; following the changes in pricing procedure, such tactics would reduce Fisher's profits rather than enhancing them.<sup>43</sup> Although it is possible that Chandler and Salsbury are mistaken on this point, their account suggests that the changes of 1924 virtually eliminated the possibility of holdup.<sup>44</sup>

<sup>41</sup> Chandler & Salsbury, *supra* note 37, at 576.

<sup>42</sup> For a summary of GM accounting procedures during this era, see Sloan, *supra* note 20, ch. 8.

<sup>43</sup> Aside from Sloan's vague statements in the U.S. antitrust trial (some 30 years after the fact), I have found no evidence to support the allegation that Fisher used labor-intensive production techniques to increase its profits. There is evidence, discussed below, that Fisher refused to locate its Buick body plant adjacent to GM's assembly plant.

<sup>44</sup> Chandler and Salsbury had access to primary documents that are no longer available, and I have therefore been unable to confirm or refute their claim with any certainty. The notice to shareholders that Fisher issued in 1926, when GM finally purchased the body maker, implies that at least some aspects of the contract between GM and Fisher were still in effect at the time of purchase, but it does not specify which provisions of the contract remained operative. It is entirely feasible, for instance, that the cost-plus pricing provisions of the contract had been eliminated, while the exclusive dealing clause continued. Alfred Sloan's testimony in the U.S. antitrust suit refers more specifically to the cost-plus elements of the contract as a factor in GM's decision to purchase Fisher, but his statement is subtly

Perhaps the most striking evidence that holdup was not an issue in 1924, however, is the fact that the voting trust agreement that limited GM's ownership rights expired on the same date as the Fishers' labor contracts.<sup>45</sup> Upon the expiration of the trust, GM was free to vote its 60 percent share of Fisher common stock in order to control decision making at Fisher. Had Fisher been engaged in holdup after October 1, 1924, GM could have eliminated such behavior by simply voting its shares of Fisher stock. General Motors could have thus quashed any attempts to engage in inefficient production or to "mislocate" body plants. The fact that it did not take this approach suggests that the desire to retain the Fishers constituted GM's primary objective, while holdup was not an issue.

#### IV. THE DECISION FOR VERTICAL INTEGRATION

The modifications to the Fishers' labor contracts occurred early in October 1924, but by November 1925 GM had entered negotiations to purchase Fisher.<sup>46</sup> The decision to integrate was driven by four factors, all of which stemmed from the growing importance of closed bodies after 1924. First, and most consistent with existing accounts, increasing production of closed bodies created strain over issues of plant location and how to finance expansion. Second, the shift to closed bodies made body styling a central component of GM's competitive strategy. Because of the increased importance of styling, GM management sought to coordinate the design and engineering of bodies with those of automobile chassis, making it desirable to carry out both processes within a single firm. Yet again, they sought to do so only if they could retain the Fisher brothers themselves. Third, the transformation of the automobile market motivated GM to integrate for purely defensive reasons—to deprive competitors of Fisher's services—a factor that has been completely overlooked in existing accounts. Fourth, the growing importance of closed bodies may have increased GM's apprehensions that the

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ambiguous about whether the cost-plus provisions were in effect after 1924. Lawrence Fisher's testimony in a civil suit lends indirect support to Chandler and Salsbury's account, for he acknowledges that Fisher was "regarded as a division of General Motors" following the 1924 contract modifications. See Notice to Stockholders of Fisher Body Corporation, Gov't Trial Ex. No. 506, *Du Pont*, 126 F. Supp. 235. (Thanks to Ronald Coase for pointing out the reference to the contract in this document.) Direct Testimony of Alfred P. Sloan, Jr., at 2911, *Du Pont*, 126 F. Supp. 235; Deposition of Lawrence Fisher, at 4011, *Gottesman et al. v. General Motors Corp. et al.*, U.S. Civil 121-251, 279 F. Supp. 361 (S.D. N.Y. 1967).

<sup>45</sup> On the voting trust expiration date, see Gov't Trial Ex. No. 429, *Du Pont*, 126 F. Supp. 235. For confirmation that it did indeed expire on this date, see Letter from Bankers Trust Company to Fred J. Fisher, Louis Mendelssohn, John J. Raskob, and Pierre S. du Pont (February 11, 1925), Gov't Trial Ex. No. 431, *Du Pont*, 126 F. Supp. 235. See also *id.* at 283.

<sup>46</sup> G.M. Would Acquire All Fisher Sales, *supra* note 34.

Fishers or their partners might sell their shares of Fisher to unfriendly interests. By purchasing Fisher, GM foreclosed this possibility.

To understand each of these factors, it is helpful to outline the transformation of the automobile market that took place between 1924 and 1926.<sup>47</sup> This transformation made price less important in car sales, putting greater emphasis on styling and appearance. The significance of these trends was brought home to GM in 1924, when a recession jolted the economy. Industry sales fell about 12 percent during the year; GM performed far worse, with unit sales dropping 26 percent and profits by 28 percent.<sup>48</sup> Chevrolet sales plummeted 37 percent, even though its low-priced cars should have been the GM models most resistant to the recession.<sup>49</sup> While GM's sales declined, Dodge, Chrysler, and Hudson increased sales and market share by introducing new models and offering closed-body designs that sold for little more than open models, a development that ranked "as the significant product innovation of the 1920s."<sup>50</sup> Hudson's sales grew more than 40 percent in 1924, with sales of its Essex model increasing by over 65 percent. Moreover, both Hudson and Chrysler built their new models around closed bodies designed and manufactured by Fisher. Not only was GM losing market share to more innovative rivals, but Fisher was providing the crucial component in competitors' strategies! Last, these developments imperiled the dominance of Ford's Model T, with its emphasis on low price and relatively fixed styling.

General Motors responded to these developments by making two key changes in its 1925 product strategy. First, as Klein, Crawford, and Alchian note, the automaker increased its production of closed-body vehicles and sought to close the price gap between open and closed bodies. Whereas approximately 45 percent of the cars GM sold in 1924 utilized closed bodies, this figure climbed to over 65 percent for 1925.<sup>51</sup> Second, though it would

<sup>47</sup> See Sloan, *supra* note 20, ch. 9.

<sup>48</sup> General Motors's poor performance impacted Fisher even more significantly. Although Fisher's unit sales actually increased by 22.5 percent, its net profits declined some 31 percent. General Motors's poor performance in 1924, as well as the impact it had on Fisher's profits, probably played a significant role in the Fishers' reticence to merge with GM. See Direct Testimony of Lawrence Fisher, at 1604, *Du Pont*, 126 F. Supp. 235. For changes in Fisher's output and profits, see the figures in Fisher Body Makes Record, Wall St. J., April 23, 1925, at 10; Fisher Body Corporation, Annual Report (1924).

<sup>49</sup> Sloan, *supra* note 20, at 153.

<sup>50</sup> Robert Paul Thomas, Style Change and the Automobile Industry during the Roaring Twenties, in *Business Enterprise and Economic Change* 118, 128 (Louis P. Cain & Paul J. Uselding eds. 1973). Figures on Hudson's sales are from *id.* at 129.

<sup>51</sup> Klein, Crawford, and Alchian erroneously attribute the 65 percent figure to GM's 1924 model year. While that figure appears in GM's 1924 annual report, it refers to projected output for the 1925 model year. Sloan corroborates the lower 1924 figure and indicates that actual closed-body output for 1925 may have been higher than 65 percent. See Klein, Craw-

not formalize the concept for almost a decade, GM turned to a de facto policy of introducing annual model changes to stimulate demand. The 1925 model year saw the introduction of all new models, with a special emphasis on closed bodies.<sup>52</sup> The shift to annual models meant that Fisher had to redesign bodies and manufacture new dies for all of GM's divisions at once, rather than introduce changes slowly and at different times, as it had done before 1924.<sup>53</sup> During the 1925 model year, it became apparent that the "strain on [Fisher] . . . in bringing out all these dies at one time" was "something terrific and well nigh impossible."<sup>54</sup> Together, increased closed-body output and the strain of redesign so overburdened Fisher that by February 1925, the crucial Chevrolet division began to lose sales.<sup>55</sup> By September 1925 body shortages had grown worse, and Chevrolet had to reduce production schedules.<sup>56</sup> The increase in closed-body design, output, and die manufacture thus made it apparent that Fisher had to expand its capacity. The need to increase Fisher's capacity took on even greater importance late in 1925, when GM decided to undertake a major expansion program to be put into place by the 1927 model year. When modifications to the GM-Fisher contract had been made in 1924, GM management believed that expansion would be minimal in the foreseeable future.<sup>57</sup> By 1925, after annual model changes stimulated sales, management revised its thinking: GM would increase operations rapidly, and an integral part of expansion would be the enlargement of Fisher facilities.<sup>58</sup>

The need to enlarge Fisher's facilities created two types of concerns over physical assets, both of which contributed to GM's decision to purchase Fisher. First, the prospect of rapid expansion exacerbated concerns over financing Fisher's growth. General Motors officials knew that Fisher's capital needs had grown exponentially with the introduction of annual model changes and would continue to grow as GM expanded, yet the Fisher brothers "questioned the desirability" of investing in plants for the new pro-

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ford, & Alchian, *supra* note 2, at 309 n.26; Klein, *Integration as Ownership*, *supra* note 2, at 215; Sloan, *supra* note 20, at 159; General Motors Corporation, *supra* note 40, at 10.

<sup>52</sup> General Motors Corporation, Annual Report 5 (1925).

<sup>53</sup> Thomas, *supra* note 50, at 131, shows that industry expenditures on nondepreciable tooling increased rapidly after 1924. Such expenditures were due primarily to the costs of the closed-body dies needed to introduce annual model changes.

<sup>54</sup> As quoted in Sloan, *supra* note 20, at 166.

<sup>55</sup> *Id.* at 161. Letter from William S. Knudsen to Pierre S. du Pont (February 27, 1925) (Longwood).

<sup>56</sup> Chevrolet Tells of Schedule Revision, 53 *Automotive Industries* 476 (1925).

<sup>57</sup> General Motors Corporation, *supra* note 40, at 5.

<sup>58</sup> Sloan, *supra* note 20, at 197.

gram.<sup>59</sup> The proposed expansion program also created a key dispute over plant location. As part of the program, GM wanted Fisher to build a body plant adjacent to Buick production facilities in Flint, Michigan. Fisher preferred to continue shipping Buick bodies from its main factory in Detroit, 57 miles away.<sup>60</sup> Because Buick purchased more closed bodies than any GM division except Chevrolet, Fisher's recalcitrance was cause for concern at GM. Yet Fisher's resistance had little to do with holdup. If the cost-plus pricing provision had been eliminated, as Chandler and Salsbury contend, Fisher would not profit by shipping bodies from Detroit to Flint. Even if the cost-plus provision remained in place, however, the changes made in 1924 ensured that the Fisher brothers' remuneration was based on GM's performance, not Fisher's earnings. There was thus little incentive for the Fishers to engage in holdup, and no evidence exists to suggest that they did so.<sup>61</sup>

It is much more likely that Fisher's resistance sprang from two other sources. First, the Detroit plant was by far Fisher's largest production facility in 1925. With over 3 million square feet of floor space, it was more than twice as big as Fisher's next largest plant at that time.<sup>62</sup> Fisher undoubtedly preferred to add operations in Detroit rather than to build an entirely new facility less than 60 miles away. Second, Detroit was one area in which Fisher had important customers besides GM. Beginning in 1924, for instance, Chrysler purchased large numbers of closed bodies designed and manufactured by Fisher. Such contracts were highly profitable for Fisher, and GM management repeatedly acknowledged that it "would not be [in] . . . the best interest of Fisher minority stockholders" to give up such out-

<sup>59</sup> Deposition of Alfred Sloan, at 190, *Du Pont*, 126 F. Supp. 235. On more general concerns over the financing of Fisher plant after 1924, see Deposition of F. Donaldson Brown, at 45, *Du Pont*, 126 F. Supp. 235 (the deposition was not entered into evidence).

<sup>60</sup> See Pound, *supra* note 23, at 293; G.M.C. to Build Bodies If Flint Purchase Carries, 54 *Automotive Industries* 1115 (1926); New Fisher Plant to Start Work Nov. 1, 55 *Automotive Industries* 710 (1926); and General Motors Corporation, Annual Report 6 (1926). Coase, *supra* note 3, at 45, also reports that in 1932 he was informed by GM personnel that GM purchased Fisher "to make sure that the body plants were located near the assembly plants."

<sup>61</sup> It is also important to emphasize that the single dispute over plant location involved Buick rather than Chevrolet. Chevrolet was crucial for two reasons. By 1924 it sold more than twice as many closed-body cars as any other GM division, making it the most lucrative target for "mislocating" assembly plants. Moreover, GM's efforts to reduce the cost of closed bodies focused almost exclusively on Chevrolet; there is no indication that the cost of bodies to Buick was ever a concern. Evidence indicates that following the contract modifications of 1924, Fisher built plants adjacent to all Chevrolet facilities. See Fisher Body Makes Record, *supra* note 48; Letter from F. G. Donner to Pierre S. du Pont (September 4, 1951) (Longwood).

<sup>62</sup> Pound, *supra* note 23, at 298.

side business.<sup>63</sup> Shutting down its Detroit facilities would probably have impaired Fisher's ability to serve its non-GM customers. Moreover, such a move would have rendered Fisher's largest plant worthless, thereby necessitating costly investment in a new facility.

A second factor contributing to vertical integration was Fisher's increasing strategic importance. Following the transformation of the automobile market, the design and styling of closed bodies became the primary method of achieving product differentiation and defining a new line of cars, making "design of the body . . . an essential part of engineering the whole car."<sup>64</sup> This increased GM's desire for integration for two related reasons. First, because styling had become so important, GM believed that it was desirable to design bodies in conjunction with chassis, as Ford did.<sup>65</sup> Crucial aspects of appearance, such as the impression of a car being low to the ground, rested on the interaction between chassis and body components.<sup>66</sup> With annual model changes, redesigns of chassis and bodies would require ongoing consultation and coordination between Fisher and the car divisions.<sup>67</sup> Whereas once these processes had been carried out independently, now they would have to be coordinated, and GM wanted final authority over engineering decisions. Second, GM management was ultimately unwilling to leave a key element of competitive strategy in the hands of a semiautonomous unit. The skills and knowledge necessary for carrying out closed-body styling resided almost exclusively at Fisher, a partially owned subsidiary. As its competitive strategy came to rely increasingly on that knowledge, GM became insistent that Fisher be purchased outright, giving GM ultimate authority over general design parameters.<sup>68</sup> Yet GM executives continued to

<sup>63</sup> The quoted material is out of context; it is taken from Pierre S. du Pont, *Body Situation*, *supra* note 35. On GM's business with Chrysler, see Direct Testimony of Lawrence Fisher, at 1603, 1615, *Du Pont*, 126 F. Supp. 235; Susan Helper, John Paul MacDuffie, & Charles Sabel, *The Boundaries of the Firm as a Design Problem* (unpublished manuscript, Columbia Univ. Law Sch., October 1998).

<sup>64</sup> Deposition of F. Donaldson Brown, at 45, *Du Pont*, 126 F. Supp. 235.

<sup>65</sup> Direct Testimony of Pierre S. du Pont, at 7547, 7549, *Gottesman*, 279 F. Supp. 361.

<sup>66</sup> Sloan, *supra* note 20, at 266.

<sup>67</sup> The need for increased coordination was further exacerbated by the decision to launch a completely new car to counter the competition from low-priced closed cars like Hudson's Essex. In 1926, GM would begin producing the Pontiac, a closed, six-cylinder car created to fill the gap in GM's line between Chevrolet and Oldsmobile. In order to reduce its costs, the Pontiac would be engineered in conjunction with Chevrolet models and would share Chevrolet parts and chassis; the most important element distinguishing it from its lower priced relative would be its body design. See *id.* at 155.

<sup>68</sup> See deposition of F. Donaldson Brown, at 45, *Du Pont*, 126 F. Supp. 235. This is consistent with Patrick Bolton and David Scharfstein's view that the "[f]undamental consequence of integration is to bring all divisions under the umbrella of a single administrative structure." Patrick Bolton & David S. Scharfstein, *Corporate Finance, the Theory of the Firm, and Organizations*, 12 *J. Econ. Persp.* 105 (1998).

believe that this knowledge resided primarily in the six Fisher brothers. They thus “put the continuation of our present most happy relations with the Fisher group as the first consideration” in any attempt to negotiate a purchase; they would buy Fisher only if the brothers would agree to stay on as employees.<sup>69</sup> As later events would demonstrate even more dramatically (see below), GM’s management believed that Fisher’s physical assets would remain relatively useless without the continued involvement of the Fishers.

The growing importance of closed bodies may have also hastened unified ownership for anticompetitive reasons. General Motors management sought to deprive competing automakers from having access to Fisher’s skills and facilities. As outlined above, Fisher’s inability to produce closed bodies damaged Chevrolet sales during 1925. Yet even as Chevrolet suffered, Fisher was building new plants to serve GM competitors. In May 1925, for instance, Fisher began work on a \$250,000 addition dedicated to building closed bodies for Chrysler and hired some 2,000 men for the new plant; in August 1925, Fisher announced that an additional \$350,000 would be invested in the Chrysler facilities.<sup>70</sup> Unhappy that its own sales were being jeopardized even while Fisher continued to produce bodies for and devote resources to GM competitors, GM management decided that it wanted to “use the entire capacity of the Fisher Body Corporation.”<sup>71</sup> The decision to purchase Fisher was thus an effort both to maximize GM’s use of the body maker’s scarce human resources and to deprive competitors of such use.

Last, GM’s decision to purchase Fisher may have been driven in part by the fear that the Fisher brothers or their chief financial backers might sell their shares of Fisher to a GM competitor or other unfriendly interests. General Motors placed a high value on retaining the knowledge and skills of the Fisher brothers, but following the 1924 contract modifications the six

<sup>69</sup> Letter from Alfred P. Sloan, Jr., to John J. Raskob (March 13, 1926) (Longwood). When Du Pont representatives sought to reduce the price GM would have to pay for Fisher by dumping shares of Fisher on the open market, Sloan vetoed the plan because he believed that it might alienate the brothers, causing them to leave Fisher/GM’s employ. In the end, GM paid a substantial premium to purchase Fisher, trading \$136 million worth of GM common stock for the outstanding shares of Fisher, valued on the market at \$92.3 million.

<sup>70</sup> Fisher Body Co. Starts Addition to Cost \$350,000, 53 *Automotive Industries* 358 (1925).

<sup>71</sup> Direct Testimony of Lawrence Fisher, at 1615, 1603, *Du Pont*, 126 F. Supp. 235. The magnitude of Fisher’s business with Chrysler can be gauged by the fact that between May and August 1925, one Fisher subsidiary hired nearly 2,000 workers to handle Chrysler business. Thus, of a total workforce of 6,100 in the subsidiary, nearly one-third was working on Chrysler orders. In addition, the same subsidiary had recently invested some \$600,000 in plant expansion, much of which was also devoted to Chrysler work. See Fisher Body Co. Starts Addition to Cost \$350,000, *supra* note 70.

brothers were no longer contractually obligated to remain in the employ of either Fisher or GM. Their participation in GM's bonus plan through 1929 made continued employment likely, but it by no means assured this outcome. Moreover, if the brothers chose to leave Fisher to start a new venture, they would undoubtedly finance their endeavors by selling or leveraging their Fisher stock. General Motors thus ran the risk of seeing the minority share of Fisher bought by unfriendly interests. Managers and owners at GM may have been particularly concerned that GM founder and former majority shareholder William Durant would try to regain control of GM through purchasing an interest in Fisher. "At least until 1925" the du Ponts "were obsessively concerned about assuring control" of GM and "continued to fear a raid by outside speculators . . . such as Durant."<sup>72</sup> Moreover, in late October 1925, 1 month before GM resumed formal negotiations to purchase Fisher, Durant was reported to be speculating in GM stock with an eye to regaining a controlling interest.<sup>73</sup> Although such a takeover was widely believed to be impossible, GM's top management continued to worry "that 40% of the stock in one of their most important units . . . might well be sold or transferred even before the death of the holders," and they resolved to purchase the remaining shares of Fisher to guard against this possibility.<sup>74</sup>

General Motors's decision to purchase Fisher was influenced by a much wider range of factors than has generally been recognized. While the evidence presented above makes it clear that Klein, Crawford, and Alchian err in emphasizing the role of holdup, it is equally clear that among the factors contributing to vertical integration were many transaction cost considerations revolving around issues of physical and human asset specificity. But did unified ownership resolve these problems? Existing accounts do not examine the postintegration period in any detail. Instead, because GM was highly profitable following integration, they simply assume that integration was successful in reducing transaction costs and/or eliminating holdup. In the following section I show that the story is not so simple. Vertical integration resolved problems associated with physical asset specificity, but it increased GM's vulnerability to holdup rooted in human asset specificity. Indeed, although there is no evidence to suggest that the Fishers held up GM

<sup>72</sup> Chandler & Salsbury, *supra* note 37, at 565.

<sup>73</sup> On Durant's alleged speculations in the market, see Scout Idea Durant Can Control G.M.C., 53 *Automotive Industries* 722 (1925). Fisher's enormous borrowing power made it a good instrument for takeover attempts like the ones Durant had engineered in the past, such as his use of Chevrolet to regain control of GM in 1915. Indeed, Du Pont had once considered using Fisher to buy a controlling interest in GM. See Direct Testimony of Lawrence Fisher, at 1623, *Du Pont*, 126 F. Supp. 235.

<sup>74</sup> Chandler & Salsbury, *supra* note 37, at 576.

prior to integration, there is clear evidence that they did so after they became employees.

## V. CREATING HOLDUP THROUGH VERTICAL INTEGRATION

General Motors's purchase of Fisher was central to GM's subsequent dominance of the automobile market. In this section I examine the consequences of GM's purchase of Fisher and make two claims. First, I briefly show that the Fisher purchase not only increased GM's output but also deprived competitors of closed-body capacity, thereby crippling their ability to keep pace with GM's growth. Second, I turn more specifically to the claim that vertical integration reduced transaction costs by alleviating problems of physical and human asset specificity. Here I show that unified ownership successfully resolved problems of plant location and financing but exacerbated problems of human asset specificity. More specifically, unified ownership allowed the Fisher brothers to hold up GM. The purchase of Fisher thus did not uniformly reduce transaction costs; rather, vertical integration increased the hold-up costs associated with human asset specificity.

There can be little question that the Fisher purchase played a key role in helping GM to establish competitive advantage in the automobile industry. That dominance rested at least in part, however, on the impact that the Fisher purchase had on GM's competitors. Almost immediately after the purchase, Ford, Hudson, Chrysler, Studebaker, and others stopped buying bodies from Fisher because "they knew eventually General Motors would take the entire capacity."<sup>75</sup> Competitors' lack of access to Fisher played an important role in allowing GM to vanquish Ford and defeat the challenge posed by upstarts like Chrysler and Hudson. The shift to closed cars that began in 1924 had cut into Ford's market dominance, for "the Model T was pre-eminently an open-car design," and it was not engineered for heavier closed bodies.<sup>76</sup> By the fall of 1925, Ford was offering a closed-body version of the Model T, but its production was limited by both a lack of capacity and continuing difficulties in manufacture.<sup>77</sup> General Motors's purchase of Fisher constrained Ford's closed-body capacity even further, contributing to Ford's decision to shut down its River Rouge plant in 1927 and to convert it to production of the closed-body Model A. The Fisher purchase had an even greater impact on independents like Hudson and Chrysler, both of which relied on Fisher for closed-body design and produc-

<sup>75</sup> Direct Testimony of Lawrence Fisher, at 1617, *Du Pont*, 126 F. Supp. 235.

<sup>76</sup> Sloan, *supra* note 20, at 162.

<sup>77</sup> Just among Ourselves, 53 *Automotive Industries* 977 (1925); *Motor Cos. Buying Materials*, *Wall St. J.*, April 19, 1926, at 1.

tion. These firms were forced to purchase plants to manufacture their own closed bodies, and start-up problems prevented them from significantly increasing production.<sup>78</sup> The cost of purchasing body plants coupled with an inability to increase market share cut deeply into the independents' profits over the short run. From 1925 to 1926, Hudson's output remained unchanged, but its profits fell from \$21.4 million to \$5.4 million, a drop due largely to the cost of purchasing new body facilities and bringing out new models.<sup>79</sup> Despite a small increase in its sales during this period, Chrysler also experienced a drop in profits, albeit a modest one. General Motors, on the other hand, increased output by one-third and after-tax profits by over 60 percent—a surge directly related to its ability to produce new models.<sup>80</sup> The purchase of Fisher thus had a dramatic impact on GM's position, providing at least a temporary advantage over its major competitors.

The purchase of Fisher appears to have eliminated problems arising from physical asset specificity. Recall that two potential issues were identified. First, Fisher did not want to build a body plant in Flint, preferring to ship Buick bodies from Detroit, where its largest production facility was located. Second, GM may have been concerned about the financing of future Fisher expansion in light of the enormous growth in closed-body demand and the need for increased investment in asset-specific facilities that such growth created. The problem of plant location was clearly resolved by unified ownership. On June 24, only weeks after its purchase of Fisher, GM announced plans to build a Fisher body plant in Flint.<sup>81</sup> The new plant went into operation on November 1, 1926, becoming Fisher's second largest facility; in 1927, Fisher's Detroit facility was shut down, making the Flint plant Fisher's largest operation.<sup>82</sup> Similarly, less than a month after the purchase of Fisher was finalized, GM announced plans for an enormous expansion program, totaling some \$40 million, to be put into place by the 1927 model

<sup>78</sup> Between 1925 and 1927, Chrysler's production increased by fewer than 50,000 units, growing from 134,478 cars to 182,627; Hudson fared even worse, increasing output by a paltry 12,393 units. During the same period, GM output grew by 726,846 units, reaching over 1.5 million cars in 1927. For Chrysler and Hudson figures, see United States Federal Trade Commission, Report on the Motor Vehicle Industry 550, 682 (1939). For GM figures see Sloan, *supra* note 20, at 446.

<sup>79</sup> Federal Trade Commission, *supra* note 78, at 676, 682. Hudson Body Plant Lowers Quarter Net, 55 *Automotive Industries* 517 (1926).

<sup>80</sup> Sloan, *supra* note 20, at 214, 446.

<sup>81</sup> G.M.C. to Build Bodies If Flint Purchase Carries, 54 *Automotive Industries* 1115 (1926).

<sup>82</sup> Pound, *supra* note 23, at 298. New Fisher Plant to Start Work Nov. 1, *supra* note 60, at 710.

year.<sup>83</sup> The program called for large expenditures to increase automobile capacity in all of GM's divisions, especially Chevrolet and Pontiac. In conjunction, Fisher facilities would also be enlarged substantially. Although Fisher had been expanding its GM-specific plant in the year prior to purchase, the 1927 program was much larger than earlier efforts.<sup>84</sup> Any problems involving funding Fishers' expansion were clearly resolved through unified ownership.

In the case of human asset specificity, the story is quite different. Although there is no evidence that the Fishers held up GM prior to integration, they quite clearly did so after they became employees of GM. Through selling their shares of Fisher common stock to GM in 1926, the six Fisher brothers had become enormously wealthy. Together they realized about \$68 million from the deal, most of it paid to them in GM common stock. Using this GM stock as collateral, the brothers invested heavily in the stock market, becoming wealthier still; one contemporary commentator claimed that by 1928 the brothers were worth \$400 million and that there was "a group of people around the Fisher Brothers that can handle pretty close to one billion of cash."<sup>85</sup> These immense holdings were wiped out during the depression, leaving the Fishers with enormous debts. To pay off these debts, the brothers were forced to sell their 500,000 shares of GM common stock. General Motors's majority shareholder, E. I. du Pont de Nemours, graciously agreed to help out the Fishers in 1931 by purchasing 300,000 shares of their GM stock at a price of \$24 per share, while GM's overseas Opel subsidiary purchased another 200,000 shares at the same price.<sup>86</sup> This al-

<sup>83</sup> For an overview, see G.M.C. Divisions Get \$40,000,000 for 1927 Expansion Program, 55 *Automotive Industries* 30 (1926); General Motors Corporation, *supra* note 40, at 5; Sloan, *supra* note 20, at 197. For more detailed figures on the divisions and Fisher, see Chevrolet Expansion Plans, *Wall St. J.*, May 15, 1926, at 2; Buick April Deliveries 7542 above Shipments, 54 *Automotive Industries* 833 (1926); New Oakland Plant to Make 1600 Daily, 54 *Automotive Industries* 1031 (1926); Pontiac Plant Fund Increased \$5,300,000, 55 *Automotive Industries* 796 (1926); and Fisher Plants Expanded, 55 *Automotive Industries* 910 (1926).

<sup>84</sup> On Fisher's expansion prior to the GM purchase, see G.M. Plans New Oakland Model, 53 *Automotive Industries* 594 (1925); Olds Works Plan More Equipment, 53 *Automotive Industries* 678 (1925); Fisher Body Corp. to Start Bus Building, 53 *Automotive Industries* 238 (1925); Oakland to Increase Working Force to 2700, 54 *Automotive Industries* 241 (1926); Oakland Completes Expansion Program, *Wall St. J.*, January 11, 1926, at 10.

<sup>85</sup> Clarence Walker Barron, *They Told Barron: Conversations and Revelations of an American Pepys in Wall Street* 57 (Arthur Pound & Samuel Moore eds. 1930).

<sup>86</sup> See Letter from M. D. Fisher to Donaldson Brown, Advice of Action (October 20, 1931), Gov't Trial Ex. No. 510, *Du Pont*, 126 F. Supp. 235; Letter from M. D. Fisher to Donaldson Brown (October 22, 1931), Gov't Trial Ex. 511, *Du Pont*, 126 F. Supp. 235; Letter from William du Pont to Lammot du Pont Copeland (May 4, 1934) (Longwood).

lowed the brothers to liquidate their debts but left them with few holdings in GM outside of their participation in the corporation's stock incentive plan. As the market began to recover, the Fishers sought a chance to recoup their previous wealth. By May 1933, they had decided that the best way to do so was through holding up GM.

To help them recover their losses, the six Fisher brothers demanded that GM and/or Du Pont grant them an option on 200,000 shares of GM common stock at the prevailing market price of \$40 per share. Knowing that GM stock was still undervalued and recognizing that the company's profits were beginning to improve, the Fishers believed that this \$8 million investment would increase substantially in value. Both GM and Du Pont refused to grant the options, but GM did increase the brothers' participation in the corporation's stock incentive plan. The Fishers remained unsatisfied by this arrangement, however, and by March 1934 "announced an ultimatum that they were going to leave in a body forthwith if something was not done."<sup>87</sup> After negotiations with Alfred Sloan, the Fishers scaled back their plan, demanding an option on 100,000 shares of GM common stock at \$40 per share. Although the majority of executives at the meeting felt this demand "was almost a 'hold up,'" Sloan agreed to the revised terms. After he had done so, Du Pont counsel advised that neither company could legally give an option on the stock. As a consequence, GM and Du Pont executives agreed that top officers from the two companies would offer options on an aggregate of 100,000 shares from their personal holdings at the agreed-on price of \$40 per share. Acknowledging that "someone has to bear the 'white man's' burden in corporate management as well as in the ruling of countries," GM and Du Pont executives acquiesced to what they recognized was a holdup by the Fishers.

Evidence clearly indicates that the Fishers' ability to engage in a successful holdup derived from their human assets—their specialized knowledge of the body business and its management. Contrary to Klein's claim that such knowledge becomes embedded in a team of employees, the Fishers "purposely kept the Fisher Body organization more or less apart and independent of General Motors with regard to its management, so much so . . . that the others in General Motors were none too familiar with the body end of the business."<sup>88</sup> By doing so, they continued to monopolize the knowledge and skills necessary for managing GM's body business and designing

<sup>87</sup> All quotes and information in this paragraph are from Letter from William du Pont to Lamont du Pont Copeland (May 4, 1934) (Longwood).

<sup>88</sup> *Id.* This would seem to undercut the claim of Helper, MacDuffie, & Sabel, *supra* note 63, that GM purchased Fisher in order to gain access to Fisher's collaborative production techniques; 8 years after the purchase, collaborative learning still had not occurred.

and producing closed bodies. General Motors management feared that if they did not acquiesce to the Fishers' demands, the brothers would either "lose their . . . interest in General Motors" or depart altogether, crippling production and hindering the corporation's recovery from the depression; both GM and Du Pont executives worried that if the Fishers left, they might seek employment with GM's competitors and "draw with them considerable personnel employed by General Motors."<sup>89</sup> General Motors executives thus viewed the Fishers' threat as credible. None of the mechanisms said to mitigate problems of human asset specificity—control of team labor contracts, ownership of Fisher's physical assets, monitoring and control mechanisms associated with the M-form, or the ability to exercise fiat and authority over the Fisher brothers and other employees of the Fisher Body Division—proved sufficient to curb this threat. Some 8 years after GM's purchase of Fisher, GM management still lacked an adequate knowledge of the body business. Moreover, in the years following GM's acquisition of Fisher, large-scale, independent suppliers of closed bodies all but disappeared, thereby reducing GM's ability to turn to the market.<sup>90</sup> After paying a substantial premium to acquire Fisher in 1926, GM was thus forced to pay yet again in 1934. By internalizing the Fishers' human assets, GM arguably made itself more vulnerable to holdup than it had been prior to integration.

In acquiescing to the Fishers' demands, GM management and owners took steps to prevent future holdup. Since the root of the Fishers' threat "was a discontinuation of employment with General Motors," owners reasoned that "obviously the desired thing was to create an incentive for the Fisher Brothers to stay with, and work for, General Motors."<sup>91</sup> Toward that end, the option on GM stock was offered in three 1-year increments, with one-third of the stock becoming available at the end of each year. The two eldest brothers were forced to retire, while the remaining four would have an incentive to remain with GM for at least 3 years. Moreover, in an attempt to break the Fishers' monopoly over knowledge, GM took over the operation and management of Fisher, where they were assisted by the four remaining brothers. This raises an interesting question: If these steps helped

<sup>89</sup> Letter from Lamot du Pont to Alfred P. Sloan, Jr. (October 9, 1943) (Longwood). This document was written 9 years after the events transpired in response to a shareholders' suit involving GM's bonus plan. See *Winkelman et al. v. General Motors Corporation et al.*, 44 F. Supp. 960 (S.D. N.Y. 1942). Note that the Fishers timed their threat to coincide with the implementation of a new product policy that relied even more extensively on closed-body styling to stimulate sales and differentiate products. See Robert F. Freeland, *The Struggle for Control of the Modern Corporation*, ch. 3 (in press).

<sup>90</sup> Thanks to Kyra Greene for emphasizing this point.

<sup>91</sup> Letter from Lamot du Pont to Alfred P. Sloan, Jr. (October 9, 1943) (Longwood).

GM to break the brothers' monopoly over knowledge, why did GM wait so long to implement them? Was it simply error on the part of GM management, or were other factors at work?

Surprisingly, there is evidence that Alfred Sloan and other top executives intentionally allowed the Fishers to retain discretion over the Fisher Body Division in the period from 1926 to 1934, thereby allowing them to maintain a monopoly over knowledge. Sloan did so as a means of engendering loyalty and initiative, a tactic that he used extensively in order to create commitment and encourage consummate performance on the part of subordinates.<sup>92</sup> Sloan was loathe to invoke fiat in his dealings with the Fishers for fear that it would generate resistance. When owners questioned him about his reticence, Sloan responded that the "peculiar circumstances of the family arrangement" had made it difficult "to establish confidence as to our honesty of purpose"; the integration of Fisher had therefore "been attended by great difficulties" that required "much diplomacy . . . to keep the ship on the right track."<sup>93</sup> Sloan continued to grant the brothers considerable autonomy as a means of signaling his good intentions and securing their continued cooperation. Indeed, when the Fishers threatened to leave GM in 1934, it was Sloan who acceded to their demands, apparently without consulting other senior management or owners. Moreover, when Du Pont representatives attempted to insist that the stock option be granted only if the Fishers' continuing employment would be guaranteed, Sloan objected, arguing that "continued employment was one of the objectives, [but] . . . not the sole objective."<sup>94</sup> Even with the brothers engaged in a transparent holdup of GM executives and owners, Sloan was hesitant to insist on contractual terms that might create ill will. As I discuss below, the Fishers' holdup of GM, along with Sloan's apparent willingness to grant them autonomy even after integration, raises important questions regarding the governance of human assets and the boundaries of the firm.

## VI. FISHER BODY AND THE THEORY OF THE FIRM

Bengt Holmström and John Roberts have recently commented that "the theory of the firm, and especially work on what determines the boundaries of the firm, has become too narrowly focused on the hold-up problem and

<sup>92</sup> See Freeland, *supra* note 89; Robert F. Freeland, The Myth of the M-Form? Governance, Consent, and Organizational Change, 102 Am. J. Soc. 483 (1996).

<sup>93</sup> Letter from Alfred P. Sloan, Jr., to Lammot du Pont (January 21, 1931) (Longwood).

<sup>94</sup> Letter from Lammot du Pont to Alfred P. Sloan, Jr. (October 9, 1943) (Longwood). These differences between Sloan and the du Ponts create problems with property rights models that assume a single owner-manager. See Bolton & Scharfstein, *supra* note 68, at 102.

the role of [physical] asset specificity.’’<sup>95</sup> The Fisher case, long regarded as the paradigmatic example in discussions of such issues, suggests that this criticism is at least partly apposite. Klein, Crawford, and Alchian’s focus on holdup as the primary cause of vertical integration does not “hold up” in the case of Fisher. The evidence suggests both that holdup did not occur prior to integration and that concerns over potential holdup prior to integration were successfully addressed through contractual provisions. The Fisher case thus supports the conclusion that “there are many alternatives to integration when one tries to solve hold-up problems.”<sup>96</sup> Nonetheless, while holdup was not a factor in GM’s decision to purchase Fisher, problems deriving from physical asset specificity did play an important role. As existing theories of the firm suggest, unified ownership helped to resolve the problems associated with investment in specialized, complementary physical assets. On this point, at least, there is substantial agreement between different approaches examining the boundaries of the firm.

Despite the importance of physical asset specificity in the Fisher case, issues of human asset specificity and knowledge acquisition played a much greater role in integration than has heretofore been recognized.<sup>97</sup> General Motors’s initial investment in Fisher occurred because the automaker wanted more than a source for car bodies—it wanted to capture the knowledge and human assets of the Fisher brothers while limiting competitors’ access to that knowledge. The fact that GM management placed a higher priority on retaining the Fishers than on acquiring the physical assets of Fisher played a central role both in shaping the initial contract between the companies and in determining the subsequent course of events that eventually led GM to purchase Fisher. The Fisher case thus suggests that knowledge acquisition may play a crucial role in shaping the boundaries of the firm, an area in which additional research is needed. Yet the centrality of human assets in the Fisher case, along with the brothers’ success in holding up GM after they became its employees, also raises important questions for existing theories of the firm. If human assets are as important as the Fisher case suggests, how do firms manage those assets in a way that reduces the firm’s vulnerability to opportunism?

Agency theory and property rights approaches have steadfastly maintained that hierarchy offers no inherent advantage over the market in preventing problems of opportunism and holdup deriving from human assets.

<sup>95</sup> Bengt Holmström & John Roberts, *The Boundaries of the Firm Revisited*, 12 *J. Econ. Persp.* 91 (Autumn 1998).

<sup>96</sup> *Id.* at 86. See also Coase, *supra* note 3.

<sup>97</sup> But see Richard N. Langlois & Paul L. Robertson, *Firms, Markets, and Economic Change* (1995); Helper, MacDuffie, & Sabel, *supra* note 63.

On the surface, at least, the Fisher case appears to support this view. Yet this presents a problem. While Klein, Hart, and others acknowledge that human assets are important in the empirical world, they render such issues nonproblematic by assuming either that specialized knowledge is embedded within a team of actors or that control over physical assets provides leverage over complementary human assets. By introducing such assumptions, they are able to argue that vertical integration helps to resolve problems of human asset specificity. The Fisher case, along with a multitude of other studies, suggests that such assertions are dubious at best; it is not unusual for specialized or tacit knowledge to be monopolized by a few key players within an organization.<sup>98</sup> Insofar as this is the case, firms engaging in transactions characterized by both substantial physical asset specificity and high levels of embedded knowledge may encounter a serious dilemma: the mechanisms best suited to governing physical assets (unified ownership) may increase the firm's vulnerability to opportunism rooted in human assets. Since neither the likelihood nor the costs of such opportunism can be determined *ex ante*, the firm may be unable to ascertain which choice will lead to lower governance costs over the long run. Even if monopolies over knowledge can be broken up over the longer run, over the short run they will provide opportunities for holdup of unknown magnitude and severity.

Sloan's management of the Fisher Body Division suggests another, more controversial possibility, however. It may be that hierarchy does offer an advantage over the market in managing human assets—an advantage that inheres precisely in the fact that internal organization does not rely exclusively on either incentive alignment or the price mechanism to regulate behavior. Herbert Simon has commented that whereas transactions between organizations depend “almost wholly on economic motivations and rewards,” the most important mechanism regulating behavior within firms is organizational identification—a nonrational sense of loyalty and commitment that provides “a powerful force for combatting” opportunistic behavior.<sup>99</sup> In granting autonomy to the Fisher Body Division and allowing the

<sup>98</sup> Michael Polanyi, *Personal Knowledge: Towards a Post-critical Philosophy* (1962); Michel Crozier, *The Bureaucratic Phenomenon* (1964); Michael Burawoy, *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism* (1979); Walter W. Powell, *Neither Market nor Hierarchy: Network Forms of Organization*, 12 *Res. Org. Behav.* 295 (1990); Walter W. Powell, Kenneth W. Koput, & Laurel Smith-Doerr, *Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology*, 41 *Admin. Sci. Q.* 116 (1996).

<sup>99</sup> Herbert A. Simon, *Organizations and Markets*, 5 *J. Econ. Persp.* 41 (Spring 1991). For a similar view, see Gary Miller, *Managerial Dilemmas: The Political Economy of Hierarchy* (1992).

Fisher brothers to retain control over their knowledge of the body business, Sloan was attempting to sustain the Fisher brothers's identification with Fisher Body and was attempting to use that identification to create loyalty to GM. Believing that Fisher "could be dealt with better by evolution than by revolution," he sought gradually to "assimilate . . . and inject . . . into it our philosophy of doing things."<sup>100</sup> He was successful in doing so, however, only insofar as the Fishers remained insulated from the high-powered incentives of the market. When extraordinary circumstances led to the loss of their vast personal fortune, the brothers' identification with and loyalty to GM fell victim to those incentives. The implication is that even if organizational identification does offer leverage over human assets, that advantage is contingent on a certain protection from market forces.

This brief discussion will not convince skeptics that hierarchy offers an advantage in managing human assets, but it does suggest that the evidence is more ambiguous than it might appear at first glance. If the Fisher case has taught us anything, it is that we should be cautious about using stylized but incomplete models of the firm to make empirical generalizations. Such models can be quite powerful, but, as Coase reminds us, only when they are "used to enlighten us about the real rather than an imaginary world."<sup>101</sup> The Fisher case attests that the factors shaping the boundary between firm and market are complex and subtle. We have made much progress in explaining the role of physical assets and property rights in determining these boundaries. We are considerably more in the dark when it comes to issues of human assets and specialized knowledge. Perhaps more troubling, because existing models of the firm focus on physical assets, property rights, and holdup, we have tended to neglect factors that fall outside of these categories. In this regard, it would seem, stylized models of the firm have led to the emergence of stylized facts. The Fisher case suggests that additional research is needed to explore the role of human assets in determining the boundaries of the firm and in exploring the ways in which such issues are managed within and between firms. In carrying out such research, we would be well advised to pay more careful attention to the linkages between theory and evidence.

<sup>100</sup> Letter from Alfred P. Sloan, Jr., to Lamont du Pont (January 21, 1931) (Longwood). Sloan's success in creating such identification can be gauged by the fact that in 1983, almost 60 years after GM's acquisition of Fisher, management loyalty at Fisher "proved to be a major obstacle" in attempts to reorganize GM. This loyalty, one observer noted, arose in large part because Fisher "had been so autonomous since its acquisition in 1926." Of course, the example also demonstrates that the commitment born of identification and loyalty can be a double-edged sword. See Maryann Keller, *Rude Awakening: The Rise, Fall, and Struggle for Recovery of General Motors 114* (1989).

<sup>101</sup> Coase, *supra* note 3, at 47.

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