

# The Economics of Regulatory Reform: Termination of Airline Computer Reservation System Rules

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*The Department of Transportation's announced plan to terminate all federal regulation of airline computer reservation systems (CRS) in 2004 is somewhat surprising in light of modern economic theories of regulation that highlight barriers to reform. This Article presents evidence on how CRS regulation affects the market for CRS services from the perspectives of both traditional and modern theories of regulation. We conclude that the announcement of a plan to terminate CRS regulations is consistent with traditional theories of regulation in which the government acts to maximize social welfare. We also demonstrate that the traditional approach to evaluating the merits of regulation, as sometimes applied, exhibits a bias toward rule retention by assuming that the relevant alternative to regulation is a state of laissez-faire. In fact, the relevant alternative is typically other forms of intervention by the government, such as antitrust enforcement, which poses as the government's strategic alternative for most if not all prior DOT regulation of CRS markets. Finally, we examine the practical relevance of modern theories of regulation for explaining the recent move towards deregulation. The occurrence of entry and technological change prior to CRS deregulation is of special interest from this perspective. The termination of CRS regulations is indeed consistent both with the traditional theory of deregulation in the public interest and with the modern interest group theory of deregulation in which deregulation is the ultimate conclusion of a process. Other modern theories of regulation appear not to explain the timing of reform in this instance.*

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## Introduction

On December 31, 2003, the Department of Transportation (DOT) announced plans to terminate its regulations governing the market for the electronic distribution of tickets and flight information to travel agents.<sup>1</sup> This would end, by July 2004, two decades of regulation governing the airline computer reservation system (CRS) industry. This Article reviews the economic merits of the DOT's plan of reform and offers an initial appraisal of how effectively traditional and modern economic theories of regulation explain the occurrence of deregulation in this instance. It also identifies a bias toward rule retention that is present in recent applications of traditional cost-benefit analysis of regulation. This bias occurs when the government's strategic commitment to intervene is not adequately taken into account.

CRSs are computer systems that contain and provide information about airline schedules, availability, fares, and other services.<sup>2</sup> Travel agents can view this information and also make reservations or issue tickets directly through these systems. When the CRSs first appeared in the late 1970s, the sudden proliferation of routes and fares after the Airline Deregulation Act of 1978 made the conduct of a few CRS vendors appear critical to the success of an unregulated airline industry, which prompted the initial interest in CRS regulation.<sup>3</sup> Twenty years later, the merits of terminating the CRS regulations might seem obvious in light of the changes in various market conditions. Nevertheless, the history of CRS regulation has been a history of delayed sunset, and some skepticism might naturally arise about whether CRS regulation will actually end in 2004.

The reform of airline CRS regulations is of general interest to students of the economics of regulation and its reform because regulations are terminated infrequently. Indeed, the modern literature on regulation focuses largely on the question of why regulations persist, rather than why they are terminated. That said, the history of delayed sunset of CRS rules

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1 For details of the DOT's plan, see Computer Reservation System (CRS) Regulations, 69 Fed. Reg. 976 (Dep't of Transp. Jan. 7, 2004) (to be codified at 14 C.F.R. pt. 255) [hereinafter 2004 Final Rule]. Subsequently, the DOT released a supplementary document in April of 2004 to assess the regulatory reform. See Computer Reservations Systems: Regulatory Assessment (Dep't of Transp. Apr. 19, 2004), available at [http://dmses.dot.gov/docimages/pdf89/277889\\_web.pdf](http://dmses.dot.gov/docimages/pdf89/277889_web.pdf) [hereinafter 2004 Regulatory Assessment].

2 For a more detailed description of the workings of CRSs, see *infra* Section I.A.

3 See, e.g., *Alaska Airlines, Inc. v. United Airlines, Inc.* 948 F.2d 536, 538 (9th Cir. 1991) ("Deregulation fueled demand for computerized fare and flight availability information, and as a result a substantial percentage of total air passenger bookings were made through CRSs."); Carrier-Owned Computer Reservations Systems, 49 Fed. Reg. 11,644, 11,646 (Civil Aeronautics Bd. proposed Mar. 27, 1984) [hereinafter 1984 NPRM] ("[D]eregulation has allowed carriers to change their flight and service offerings almost at will, which has created the need for information sources that are updated far more quickly than those in place prior to 1978. . . . [I]t has become more important for air carriers to have their information displayed on the various computer systems.").

has given rise to an extensive public record on the merits of CRS reform.

The past evaluations of CRS regulation have mainly followed two approaches. First, conventional legal articles have approached this question as a *matter of law* by critiquing current regulation on the grounds of jurisdiction<sup>4</sup> and modern antitrust doctrines, such as the monopoly leveraging theory and the essential facility doctrine.<sup>5</sup> But it is unlikely that any decision to terminate longstanding regulations would be motivated by the courts;<sup>6</sup> moreover, evaluations of how the federal antitrust courts would rule on conduct prohibited by any regulation do not fully address the economic soundness of that regulation.<sup>7</sup>

Second, public comments filed with the DOT have approached the issue as a *matter of economics*, focusing on the various costs and benefits of continuing to regulate the CRS industry, including the possibility of modifying the existing rules versus the alternative of allowing a market solution without government intervention.<sup>8</sup> While industry participants tend to have more information than regulators about the market and its dynamics, interest group theorists point out the danger of relying on these

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4 The DOT's authority to regulate CRSs initially came from Section 411 of the Federal Aviation Act, which granted the DOT authority to regulate airlines and ticket agents in air transportation, 49 U.S.C. § 41,712 (2001). In 1985, the Seventh Circuit held that the DOT had authority to make rules to regulate CRSs. See *United Air Lines, Inc. v. Civil Aeronautics Bd.*, 766 F.2d 1107, 1112 (7th Cir. 1985) ("It is too late to inquire whether . . . rulemaking can be used to prevent unfair or deceptive practices or unfair methods of competition. To hold that it cannot be so used would pull the rug out from under Congress's restructuring of airline regulation."). Meanwhile, the recent CRS divestiture by domestic airlines poses a stronger jurisdictional challenge since CRSs are neither airlines nor ticket agents at this point. Nevertheless, the DOT continues to exercise authority over CRSs by claiming that CRSs are ticket agents subject to Section 411. See 2004 Final Rule, *supra* note 1, at 995.

5 See, e.g., Ernest Gellhorn & Richard Liebeskind, *Flawed DOT Jurisdiction and Antitrust Rationale*, 2003 AIR & SPACE LAW. 1, 16-17; Bruce H. Rabinovitz & David Heffernan, *Regulation Without Justification?*, 2003 AIR & SPACE LAW. 14. In the 2004 Final Rule, the DOT specifically defined an "unfair method of competition [as] a practice that violates antitrust laws or antitrust principles" but concedes that this authority is limited. 2004 Final Rule, *supra* note 1, at 994. To the extent that the DOT must ensure consistency between the CRS regulations and antitrust law, this approach appropriately addresses the legal grounds for those regulations. The monopoly leveraging doctrine holds that a firm may not illegitimately use its monopoly power in one industry to gain an unfair competitive advantage in another industry. The essential facilities doctrine says that an owner of an essential facility has an obligation to provide horizontal competitors access to the facility on reasonable terms. See, e.g., *Computer Reservations System (CRS) Regulation: Statements of General Policy*, 67 Fed. Reg. 69,366, 69,386 (Dep't of Transp. proposed Nov. 15, 2002) [hereinafter 2002 NPRM].

6 The Supreme Court has held that absent Congress's clear intent on specific regulations, government agencies have broad discretion in interpreting statutes and regulating industries. See *Chevron v. Natural Res. Def. Council*, 467 U.S. 837 (1984) (holding that absent Congress's clear intention, the EPA, not the Court, had authority to interpret the Clean Air Act Amendments of 1977 in enacting policies).

7 Such evaluations, for example, do not address the value of regulation as a complement to, or substitute for, enforcement of antitrust laws that will occur independently of the regulations.

8 These comments are available on the U.S. Department of Transportation website by searching for Docket 2881 at <http://dms.dot.gov/search/searchFormSimple.cfm> (last visited Mar. 24, 2004).

sources.<sup>9</sup> It is nevertheless possible to extract information about changes in market conditions from the record, while weighing separately the usefulness of that information and its implications for the merits of reform.

Our evaluation of the merits of CRS regulation proceeds in three parts, drawing upon public documents and building upon the academic literature. First, we proceed with a *traditional economic analysis* of regulation, weighing the social benefits against the social costs of CRS regulations and using the alternative of no government intervention into the CRS market as a benchmark. We do not have the data necessary to support a quantitative analysis of the net benefits of continued CRS regulation. The record established by the Civil Aeronautics Board and the DOT, however, identifies the market conditions that proponents of CRS regulation have found harmful, the nature of the asserted harm, and how specific regulations have purported to lessen that harm.

The analysis of the social value of continued CRS regulation in this article is conservative in the sense that we start from the assumption that proponents' initial beliefs about how CRS regulation could improve market efficiency were valid. We then ask whether continued CRS regulation is likely to be beneficial, conditional on those beliefs and in light of the changes in technology and in market conditions that have occurred over the past decade. Recognizing that a wealth of information already exists regarding each specific CRS rule, our discussion of specific CRS rules will be limited to instances that usefully illustrate the nature of the constraints that regulators have considered imposing on CRS suppliers and their owner airlines.<sup>10</sup>

Second, we incorporate *institutional* considerations into the traditional analysis. In doing so, we update our evaluation to consider the incentives and abilities of government to intervene, with and without CRS regulation. We argue that traditional cost-benefit analysis as sometimes practiced has potentially serious shortcomings. First, evaluations of the merits of terminating a regulation that address only whether a market failure continues to exist ignore the potentially adverse unintended effects of the regulation relative to a market solution. Second, we have found that analyses underlying public comments on regulatory reform often rely on the wrong benchmark because they tacitly assume that "no government" and "free markets" are the most realistic or likely alternative to the rule. In the case of CRS reform, the relevant alternative to regulation appears not

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9 See generally STEPHEN BREYER, REGULATION AND ITS REFORMS 109-11 (1982); George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971) (explaining how interest groups can affect legislators).

10 For a comprehensive discussion of each rule, see 2004 Final Rule, *supra* note 1. See also U.S. DEP'T OF JUSTICE, REPLY COMMENTS OF THE DEPARTMENT OF JUSTICE (June 9, 2003), available at [http://dmses.dot.gov/docimages/pdf86/245665\\_web.pdf](http://dmses.dot.gov/docimages/pdf86/245665_web.pdf) [hereinafter DOJ COMMENTS].

to be a state of *laissez-faire* but instead *antitrust enforcement*.

Third, we evaluate the capacity of *modern rational choice* theories of regulatory reform to explain the decision to terminate the CRS regulations. The challenge facing those theories, in this context, is to explain an action of government that appears to be closely aligned with the public interest. We consider three modern perspectives, which fall under the general headings of interest group, institutional, and informational theories of regulation. We additionally explain how a modern, positive theory of reform might account for the observed decision to delay termination of some, but not all, CRS rules.

We conclude that the plan to terminate the CRS regulations passes the cost-benefit test posed by traditional theories of reform; furthermore, termination is easily explained by interest-group theories that identify the dissipation of private gains from regulation as the ultimate cause of reform. The market conditions that led to concerns about harm from misconduct in CRS markets have abated over the years. The risk of harm from misconduct in the absence of regulation thus appears low in current markets, even by the standards of the regulation's initial proponents. In addition, advances in Internet-related technology appear to have preceded the CRS reforms. Suppliers to which the CRS regulations do not apply have used new technology to enter markets for airline ticket distribution and related services in competition with the regulated CRS vendors. Prohibitive costs plausibly deterred the government from imposing the CRS regulations on the new entrants, so a plan was adopted to terminate the regulations.

Freed of regulatory constraints, the traditional CRS vendors are likely to face lower costs of competing with alternative suppliers of electronic ticket distribution services. They can take advantage of scale and scope economies that might have been less accessible under regulation, subject to constraints associated with the threat of antitrust enforcement by the government or through private actions. This sequence of events typifies the modern interest group theory view of deregulation as the culmination of a process.

We also find that insights from institutional and informational theories of regulation add richness to our understanding of reform, although they do not suggest alternative explanations for the timing of reform in this instance. Institutional barriers to CRS reform have been low for more than a decade. CRS markets and regulations are obscure to the general public, a condition that would suggest, under modern informational asymmetry theories of regulation, that CRS regulations would be continued. We discuss the potentially countervailing roles of two institutions in CRS reform: the notice-and-comment procedures established by the Administrative Procedure Act for informal rulemakings

and the statutory grant of antitrust jurisdiction over the airline industry to the U.S. Department of Justice (DOJ).

The conclusion that antitrust enforcement is the relevant alternative to CRS regulation in this instance may seem quite natural, yet it has been overlooked in much of the public discourse over the merits of CRS reform and, we suspect, over the merits of regulation generally. The harms that CRS regulations sought to eliminate are typically the harms that antitrust statutes are specifically designed to address. Private parties, accordingly, have rights of action against such misconduct. Moreover, the federal government has established a commitment to taking antitrust action in response to concerns about its occurrence.

This commitment is strategic in the sense that deregulation would likely trigger increased antitrust scrutiny of CRS markets in the near term, even without any express reassignment of authority within the federal government or express direction of Congress. While the DOJ's 2003 comments on CRS regulation highlight the likelihood of antitrust action against misconduct after rule termination, our review of the public record leading to the decision to terminate the CRS rules suggests that past analyses of rule termination have tended to assume that a total lack of government intervention—free markets—is the relevant alternative to regulation. The erroneous use of free markets as a benchmark for comparison can introduce a significant bias in favor of regulation into analyses of the merits of reform.

This Article is organized as follows. Part I reviews the history of the CRS industry and its regulation. Part II explains how proponents expected the initial CRS regulations to benefit the public from an economic perspective and identifies the market conditions that initially supported regulation of the industry. In Part III, we explain how market conditions have since evolved and present the implication that continued CRS regulation provides little or no benefit to the public, even from the perspective of a proponent of the initial rules. In Part IV, we identify antitrust intervention as the relevant benchmark against which to evaluate CRS regulation and identify a form of bias that inadvertently enters some traditional analysis. Finally, in Part V, we review alternative, positive theories of regulatory reform and examine how well they account for the government's recent decision to terminate its regulation of airline CRS markets.

## I. History of the Industry and the Regulation

The first CRS rules were issued in 1984, six years after the Airline

Deregulation Act (ADA) of 1978.<sup>11</sup> In keeping with the Civil Aeronautics Board's (CAB) statutory authority, the overarching goal was to safeguard competition in the airline industry against possible abuses. Although the emergence of new airline regulations such a short time after the ADA might look suspiciously like a move to reinstate the old airline regulations, the impetus for CRS rules was at least nominally distinct from that of the terminated airline regulations.

In 1984, CRSs were a relatively new technology. The use of CRS technology by newly deregulated airlines can be seen as a first sign of beneficial innovation due to the decision to deregulate the industry. Alternatively, it could be seen as a harmful threat to the social gains anticipated from deregulation. The initial proponents of CRS regulation took the latter view, and their assumptions about the nature of the harms that the regulations could prevent were ultimately established as a foundation for two decades of commentary about the optimal design of CRS rules,<sup>12</sup> including the past year's evaluation of the merits of CRS rule termination. Since we are interested in the merits of continued CRS regulation, *even under the conservative assumption that initial beliefs about the value of CRS regulations were valid*, the history of the industry that we present in this section will tend to highlight the facts and expressed concerns about CRS markets that led to the promulgation of CRS rules and that served as the foundation for two decades of regulation. This allows us to show in Part III why a conclusion that CRS regulations do not today pass a cost-benefit test can be consistent not only with initial opposition to the regulations, but also with the proponents' view that CRS regulations were initially in the public interest.

It is realistic to view the first CRS rules as the government's response to specific complaints about the conduct of CRS vendors, which were at the time operating as business units of major airlines. Those complaints, which we discuss in this Part, were the subject of lengthy investigations by the CAB and the DOJ before the issuance of the first rule. From a proponent's perspective, CRS regulation can thus be seen, first, as an attempt to remedy misconduct that had been the subject of specific complaints and, second, as part of a larger strategy to shape the effect of the new CRS technology on the structures of newly-deregulated markets for passenger air travel and CRS services, as we explain in this Part.

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11 For a more detailed history of CRS regulation, see 2004 Final Rule, *supra* note 1, at 979-85.

12 See, e.g., STEVEN A. MORRISON & CLIFFORD WINSTON, THE EVOLUTION OF THE AIRLINE INDUSTRY 63 (1995) ("[T]he problem of bias has emerged since 1978 and is believed by some to erode the benefits from [airline] deregulation.").



### A. *Early Airline CRSs: Innovation and Complaints*

Before the 1970s, airlines distributed information about their flights in a hard-copy publication known as the Official Airline Guide (OAG). The OAG contained carrier schedules and fare information. A travel agent, after collecting information about his or her customer's travel preferences, would look in the OAG to find a suitable flight. After checking rules and restrictions for each flight, the agent would call the air carrier by telephone to confirm the price and availability of the flight, book a ticket for the consumer, and handwrite the airline ticket. This is the method of identifying and booking flights that the CRS technology eventually replaced. In fact, the first commercial CRS systems were descendants of airlines' internal scheduling and booking operations.

The information systems that U.S. regulators have termed, "airline computer reservation systems," or "CRSs," essentially consist of an electronic database that contains airline flight and ticket information, which travel agents can access through a network of local computer terminals and printers. These systems are also known as "global distribution systems," or "GDSs." From a supply-side perspective, the CRS vendors' essential role is to maintain a database from which it disseminates flight and fare information to be posted, or "displayed," on subscribing travel agents' computer terminals. Today, CRSs serve three primary functions in airline ticketing: CRSs (i) manage flight inventory and display; (ii) help travel agents search for fares; and (iii) generate tickets and other related documents for air travel. Figure 1 is a diagrammatic representation of how information and payments have traditionally been transmitted and received by travel agents, consumers, airlines, and CRSs.<sup>13</sup>

While some Internet ticketing services, such as Orbitz, today allow consumers to bypass travel agents, a CRS is, virtually by definition, an intermediary between travel agents and airlines. Consumers of air travel would not normally use CRSs directly except through travel agents. Virtually all domestic travel agents today are connected to at least one CRS vendor.<sup>14</sup> CRS technology has evolved a great deal since the 1970s. Its scope has expanded from being a simple reservoir of airline fare information to providing information on reserving hotels, cruises, and

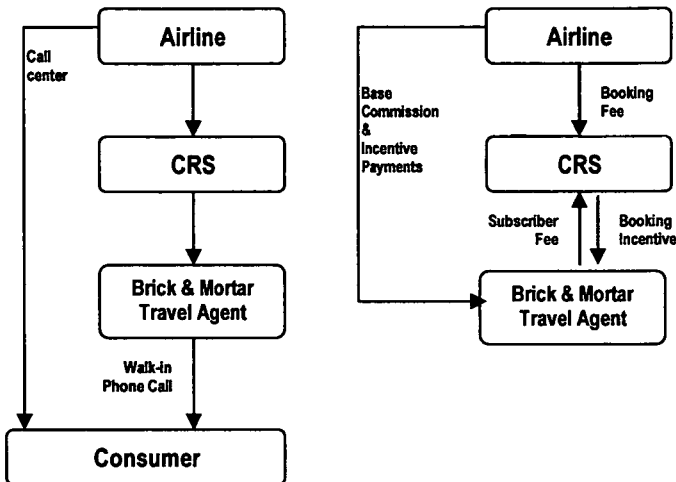
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13 This diagram does not include the alternative channels now provided by the Internet. We will later show how information and payment flow structures have changed in light of this new technology. See *infra* Section III.C.

14 Even with the advent of the Internet services, CRSs still account for a majority of airline ticket sales. For example, "[i]n 1999 travel agencies sold almost three-quarters of all airline tickets. . . . One survey reported that travel agencies made 93 percent of their domestic airline bookings and 81 percent of their international airline bookings through a system in 1999." 2002 NPRM, *supra* note 5, at 69,369-70.

rental cars. Later, we discuss how CRSs have developed in tandem with the advent of online travel agencies. It appears that if the incumbent CRSs can keep up with evolving technology, develop more products, and accommodate different forms of agencies, they will continue to compete profitably in markets for the electronic distribution of travel information and bookings.

Figure 1. Traditional Information Flow/Traditional Payment Flow



American Airlines and United Airlines were the first to make CRS technology commercially available. Before they introduced their systems, respectively Sabre<sup>15</sup> and Apollo, there were numerous failed attempts at developing a commercially viable CRS.<sup>16</sup> Automatic Travel Agency Reservations System (ATARS) made a first attempt in the 1960s to provide a CRS that was to be jointly owned and operated by a consortium of twenty-one airlines. This project failed mainly because the CAB refused to grant antitrust immunity.<sup>17</sup> Prior to launching its own CRS, American Airlines also tried to persuade other major airlines to collaborate on creating a jointly owned CRS. Although American obtained government

15 See R. Preston McAfee & Kenneth Hendricks, *Evolution of the Market for Air-Travel Information* 8 (2003), in SABRE INC., COMMENTS OF SABRE INC. (Mar. 17, 2003), available at [http://dmses.dot.gov/docimages/pdf85/237425\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237425_web.pdf). "Sabre" stands for the Semi-Automated Business Research Environment. Sabre has actually existed as an internal computer system within American Airlines since 1964. The multi-airline CRS concept, however, came about much later.

16 OFFICE OF ECON., U.S. DEP'T OF TRANSP., STUDY OF AIRLINE COMPUTER RESERVATION SYSTEMS 8 n.2 (1988) (describing the various CRS projects that failed prior to Sabre and Apollo).

17 See Jerome Ellig, *Computer Reservation Systems, Creative Destruction, and Consumer Welfare: Some Unsettled Issues*, 19 TRANSP. L.J. 287, 293 (1991).

approval in 1974, this project was abandoned due to insufficient funding.<sup>18</sup> Soon after the collapse of the joint-CRS project, United Airlines decided to create its Apollo system, and American responded by marketing Sabre. These CRSs were used to provide information to travel agents about many different airlines, not just American and United.

Not long after these CRSs began operating, a number of small airlines filed complaints and antitrust lawsuits against American and United. In 1982, Braniff Airlines, on the brink of filing for Chapter 11 protection, accused American Airlines of “dirty tricks” by using its CRS “to cancel Braniff reservations and switch passengers to American’s competing flights.”<sup>19</sup> Other airlines soon followed Braniff’s lead. In 1983, Frontier Airlines “alleged that United refused for two years to allow Frontier to become a cohost in United’s Apollo computer system, and thus effectively kept Frontier schedules off the computer screens.”<sup>20</sup> Continental Airlines claimed that “as much as \$55 million per day in airline ticket payments that should [have been] going directly to other airlines [was] being diverted instead to American and United for as long as 53 days.”<sup>21</sup> Republic Airlines also complained about the influence of CRS-owning airlines on the manner in which CRSs were presenting their flight information to travel agents.<sup>22</sup> Although American and United denied most of these allegations, they argued that they should receive certain benefits from the ownership of their systems after having invested \$160 million and \$250 million, respectively, in developing them.<sup>23</sup> In rejecting the complaints of competing airlines, American Airlines’ then-president Robert L. Crandall observed that “[h]aving successfully developed and marketed our system, we now find ourselves subject to criticism by carriers that did not choose to make similar investments.”<sup>24</sup>

The CAB began looking into these allegations in 1982, and concluded that practices which became known as “display bias” and “functionality bias” were problematic. “Display bias” refers to the practice of placing the owner airline’s flights at the top of the information displays that CRSs transmit to travel agents. “Functionality bias” refers to features of CRS system design or operation that indirectly have the same effect on the

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18 Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 538 (9th Cir. 1991).

19 Carole Shifrin, *American Airlines Denies Braniff’s Charges*, WASH. POST, May 18, 1982, at D6; see *Braniff Rekindles Feud with American as Creditors Start Reorganization Work*, WALL ST. J., May 18, 1982, at 4.

20 Douglas B. Feaver, *Justice Steps Up Probe of Airline Ticketing Systems*, WASH. POST, Mar. 13, 1983, at F1.

21 *Id.*

22 *See id.*

23 Dean Rotbart, *CAB Seen Laying Groundwork for Rules on Computer Airline Reservation Systems*, WALL ST. J., Aug. 8, 1983, at 2.

24 Douglas B. Feaver, *Flight Booking Controversy Lands on Hill*, WASH. POST, June 26, 1983, at G1.

display as display bias. For example, a CRS might be designed to update the information on the owner airline more frequently than on other airlines. The concern was that such biases could discourage travelers from booking flights on non-owner airlines and thereby undermine competition between airlines.<sup>25</sup> The possibility of price discrimination by CRS-owning airlines in setting booking fees raised similar concerns about how airline ownership of CRSs would affect markets for passenger air travel.

A CRS-owning airline also could take steps to affect competition *between* CRSs. For example, a CRS-owning airline could attempt to exclude competing CRSs from the market by refusing to pay special "override" commissions<sup>26</sup> to local travel agencies that did not use its system. Alternatively, it could refuse to provide flight information to, purchase services from, or otherwise "participate in" competing CRSs, which could make those competing CRSs less attractive to travel agents.<sup>27</sup> Relatedly, CRS vendors might add terms to the travel agent subscription contracts to make it more costly for travel agents to switch systems, even without airline CRS ownership.<sup>28</sup> The CAB expressed concern about how incumbent CRS vendors could engage in conduct to foreclose entry by new CRS suppliers, and these concerns formed the CAB's basis for promulgating the rules in 1984. The alternative interpretation of CRSs as a socially beneficial innovation remains, however. For instance, the practice that became known as display bias can actually be beneficial in some settings. We return to these issues more generally in Parts II and III.

By August of 1982, CAB members voted to issue an advanced notice of proposed rulemaking. CAB Chairman Dan McKinnon said that the CRSs were "the single most significant factor affecting competition in the airline industry today."<sup>29</sup>

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25 See 1984 NPRM, *supra* note 3, at 11,647 ("Some CRS vendors have sufficient economic power to require . . . that their competitors compensate them for writing some kinds of tickets.").

26 An override commission is an additional commission paid to travel agents as a bonus for productivity and/or volume.

27 See 1984 NPRM, *supra* note 3, at 11,647 ("CRS carrier vendors are apparently gaining the ability to determine the terms on which they provide automated information distribution services on the basis of the extent to which the other carriers compete with them.").

28 See Computer Reservations System (CRS) Regulations, 57 Fed. Reg. 43,780, 43,800 (Dep't of Transp. Sept. 22, 1992) [hereinafter 1992 CRS Rules] ("While a system owner will lose bookings from subscribers in another system when it reduces the level of its participation in that system, the loss in airline bookings can be outweighed by the gain in CRS subscriptions (and the likely increase in its airline revenues from the new subscribers).").

29 Douglas B. Feaver, *CAB To Seek Fair Computer Ticket System*, WASH. POST, Aug. 11, 1983, at D12.

B. *Jurisdictional Muddle Among CAB, DOT, DOJ, and FTC*<sup>30</sup>

As a CRS market began to emerge prior to 1979, airlines initially enjoyed antitrust immunity. The Federal Aviation Act<sup>31</sup> delegated to the CAB the authority to regulate mergers, consolidations, and controls in this industry.<sup>32</sup> Most of this immunity was lost over the next decade. By 1989, the DOT had emerged as the primary successor to the CAB within the federal government. The Antitrust Division of the DOJ completed its acquisition of antitrust enforcement authority in airline-related markets in that year.

The late completion of this transfer of antitrust authority does not mean that the DOJ played no role in the early evolution of the CRS industry. Just as the CAB began conducting an investigation into the CRS industry in 1982, the DOJ impaneled a grand jury to determine whether American had engaged in anticompetitive conduct and “attempted . . . to monopolize service at Dallas/Fort Worth Regional Airport.”<sup>33</sup> This and other investigations of CRS and related markets led the DOJ to conclude that “the [CRSs] exercise of ‘market power [was inhibiting] the ability’ of other airlines to compete on routes dominated by the airline whose reservation system is used.”<sup>34</sup> The DOJ found, for instance, that at one point, “American decided not to match Continental’s ‘supersaver’ fares in

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30 For more details on the government’s oversight of the airline industry, see Donald T. Bliss & Jacob M. Lewis, *Overseeing Competition in the Airline Industry: Will the Transfer to Justice Make a Difference?*, 34 FED. B. NEWS & J. 293 (1987); and Joan M. Feldman, *U.S. Airline Concentration Burden Shifts to Justice Department*, AIR TRANSP. WORLD, Feb. 1, 1989, at 34, available at 1989 WL 2561547.

31 The CAB initially was given the power to approve, among other things, air carrier mergers and consolidations. Federal Aviation Act of 1958 § 408, 49 U.S.C. § 1378 (2001); § 409, 49 U.S.C. § 1379 (interlocking relationships); § 412, 49 U.S.C. § 1382 (inter-carrier agreements). The DOT assumed these powers in 1984. See Airline Deregulation Act of 1978, Pub. L. No. 95-504, 92 Stat. 1705.

32 The phase-out of the domestic airlines’ antitrust immunity appears to have been gradual. CAB’s authority to grant immunity in the domestic airline industry was substantially curtailed as a result of the Airline Deregulation Act of 1978. The record shows that even prior to 1989, the DOJ could have brought antitrust action against domestic airlines, but chose not to. See Feldman, *supra* note 30 (“Prior to the CAB rules, Justice could have sued the two biggest vendors but did not. Justice could have pursued divestiture by United and American, but [it did not].”). Although there was a brief period of time prior to 1984 when the DOJ was given antitrust oversight of the airline industry, this oversight duty was also shifted to the DOT when the CAB was dissolved. See TRANSPORTATION RESEARCH BOARD, NAT’L RESEARCH COUNCIL, WINDS OF CHANGE: DOMESTIC AIR TRANSPORT SINCE DEREGULATION 30 (1981). In any case, before 1989, DOT retained authority to review mergers and consolidations in the industry, and DOJ might have been reluctant to bring cases while its antitrust oversight was limited. Hence, 1989 seems to be the practically relevant turning point of the jurisdiction.

33 Shifrin, *supra* note 19, at D6.

34 Justice Dept. Says Airlines Ran Biased Reservation System, DOW JONES NEWS SERV., Nov. 17, 1983. The Justice Department investigation also showed “that more than half of all ticket sales on [American Airlines’] computer system were for flights listed first. And more than 90% were for flights listed on the first of several computer screens displaying possibilities.” Christopher Conte, *Charging Bias Airlines Ask CAB To Change Reservation Systems*, WALL ST. J., Feb. 9, 1984, at 29.

65 markets, but simply to remove [them] from the Sabre fare display.”<sup>35</sup> It also posited evidence that United “suppressed information in its Apollo system on specific Frontier, USAir, and, perhaps, Continental flights.”<sup>36</sup> Over the years, the DOJ has repeatedly gone on the record in support of CRS regulation.<sup>37</sup>

To be sure, the DOJ’s support for CRS regulation has had some limits. An example is the DOJ’s response to airline proposals to regulate the “booking fees” that airlines pay CRS vendors for travel agents booking tickets through CRS systems, over and above any commission that the airline may pay directly to the travel agent. These proposals sought to address an increase in booking fees that airlines attributed to the “mandatory participation” regulations. Those regulations limited airlines’ bargaining power over fees by requiring that each CRS-owning airline participate in every CRS, so long as the CRS offered “commercially reasonable terms.”<sup>38</sup> The DOJ has generally opposed such proposals to institute price or fee regulations that it has regarded as harmfully distorting markets.<sup>39</sup>

The Airline Deregulation Act of 1978 provided that the CAB would sunset at the end of 1984, and the DOT subsequently assumed federal responsibility for overseeing the airline industry.<sup>40</sup> The DOT’s authority to review airline mergers fully expired on January 1, 1989, and the transfer of authority over enforcement of the antitrust laws as they apply to the airline industry from the DOT to the DOJ was complete. Since then, the DOT has continued its CRS regulation while the DOJ has maintained authority to go to court against any airline or CRS vendor that might violate the antitrust laws. The Antitrust Division’s primary sources of remedy are consent decrees and other civil, court-enforced judgments. It can proceed criminally in some instances. The DOJ also retains the authority to file comments on DOT-enforced regulations and could even request that the DOT issue and enforce new rules. The DOJ has demonstrated its enforcement authority in the airline industry by investigating and indeed challenging a number of airline mergers and related conduct.<sup>41</sup>

Consequences of the initial allocation of authority appear to linger,

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35 Douglas B. Feaver, *U.S. Sees Need To Correct Air Ticket Systems*, WASH. POST, Nov. 18, 1983, at D8.

36 *Id.*

37 See Douglas B. Feaver, *CAB Votes To Change Agent Lists; Plan Would Force Systems To Offer Competing Flights*, WASH. POST, July 13, 1984, at D1.

38 See 14 C.F.R. § 255.7 (1993) (adopted by 1992 CRS Rules, *supra* note 28).

39 Albert R. Karr & Robert E. Taylor, *American Air, United Accused on Reservations*, WALL ST. J., Nov. 18, 1983, at 38.

40 See Civil Aeronautics Board Sunset Act of 1984, Pub. L. No. 98-443, 98 Stat. 1704 (codified in scattered sections of 49 U.S.C. app.).

41 Scott McCartney & Bill Adair, *Hubb-Bub: Merger Talk Fills Skies and Airline Regulators Have A Juggling Act*, WALL ST. J., June 8, 2000, at A1.

however. During most of the 1980s, “[the DOJ was] only a party to important decisions concerning airline competition, not the government’s principal policymaker in the field. It has been more an advisor than an influence.”<sup>42</sup> Even after the transfer of authority, the DOJ did not necessarily gain a full mandate to oversee competition. Because Congress gave the DOT transitional authority over airline competition law, the DOJ, in essence, “was not in charge at a crucial time” and “lost the chance to make a real policy impact.”<sup>43</sup>

Meanwhile, the DOT derives much of its authority from what is currently Section 411 of the Federal Aviation Act, which is modeled after Section 5 of the Federal Trade Commission Act. The DOT has frequently stated—and the Seventh Circuit has affirmed—that its authority is greater than simple antitrust enforcement.<sup>44</sup> It also cites authority to write and enforce consumer protection rules.<sup>45</sup> Generally, federal authority over consumer protection enforcement resides in the Federal Trade Commission (FTC).

Despite its general expertise, however, the FTC’s authority over enforcement in the airline industry has not grown in proportion to the DOJ’s antitrust authority over airlines. The FTC initially had some authority over the airline industry, but it was denied airline consumer protection authority in 1984 and has since continued to lack a basis for acting.<sup>46</sup> The FTC has thus taken more of a bystander role in CRS regulation than has the DOJ.<sup>47</sup> Although the FTC lacks formal jurisdiction over airlines,<sup>48</sup> what remains unclear is the extent to which evolving case law on Section 5 of the Federal Trade Commission Act will affect the DOT’s parallel interpretation of Section 411.<sup>49</sup>

Overlapping jurisdictional boundaries are important for the analysis of the merits of CRS regulation. Uncertainty about who is in charge can

42 Feldman, *supra* note 30, at 34.

43 *Id.*

44 2004 Final Rule, *supra* note 1, at 994 (“Section 411 allows us to prohibit some conduct that is not prohibited by the antitrust laws.”); *see also* United Air Lines, Inc. v. Civil Aeronautics Bd., 766 F.2d 1107, 1114 (7th Cir. 1985).

45 *See* 2002 NPRM, *supra* note 5, at 69,384.

46 *Id.*

47 The latest comments filed by the FTC in response to the 2002 NPRM raised serious concerns about the DOT’s authority to issue and maintain its proposed CRS regulations and cited possible errors in the DOT’s interpretation of the case law, yet the FTC ultimately deferred to the DOT with the statement that “the interpretation of the [DOT’s] legal authority is not within FTC’s purview.” FEDERAL TRADE COMMISSION, COMMENTS (June 6, 2003), *available at* [http://dmses.dot.gov/docimages/pdf86/245557\\_web.pdf](http://dmses.dot.gov/docimages/pdf86/245557_web.pdf) [hereinafter FTC COMMENTS].

48 While the FTC lacks jurisdiction over airlines, the CRSs have now been divested, and, interestingly enough, the FTC *does* have parallel jurisdiction over *travel agents*. Given that the DOT’s authority to regulate CRSs derives at least in part from the view that CRSs are travel agents, it is possible that the FTC may have at least concurrent jurisdiction over CRSs. *See* 2004 Final Rule, *supra* note 1, at 995.

49 *See infra* Section III.E.

cause coordination failures in which each agency devotes excessive resources to monitoring an industry's activities or, alternatively, expenditure of inadequate resources if each agency erroneously assumes the other is doing the monitoring. Successful coordination also can take different forms. One agency can defer to the other completely, or the two agencies can choose to assume complementary roles, with one writing rules and the other commenting on them. The latter case appeared to arise between the DOT and DOJ during the late 1980s and early 1990s, with the DOT initiating regulatory actions and DOJ responding to the DOT's solicitations for public comments. Similarly, the DOT's analysis of its December 2003 final rule closely follows the DOJ's expressed recommendations.<sup>50</sup>

It is also important to recognize that even if the planned deregulation is pursued accordingly, federal regulation in the airline industry is not necessarily over. Deregulation does not indicate termination of jurisdiction, but simply of the particular rules that were in force. So long as the DOT continues to maintain authority to regulate the air travel service industry, the DOT has the right to intervene in the future, if necessary, by means of re-regulation.

### C. *Efforts To Obtain Antitrust Remedies*

Initial concerns about CRS misconduct led not only to calls for regulation but also to requests for damages and relief from the courts. The DOJ did not initiate action against CRSs, however. Instead, private parties independently sought relief under the antitrust statutes. In 1988, several antitrust cases were combined in the *In re Air Passenger Computer Reservations Systems Antitrust Litigation*.<sup>51</sup> Continental and ten other airlines brought suit against United and American, alleging antitrust violations and attempts to monopolize markets for air transportation and CRS services. The court generally rejected the application of the essential facility doctrine and the monopoly leveraging theory to CRSs, but it also decided that there was evidence—including a recorded phone conversation—of specific intent to monopolize an airline hub and of anticompetitive conduct. The remainder of this case was pursued in *Alaska Airlines, Inc. v. United Airlines, Inc.*<sup>52</sup> The Ninth Circuit granted the defendants' motion for summary judgment and concluded that "[American

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50 See generally 2004 Final Rule, *supra* note 1 (extensively citing the DOJ COMMENTS, *supra* note 10).

51 *In re Air Passenger Computer Reservations Sys. Antitrust Litig.*, 694 F. Supp. 1443 (C.D. Cal. 1988).

52 *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536 (9th Cir. 1991), *cert. denied*, 503 U.S. 977 (1992).



and United's] control of their CRSs did not give them power to eliminate competition in the downstream air transportation market."<sup>53</sup> Subsequently, the United States Supreme Court denied certiorari, finally ending this seven-year saga of antitrust litigation in the CRS industry.

Separate antitrust suits were also filed against American and United. In the *In re "Apollo" Air Passenger Computer Reservation System*<sup>54</sup> case, a competing CRS vendor, SystemOne Direct Access, Inc., accused United of monopolizing or attempting to monopolize the provision of CRS services to travel agencies, or engaging in exclusionary practices by subjecting travel agencies to subscriber agreements that violated the Sherman and Clayton Acts. SystemOne was then owned by Texas Air Group, which was the parent of Eastern Airlines and Continental Airlines. The court, in granting United's motion for summary judgment, held that SystemOne had failed to show that United had engaged in monopolization or drafted subscriber contracts that imposed unreasonable restraints on competition in violation of Sherman Act. The court saw no evidence of predatory conduct in United's liquidated damages, minimum use, and rollover clauses; and it ruled that United, despite its significant market share, did not exhibit anticompetitive behavior in acquiring or maintaining its market position. The court's opinion also declared that the CRS market was competitive as of 1989.<sup>55</sup>

It is important to remember that these antitrust cases occurred in the industry while it was still heavily regulated. By 1989, the CRS rules had been in place for five years and CRSs had been complying with them. The record shows, for instance, that United revised its contracts with travel agents specifically to comply with the CAB's rules.<sup>56</sup> It is possible that the courts chose not to intervene because the federal government then regulated CRS markets through the DOT; and federal regulation can confer an implied immunity from antitrust law.<sup>57</sup> If this explains the various court holdings, one might wonder why a plaintiff would ever incur the cost of bringing an antitrust suit against a regulated CRS supplier. A plausible answer is that the value of the treble damages that a plaintiff would expect to receive under antitrust law was enough to offset the lower probability of success inherent in bringing an antitrust action against

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53 *Id.* at 545.

54 *In re "Apollo" Air Passenger Computer Reservation Sys.*, 720 F. Supp. 1068 (S.D.N.Y. 1989).

55 *See id.* at 1079.

56 *See id.* at 1074.

57 In general, even when "regulatory statutes say nothing at all about the impact of the regulatory regime on antitrust jurisdiction," some amount of "limitation on or exemption from antitrust" may be implied. HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 703 (1999); *see also* Herbert Hovenkamp, *Antitrust Violations in Securities Markets*, 28 J. CORP. L. 607, 628 (2003) (describing an instance in which SEC regulation was used as a basis for obtaining immunity against antitrust enforcement action in federal courts).

regulated suppliers of CRS services.

#### D. *Evolution of the CRS Rules: 1984 to Present*

In March 1984, against this backdrop of complaints and public requests for regulatory intervention, the CAB proposed the first CRS rules, the most prominent features of which were prohibitions against display and functionality bias and against charging "discriminatory" booking fees. Some industry observers have suggested that the CAB should have instead ordered the airlines to divest their CRS ownership. This course of action would have addressed the complaints, but at a potentially high cost. By ordering divestiture, the CAB could have caused potentially significant increases in the costs of producing CRS services because of the possibility that CRS efficiency depended on economies of scale and scope that would continue to accrue only if the CRSs remained vertically and operationally integrated with the owner airlines. Nevertheless, the argument remained that the initial regulations did not go far enough. Among the critics, Republic Airlines advocated complete divestiture and criticized the CAB for proposing rules that "only treat 'symptoms,' rather than 'attacking the structural problems.'"<sup>58</sup> Other airlines that were critical of the regulations considered collaborating on an independent CRS of their own.<sup>59</sup>

CRS regulation in its current form is an end product of a number of revisions. Promulgated in 1984, the first CRS rules specified self-termination on December 31, 1990. The 1984 CRS rules:

- Prohibited display and functionality bias across airlines;<sup>60</sup>
- Required nondiscriminatory booking fees to participating airlines;<sup>61</sup>
- Prohibited any CRS-owning airline from tying travel agent commissions to CRS use;<sup>62</sup>
- Governed the terms of contracts between CRSs and travel agents, such as the length of contracts, minimum uses, and prohibition of rollover clauses;<sup>63</sup>

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58 Steve Willey, *Critics See Gaps in Rules Proposed on Use of Airline Computer Reservation Systems*, WALL ST. J., Mar. 7, 1984, at 10.

59 *Airlines Proposed Creating 'Neutral' Booking System*, WALL ST. J., June 24, 1985, at 8; see also Carol Jouzaitis, *Group Bids for TWA's Ticket Net*, CHI. TRIB., Aug. 16, 1985, at C3. This system, called the NIBS, never went beyond the discussion phase.

60 Airline Computer Reservation Systems: Display of Information, 14 C.F.R. § 255.4 (1992) (adopted by 49 Fed. Reg. 32,540 (Civil Aeronautics Bd. Aug. 15, 1984) [hereinafter 1984 CRS Rules]) (readopted by 1992 CRS Rules, *supra* note 28).

61 Contracts with Participating Carriers, 14 C.F.R. § 255.5(a) (1984) (adopted by 1984 CRS Rules, *supra* note 61) (readopted as 14 C.F.R. § 255.6(a) (1992), by 1992 CRS Rules, *supra* note 28).

62 *Id.* at § 255.5(b)-(c) (1984) (adopted by 1984 CRS Rules, *supra* note 61) (readopted as 14 C.F.R. § 255.6(b)-(c) (1992), by 1992 CRS Rules, *supra* note 28).

63 Carrier-Owned Computerized Reservation Systems: Contracts with Subscribers, 14 C.F.R. § 255.6 (1984) (adopted by 1984 CRS Rules, *supra* note 61) (readopted as 14 C.F.R. § 255.8

- Required CRSs to provide equal service enhancements and updates to all participating carriers (excluding the system owner);<sup>64</sup> and
- Required CRSs to provide marketing information upon request to participating carriers.<sup>65</sup>

In 1992, the DOT—which had gained authority over economic regulation of the airline industry from the CAB—ended an extensive study of the industry with the conclusion that “CRS rules remain[ed] essential”<sup>66</sup> due to CRSs’ persisting market power. In addition to re-adopting all of the 1984 rules, the 1992 CRS rules added new requirements and prohibitions that, again, applied only to airline-owned CRSs. The new rules:

- Required CRSs to provide equal service enhancements to all participating carriers *including the system owner* (effectively forcing the system owner to share the latest developed tools with all other airlines);<sup>67</sup>
- Required airlines that owned CRSs to participate in all competing CRSs at the same level under “commercially reasonable terms” (the “mandatory participation” rule);<sup>68</sup>
- Prohibited airlines that owned CRSs from requiring that travel agents make a specified minimum number of bookings on their equipment;<sup>69</sup>
- Prohibited CRSs from imposing restrictions on travel agents’ use of third-party hardware, software and databases;<sup>70</sup> and
- Required CRSs to provide to carriers upon request current information on the CRS’s fee levels and fee arrangements with other participating carriers.<sup>71</sup>

Five years later, the DOT amended its 1992 rules to prohibit CRS vendors from including “parity” clauses in their contracts with airlines. These clauses required the signatory airline to purchase at least the same

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(1992), by 1992 CRS Rules, *supra* note 28).

64 Carrier-Owned CRSs: Service Enhancement, 14 C.F.R. § 255.7 (1984) (adopted by 1984 CRS Rules, *supra* note 61) (readopted as 14 C.F.R. § 255.5 (1992), by 1992 CRS Rules, *supra* note 28).

65 Marketing Information, 14 C.F.R. § 255.8 (1984) (adopted by 1984 CRS Rules, *supra* note 61) (readopted as 14 C.F.R. § 255.10 (1992), by 1992 CRS Rules, *supra* note 28).

66 1992 CRS Rules, *supra* note 28, at 43,780.

67 Defaults and Service Enhancements, 14 C.F.R. § 255.5 (1992) (adopted by 1992 CRS Rules, *supra* note 28).

68 System Owner Participation in Other Systems, 14 C.F.R. § 255.7 (1992) (adopted by 1992 CRS Rules, *supra* note 28).

69 Contracts with Subscribers, 14 C.F.R. § 255.8(b) (1992) (adopted by 1992 CRS Rules, *supra* note 28).

70 Use of Third Party Hardware, Software, and Databases, 14 C.F.R. § 255.9 (1992) (adopted by 1992 CRS Rules, *supra* note 28).

71 Contracts with Participating Carriers, 14 C.F.R. § 255.6(d) (1992) (adopted by 1992 CRS Rules, *supra* note 28).

level of service from the signatory CRS vendor as from any other CRS vendor.<sup>72</sup> Without an enforceable parity clause, an airline might pay the signatory CRS vendor only for the service of providing agents with its flight and ticket information, for example, while it paid other CRS vendors a premium for also allowing travel agents to issue tickets and make seat assignments on its flights. Parity clauses are a type of most favored nation (MFN) clause, through which the signatory buyer (or seller) is obligated to treat the signatory seller (buyer) at least as well certain other sellers (or buyers).<sup>73</sup> In addition to adopting the parity rule, the DOT modified the prohibition against display bias so as to require each system (i) to offer at least one integrated display that uses the same criteria for both online and interline connections and (ii) to use elapsed time or non-stop itinerary as a significant factor in selecting the flight options from the database.<sup>74</sup>

Since 1997, the sunset of the CRS regulations was delayed annually until December 2003. The latest extensive review of the appropriateness of CRS regulation occurred in 2002-03 and culminated with the DOT's announcement on December 31, 2003 that all but two of the CRS rules would expire at the scheduled sunset date of January 31, 2004. It specifically delayed termination of prohibitions against display bias and the use of parity clauses, which are to remain for a scheduled six-month "transition period" and end on July 31, 2004.<sup>75</sup> On this date, the DOT is scheduled to have completely terminated all command-and-control regulations of the CRS industry. The plan is thus to terminate the last rule exactly twenty years after the CAB issued the first CRS rule. Table 1 summarizes the development of CRS rules since their inception in 1984.

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72 The 1997 rules prohibit each CRS from "requir[ing] a carrier (other than a carrier that owns or markets [a CRS]) to maintain any particular level of participation or buy any enhancements in its system on the basis of participation levels or enhancements selected by that carrier in any other [CRS]." Contracts with Participating Carriers, 14 C.F.R. § 255.6(e) (1998) (adopted by 62 Fed. Reg. 59,784 (Dep't of Transp. Nov. 5, 1997)).

73 The phrase "most favored nation clause" originates from international trade agreements whereby the signatory nations are bound to extend trading benefits equal to those accorded to any third state. See International Trade Data Systems, Normal Trade Relations, at <http://www.itds.treas.gov/mfn.html> (last modified Apr. 23, 2004) (explaining the history behind the MFN clause dating back to 1948 and how its name has recently been changed to "Normal Trade Relation.").

74 Display of Information, 14 C.F.R. § 255.4(a) (1998) (adopted by 62 Fed. Reg. 63,837 (Dep't of Transp. Dec. 3, 1997)).

75 See 2004 Final Rule, *supra* note 1. The DOT eliminated all of the CRS rules, but readopted rules governing display bias, 14 C.F.R. § 255.4 (2004), and parity clauses, 14 C.F.R. § 255.5 (2004). It also added a transitory prohibition against CRS's refusals to deal with airlines that do not provide best fares. See *infra* Table 1.

Table 1. Development of CRS Rules

1984 (CAB)	Prohibit display and functionality bias Prohibit discriminatory booking fees Prohibit travel agent commissions to CRS use Govern contract lengths, prohibit minimum uses and rollover clauses Require equal service enhancements and updates (excluding the system owner) Must provide marketing information upon request
1992 (DOT)	<i>Readopt all the rules from 1984</i> Require equal service enhancements (including the system owner) Institute mandatory participation rule Prohibit minimum number of bookings clause Prohibit restrictions on use of third-party hardware, software and databases. Require disclosure of contents of each CRS-airline fee arrangement to all airlines.
1997	<i>Readopt all the rules from 1992</i> <i>Modify and extend display bias prohibition</i> Prohibit parity clauses
1997 to 2003	Postpone sunset dates annually from March 1997 to March 2003, then to January 2004
Dec. 2003	Terminate all rules in January 2004, except for display bias and parity rules, which are scheduled for termination in July 2004. Add prohibition against CRS refusals to deal with airlines that do not provide best fares (also scheduled for termination in July 2004).

It is instructive to examine how CRS vendors' views on the regulations have evolved over the past several years. In 1997, all four existing CRSs—Sabre, Worldspan, Amadeus, and Galileo—supported some level of continued or heavier regulation.<sup>76</sup> By 2000, CRSs began

76 The comments filed with the DOT by the CRSs at that time were filled with justifications for continuing or modifying the CRS rules. See GALILEO INTERNATIONAL, L.L.C., COMMENTS OF GALILEO INTERNATIONAL, L.L.C. IN RESPONSE TO ADVANCE NOTICE OF PROPOSED RULEMAKING 2-4 (Dec. 11, 1997), available at [http://dmses.dot.gov/docimages/pdf24/29607\\_web.pdf](http://dmses.dot.gov/docimages/pdf24/29607_web.pdf); SABRE INC., COMMENTS OF THE SABRE GROUP, INC. 2-3 (Dec. 9, 1997), available at [http://dmses.dot.gov/docimages/pdf24/29503\\_web.pdf](http://dmses.dot.gov/docimages/pdf24/29503_web.pdf); SYSTEM ONE AMADEUS L.L.C., COMMENTS OF SYSTEM ONE AMADEUS L.L.C. 2-4 (Dec. 9, 1997), available at [http://dmses.dot.gov/docimages/pdf24/29507\\_web.pdf](http://dmses.dot.gov/docimages/pdf24/29507_web.pdf); WORLDSPAN, L.P., COMMENTS OF

facing some competition from newly emerged technologies such as Orbitz, Expedia, and airline websites; these sites facilitated direct ticket sales that bypassed brick-and-mortar travel agents. SABRE, Worldspan, and Amadeus asked the DOT to regulate Orbitz and other Internet ticketing technologies, as well as continuing CRS regulation.<sup>77</sup> Galileo was the only party who saw no need to regulate the new Internet technologies. The DOT, noting that regulating new technologies might discourage further innovation, decided not to regulate Orbitz or other Internet technologies. Subsequently, in recent years, Sabre, Worldspan, and Amadeus have all been campaigning for complete deregulation of CRSs. Meanwhile, Galileo remained a loner in supporting continued regulation of CRS until the prospect of deregulation became more certain.

## II. The Initial Case for Regulation: A Review of the Merits

Under traditional theories of regulation, deregulation should occur when the social costs of continued regulation outweigh the benefits. Deregulation is then said to improve resource allocation, or social welfare.<sup>78</sup> The Office of Management and Budget (OMB) in 2003 provided updated guidance for federal agencies to follow in evaluating the allocative efficiency, or general merit, of proposed projects and regulations.<sup>79</sup> The OMB highlighted three basic principles. First, the

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WORLDSPAN, L.P. ON ADVANCE NOTICE OF PROPOSED RULEMAKING 2-3 (Dec. 9, 1997), *available at* [http://dmses.dot.gov/docimages/pdf24/29525\\_web.pdf](http://dmses.dot.gov/docimages/pdf24/29525_web.pdf).

77 See AMADEUS GLOBAL TRAVEL DISTRIBUTION, S.A., INITIAL COMMENTS OF AMADEUS GLOBAL TRAVEL DISTRIBUTION, S.A. (Sept. 22, 2000), *available at* [http://dmses.dot.gov/docimages/pdf53/111729\\_web.pdf](http://dmses.dot.gov/docimages/pdf53/111729_web.pdf); SABRE INC., COMMENTS OF SABRE INC. (Sept. 22, 2000), *available at* [http://dmses.dot.gov/docimages/pdf53/112014\\_web.pdf](http://dmses.dot.gov/docimages/pdf53/112014_web.pdf); WORLDSPAN, L.P., COMMENTS OF WORLDSPAN, L.P. (Sept. 22, 2000), *available at* [http://dmses.dot.gov/docimages/pdf52/111712\\_web.pdf](http://dmses.dot.gov/docimages/pdf52/111712_web.pdf).

78 The economic foundation for methods of evaluating whether a government project or regulation benefits the public can generally be found in the works of Nicholas Kaldor and J.R. Hicks. See J.R. Hicks, *The Foundations of Welfare Economics*, 49 *ECON. J.* 696 (1939); Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 *ECON. J.* 549 (1939); see also Harold Hotelling, *The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates*, 6 *ECONOMETRICA* 242 (1938). By a Kaldor-Hicks standard, a project is welfare-enhancing if the gains to private beneficiaries of the project exceed the costs to any parties made worse off by the project. For the modern history of cost-benefit analysis, see Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 *YALE L.J.* 165 (1999).

79 The OMB is charged with the task of reviewing the adequacy of federal agency determinations of whether a program or project will benefit the public generally. See OFFICE OF MANAGEMENT AND BUDGET, *REGULATORY ANALYSIS, CIRCULAR A-4* (Sept. 17, 2003) (refining OMB's "best practices" document of 1996 and "assist[ing] analysts in the regulatory agencies by defining good regulatory analysis . . . and standardizing the way benefits and costs of Federal regulatory actions are measured and reported"). Some of the peer reviewers of this document contemporaneously published articles on the conduct of cost-benefit analysis. See, e.g., Cass R. Sunstein, *Lives, Life-Years, and Willingness To Pay*, 104 *COLUM. L. REV.* 205 (2004). For a useful perspective on cost-benefit analysis methods at the time of the 1996 document, see KENNETH J. ARROW ET AL., *BENEFIT-COST ANALYSIS IN ENVIRONMENTAL, HEALTH, AND SAFETY REGULATION: A STATEMENT OF PRINCIPLES* (1996).

analysis must identify the specific goal of the regulation; second, it must identify a benchmark against which to measure the costs and benefits of the regulation; and third, it must evaluate the costs and benefits of the regulation relative to that benchmark. Qualitative analysis of costs and benefits of government intervention is consistent with OMB guidance and with methods of market analysis typically applied in evaluating antitrust complaints.<sup>80</sup>

At its inception, the social value of CRS regulation most plausibly derived from its capacity to reduce the social costs of potential bottlenecks<sup>81</sup> in the supply of flight information and ticket distribution services. Travel agents and airlines initially faced two incumbent CRS suppliers. Other sources of flight information and ticket distribution—such as the OAG, for instance—tended not to be close substitutes from the perspectives of airlines and travel agents. CRS regulations sought to confront incumbent CRS suppliers with greater competitive pressure while preventing adverse effects on the structure of the market for passenger air travel, which might occur if non-CRS-owning airlines could not profitably compete with CRS-owning airlines.<sup>82</sup> Furthermore, the DOT has characterized its CRS rules as promoting conduct consistent with the antitrust and consumer protection laws.<sup>83</sup> These expressly-anticipated economic benefits from the 1984 CRS rules, and from subsequent revisions to those rules, are documented in DOT Notices for Proposed Rulemaking (“NPRMs”) filed in 1984, 1992, 1997, and 2002. In each NPRM, the DOT provides its rationale for promulgating or modifying its CRS rules.

In this Part, we review the initial case for CRS regulation from a best-case or proponent perspective. The goal is to identify the market conditions and assumptions about the economic consequences of the CRS regulations that plausibly supported the *ex ante* expectation that CRS

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80 See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (1992).

81 What we term bottlenecks arise in settings where customers have few good alternative sources of supply, entry appears unlikely to occur, and suppliers thus face incentives to raise prices above what they would charge otherwise. The possible social harm from this is that less of the good or service is consumed than if there are more suppliers or if incumbent suppliers face a greater threat of competition from new entrants.

82 For example, if airlines that did not own CRS systems could not compete profitably with CRS-owning airlines, the advent of CRS technology could significantly reduce the number of airlines and thereby create incentives for the remaining airlines to raise their prices, causing a decline in the quantity of passenger air travel consumed. Even if non-CRS-owning airlines could profitably compete, higher prices could accompany a CRS-related increase in market concentration due to the advantages accruing to major airlines from their CRS ownership.

83 In 1984, the CAB’s strategy was two-pronged for preventing CRS technology from adversely affecting the structure of the airline market: first, eliminating entry barriers; and second, limiting airline influence over CRSs. With the passage of time, the DOT placed greater emphasis on a third rationale, which was to ensure the enforcement of laws designed to promote competition and protect consumers more generally.

regulation would be socially beneficial.

A. *Reducing Entry Barriers into Markets for CRS Services*<sup>84</sup>

The first primary goal of CRS regulation was to encourage entry—or eliminate “barriers to entry”<sup>85</sup>—both by preventing travel agents from becoming locked into incumbent CRS vendors and by making it easier for new entrants to distribute flight information and provide booking services for major airlines. At the rules’ inception, several features of CRS markets appeared to explain why potential suppliers had found entry unprofitable. The CRS regulations can be understood as an attempt to alter these features and thereby induce entry.

First, travel agents faced switching costs due to their existing relationships or binding contracts with incumbent CRS vendors. If the travel agent’s switching cost could be reduced, an entrant potentially would not have to offer a substantial discount off the incumbent supplier’s price in order to win the agent’s business. Accordingly, the initial CRS regulations disallowed long-term contracts, disallowed prohibitions against a travel agent’s use of third-party hardware and software, and disallowed the use of other contractual provisions that appeared to lock customers into an incumbent vendor and thereby discourage, or prevent, them from switching suppliers.<sup>86</sup>

Second, incumbent vendors appeared to have a quality advantage due to their ownership by major airlines. The most significant advantage was that an airline-owned CRS could confidently commit to provide travel agents with timely and complete ticket information about the owner airline’s flights. Among CRS-owning airlines, American and United Airlines were major airlines in the sense that each commanded a large share of the market for passenger air travel in the U.S. An entrant that could be assured equal access to their flight information would not have to overcome such a large quality disadvantage relative to the incumbents. To reduce the quality advantage of the airline-owned incumbents, CRS regulations required participation by all CRS-owning airlines in all CRS

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84 See Harold Demsetz, *Barriers to Entry*, 72 AMER. ECON. REV. 47-57 (1982) (reviewing the various concepts of entry barriers that guided the antitrust and regulatory policy choices around the promulgation of the first CRS regulations). Demsetz highlights the issue facing policymakers of “defining which costs of undertaking activities are socially desirable and which are not.” *Id.* at 56; see also Dennis W. Carlton, *Why Barriers to Entry Are Barriers to Understanding* (2004) (unpublished manuscript, presented at the American Economic Association Meetings, San Diego, 2004).

85 We use the expression to refer to anything that reduces the profitability of entry, independently of how its elimination would affect allocative efficiency.

86 The 1984 CRS Rules and 1992 CRS Rules purported to regulate contracts between CRS vendors and travel agents in order to reduce travel agents’ costs for switching CRS vendors. These included regulations against contracts with a duration greater than five years and against requiring customers to use only the incumbent’s hardware and software.



vendors' systems.<sup>87</sup>

The regulations did not expressly address a third advantage that incumbent CRS vendors enjoyed, however. Ownership and operation of CRS systems appeared to increase owner airlines' ticket sales significantly and profitably. Each CRS-owning airline should thus have found it profitable to supply financing and other inputs to its CRS unit on more generous terms than a CRS not owned by an airline would expect to receive. This would place potential CRS entrants that were not owned by airlines at a disadvantage. All of these considerations were cited by proponents of CRS regulation that purported to ease entry by new CRSs, particularly of CRSs not owned by airlines.

#### B. *Limiting Airline Influence over CRSs*

The second major goal of CRS regulation was to prevent airline ownership of CRSs from adversely affecting competition among airlines in markets for passenger air travel. Airlines complained that not owning CRSs put them at a competitive disadvantage relative to owner airlines. The CAB noted that "[since CRSs are] competitors in the downstream air transportation industry, they have the ability and incentive to exercise that power in ways that may interfere with air transport competition."<sup>88</sup>

Vertical integration into the supply of CRS services could confer several advantages on owner airlines that could affect competition in markets for passenger air travel. First, as previously explained, CRS vendors appeared to face significantly lower costs to serving their owner airline than other airlines, partly because of similarities (and even co-location) between their computer systems, and partly to the extent that joint ownership facilitated coordination between airline and CRS operations. This reduced the airline's cost of ticket distribution, made it easier for travel agents and passengers to obtain information and tickets on the owner airline, and lead passengers to associate a higher quality of service with that airline.

Second, airline ownership may have altered the affected CRS vendors' incentives when setting prices and other aspects of competition strategy in a way that favored the owner airlines. As the sole owner, an airline presumably held all residual rights to control, and participate in the cash flows of, its CRS unit. From the owner airline's perspective, the best

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87 The "mandatory participation" rule required that all CRS-owning airlines provide flight information and otherwise "participate" in other CRS systems in the sense of accepting bookings through those systems. The mandatory participation rule was an attempt to increase the quality of the ticket distribution services that an entrant could offer by preventing airlines that owned CRS vendors from refusing to distribute tickets and related information through the new entrant.

88 1984 CRS Rules, *supra* note 61, at 32,542.

strategy for the CRS's management would have been to maximize the profits of the airline and the CRS jointly, rather than to focus solely on the profits of the CRS. The owner airline could implement this objective by, for example, appointing an agent of the airline to the CRS management team or by exercising appropriate discretion in setting the compensation of the CRS's management. This raised the concern that the airline-owned CRSs would be given powerful incentives to favor their owners in marketing and booking flights, at the other airlines' expense.

Concerns about these advantages of CRS ownership may have been valid, but they would not generally be enough to justify regulations to eliminate airline influence over CRSs. The possibility of harm from vertical integration cannot be denied. Yet vertical integration can also improve economic efficiency. Economists generally recognize that organizing production within a single corporation rather than attempting to coordinate activities across corporations can confer efficiencies that include significant reduction of transaction costs.<sup>89</sup> The CAB recognized the benefits of integration when it enumerated four main reasons for not ordering divestiture in 1984: (i) the necessity was not clear, and the general rules appeared to be sufficient guards against anticompetitive behavior; (ii) divestiture cases would require adjudicatory-type hearings which could take long periods of time and be very costly; (iii) *there was an obvious efficiency gain from the vertical integration*, which was not clearly offset by the potential harm; and (iv) if necessary, divestiture could be pursued at a later time.<sup>90</sup> Regulators thus had good reason to reject such proposals and not attempt to regulate airlines' internal governance of their CRS units.

Regulations to prevent airline ownership of CRSs from adversely affecting competition between airlines were accordingly limited to prohibitions against specific practices that had been the subject of complaints by competing airlines and practices that did not clearly improve market efficiency. Various forms of discrimination by any CRS or its owner against a non-affiliated airline or other CRS were accordingly prohibited.<sup>91</sup> This included prohibitions against display bias and the

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89 An extensive literature has arisen from Ronald Coase's insight that transaction cost savings can accrue from organizing production within firms (corporations), rather than across firms. According to Coase, such savings are critical to the profitability of the business firm as an organizational form. See Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 1 (1937), reprinted in RONALD H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 33, 38-40 (1988). Modern extensions of this point, focusing on vertical integration, include those of Klein, Crawford, and Alchian, and Grossman and Hart. See Benjamin Klein et al., *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 *J.L. & ECON.* 297 (1978); Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 *J. POL. ECON.* 691 (1986).

90 See 1984 NPRM, *supra* note 3, at 11,661.

91 The absence of obvious efficiency rationales for such conduct is not surprising:

requirements that each CRS charge all airlines the same fee for a given quality of service, that no CRS discriminate among airlines in setting its quality of service, and that every CRS supply to all airlines whatever marketing data it supplies to the owner airline.

The potential benefit from these rules was not simply to prevent discrimination. They also were designed to prevent airline ownership from affecting CRS vendors' choices in ways that might diminish airlines' incentives to compete and so make travelers worse off or limit market efficiency. One regulatory prohibition against discrimination, however, is not readily explained as an attempt to affect competition between airlines. The expressed goal of the 1997 prohibition against the use of parity clauses was to facilitate *innovation* in the quality of CRS services. The concerns about possible effects of parity clauses on innovation were not linked to airlines' ownership of CRS systems.

### C. *General Compliance: Antitrust and Consumer Protection*

Beyond the two major goals of CRS regulation discussed above, the DOT has suggested that CRS regulations may also be useful in enforcing general compliance with antitrust and consumer protection statutes. Given that at least two large federal agencies have the task of protecting consumers from violations of these statutes in a wide range of markets, the social value of CRS regulation to this end is the *incremental* value of adding enforcement of regulatory rules to other well-established mechanisms for enforcing compliance with antitrust and consumer protection statutes.

#### 1. Antitrust

One of the anticipated benefits of CRS regulation in 1984 was to remedy harmful antitrust misconduct, thereby promoting specific and general deterrence of such misconduct. The value of CRS regulation as a deterrent changed when the DOJ gained antitrust enforcement authority over the airline industry. This observation does not alter the anticipated enforcement benefits of the initial regulation, but it does affect our analysis

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Economic analyses of price discrimination tend to find that it has ambiguous implications for social welfare, primarily because the practice benefits some parties while harming others, and the net effect depends on what weights are assigned in combining the values of those benefits and harms. For potential benefits and harms of price discrimination, see JACK HIRSCHLEIFER, *PRICE THEORY AND APPLICATIONS* 244-49 (4th ed. 1998); *see also* JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 135-38 (1998). For alternative discussions of the literature on price discrimination, see DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 274-96 (2000); ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 384-87 (2001); Michael E. Levine, *Price Discrimination Without Market Power*, 19 *YALE J. ON REG.* 1 (2002).

of the present-day benefits. We return to this issue more generally in Part IV.

## 2. Consumer Protection

The value of CRS regulation as a means of “consumer protection” is difficult to discern from the record. Prohibitions against display and functionality bias might further such a goal in the sense of improving the quality of consumer information or, put differently, reducing asymmetries between the quality of consumer and producer information. Yet, as we have seen, those prohibitions arose primarily to prevent airlines from using their CRS units to undermine the structure of markets in which airlines compete, which is traditionally a goal of antitrust enforcement, rather than reflecting any distinct consumer-protection enforcement objective.

In a 1986 Brookings Institution study of airline regulation, for example, Morrison and Winston illustrate the social cost of biased displays with a numerical example in which “CRS bias can be assumed, in effect, to eliminate one major carrier.”<sup>92</sup> In rejecting the claims that display bias may be innocuous or “beneficent,” the DOT has cited examples in which airline-owned CRSs displayed the flights of competing airlines so that they would be difficult for travel agents to locate, sometimes with the intent of causing a competing airline to exit a local market for passenger air travel.<sup>93</sup> This stands in contrast to the view that display bias rules primarily help travel agents and consumers obtain timely and accurate information in order to find more suitable flights at a lower cost, thereby achieving a distinct consumer-protection enforcement objective.

Thus, the record reveals little about the market conditions under which the CAB or DOT would impose a regulation solely to improve the quality of consumer information. For an understanding of the possible social value of consumer protection regulation in the CRS industry, we accordingly consider the nature of the DOT’s authority to promulgate consumer-protection rules.

Congress never explicitly granted the CAB (or the DOT) authority to ensure consumer protection.<sup>94</sup> Instead, Section 411 of the Federal

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92 STEVEN A. MORRISON & CLIFFORD WINSTON, *THE ECONOMIC EFFECTS OF AIRLINE DEREGULATION* 69 (1986).

93 For example, the DOT in its 1992 NRPM rejects the argument of Boudreaux and Ellig, and of Kleit, that display bias might be benign in light of examples that include the following: “When New York Air entered one of America’s major markets, American substantially increased the display bias against all New York Air services, an action that led to New York Air’s withdrawal from the market. 56 FR 12593.” 1992 CRS Rules, *supra* note 28, at 43,786.

94 According to the 2002 NPRM, Congress mentioned three particular goals to the DOT as furthering public interests: (i) “the prevention of predatory or anticompetitive practices in the airline industry”; (ii) “the prevention of unreasonable industry concentration, excessive market domination, monopoly powers, and other conditions that would allow an airline unreasonably to increase fares,

Aviation Act<sup>95</sup> authorized the CAB (and the DOT) to prohibit “unfair” and “deceptive practices” and “unfair methods of competition” by airlines and ticket agents in the sale of air transportation. The CAB justified its authority to protect consumers by giving a parallel reading of this statute with Section 5 of the Federal Trade Commission (FTC) Act, which contained similar language.<sup>96</sup> The FTC’s enforcement actions against unfair or deceptive practices have tended to focus on activity that is seen as threatening consumers’ opportunities to exercise informed choice.

It is thus appropriate to consider that CRS regulations against display and functionality bias might confer social benefits by improving consumer access to information about their travel alternatives. This topic has indeed been a focus of commentary about the value of CRS regulations, even while the DOT has not offered the value of improved information access, without more, as a primary source of gain from any of its proposed CRS regulations.<sup>97</sup>

### III. CRS Regulation Today: Smaller Benefits, Higher Costs

We now consider the changes that have occurred in the structure of CRS markets and determine how those changes affect the value of CRS regulation in terms of achieving the initially stated goals. As mentioned above, our approach is conservative in the sense that we assume that proponents’ views on the nature of the net benefits from CRS regulation were initially valid, given what was known at the time. The analysis accordingly focuses on the factors that we identified in Part II as plausibly supporting claims that the initial CRS regulations were in the social

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reduce service, or exclude competition”; and (iii) “the encouragement of entry by new and existing air carriers.” 2002 NPRM, *supra* note 5, at 69,384.

95 49 U.S.C. § 41,712(a) (2001).

96 Federal Trade Commission Act of 1914 § 5, 15 U.S.C. § 45 (2001). Meanwhile, the 1984 NPRM read:

Section 411 was patterned—indeed is virtually identical to—section 5 of the Federal Trade Commission Act and as the Supreme Court has noted, has the same general purposes. . . . The companion prohibition against “unfair or deceptive practices” in both section 411 and section 5 of the Federal Trade Commission Act was intended to protect consumer from trade practices which, while not necessarily anticompetitive, were misleading, contrary to recognized public policy or injurious to consumers. . . . Given the prophylactic intention of section 411, it is appropriate for us to use section 411 as the basis for prospective rules. It permits us to forestall conduct where we find that a potential for abuse exists. We need not, therefore, determine whether there actually has been a violation of section 411 in order to promulgate rules.

1984 NPRM, *supra* note 3, at 11,653.

97 Donald J. Boudreaux and Jerry Ellig provide an early discussion of the different forms that CRS display “bias” can take and the market conditions under which CRS vendors choose how to display flight information. See Donald J. Boudreaux & Jerome Ellig, *Beneficent Bias: The Case Against Regulating Airline Computerized Reservation Systems*, 57 J. AIR L. & COM. 567, 576-80 (1992).

interest. We focus on how the merits of regulation have changed over the past two decades under a traditional cost-benefit standard. The analysis in this section nevertheless brings to light certain weaknesses in proponents' initial assumptions about the potential for CRS regulation to achieve its expressed goals. Such weaknesses have become more apparent with the passage of time as general knowledge has grown about markets for electronic ticket distribution.

#### A. *CRS Divestiture by Domestic Airlines*

The initial concern that major airlines might use their CRS ownership as a device to impose extra costs on competitors, or exclude them from the market, has lost its validity. As of 2003, all major domestic U.S. airlines had divested their CRS ownership.<sup>98</sup> This is a recent development. Continental Airlines divested its final 12.4% equity stake in the successor to System One, Amadeus, in 1999 (around the date of Amadeus' IPO). Ownership of the two CRSs that had raised the greatest concerns about airline influence over electronic ticket distribution, Sabre and Apollo, was divested gradually over more than a decade. Sabre was spun off from American in March 2000. The successor to Apollo, Galileo, was fully divested by United Airlines and others in October 2001.

Ownership of other CRS vendors has been divested fully over the past five years by domestic airlines. Delta, Northwest and TWA sold off their stakes in the successor to PARS and Datas II, Worldspan, in a transaction leading to Worldspan's acquisition in June 2003 by a company with no airline ownership, Travel Transaction Processing Corp.<sup>99</sup> These divestitures end an era of domestic-airline ownership of CRSs that had raised concerns about the use of CRS ownership as a means for airlines to adversely affect competition in the market for passenger air travel. This completely eliminates the potential for major airlines to abuse their CRS ownership.

There have been attempts to reconstruct the vertical integration and airline influence argument despite the divestitures.<sup>100</sup> Most promising among them is the argument that ownership is not necessary for a major airline to adversely affect a CRS supplier's choices. The claim is that a major airline could contractually or tacitly create an incentive for CRS suppliers to discriminate against the airline's competitors in markets for CRS services, and that this might in turn adversely affect competition in

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98 2002 NPRM, *supra* note 5, at 69,373; Worldspan, History of Worldspan, at <http://www.worldspan.com/home.asp?fbucatlD=7&fbucatID=> (last visited Mar. 25, 2004).

99 See History of Worldspan, *supra* note 99.

100 See, e.g., 2002 NPRM, *supra* note 5, at 69,383 (describing existing contractual relationships between CRSs and their formerly-affiliated airlines).

the market for passenger air travel.

This argument has several difficulties. First of all, divestiture significantly increases an airline's private cost of exercising influence over a CRS vendor, making the harmful exercise of influence significantly less likely than in the case of airline ownership. This private cost goes beyond the monitoring cost and the cost of negotiating and drafting such contracts. Certainly, there are similarities between contracts and ownership, and economic theories of the modern business corporation highlight their interface.<sup>101</sup> A corporation may indeed be viewed as a nexus of contracts between the corporation and related parties, such as investors and employees. But the distinction between ownership and contracts is that ownership confers residual rights of control that contracts cannot confer.<sup>102</sup> By divesting its CRS ownership, an airline divests rights of control that it cannot re-acquire through a contract. Any CRS that acts to maximize the profits it earns jointly with its owner airline, pre-divestiture, will thus shift its strategy to place less weight on the airline's profits, post-divestiture. This is because the divestiture of ownership deprives the airline not only of direct influence, but also of efficient means by which to shape CRS incentives. In addition, even if an airline were to find a sufficient contract for influencing a CRS vendor, the airline would have to provide the CRS vendor with an adequate incentive to sign the contract, which could prove difficult if the effect were to increase the airline's post-contractual bargaining power relative to that of the CRS.<sup>103</sup> The ultimate effect in this case would be a form of price competition that tends to dissipate rents previously accruing to airlines.

An airline also might seek to influence a CRS vendor through some tacit understanding, rather than by means of a contract. As in any collusive

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101 See, e.g., Coase, *supra* note 90, at 34-40 (comparing and contrasting the use of contracts versus firm); Grossman & Hart, *supra* note 90, at 691-719; Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POL. ECON. 1119, 1119-58 (1990); Klein et al., *supra* note 90, at 297-326; Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233, 233-61 (1979).

102 See Grossman & Hart, *supra* note 90.

103 This is not to deny the possibility of social loss from the use of long-term vertical contracts. Voluntary contracts can in principle lead to socially harmful exclusion of suppliers under some conditions; it is possible for exclusionary contracts to be both profitable *and* socially undesirable. After initial skepticism on the part of economists about whether a voluntary exclusionary contract could ever be profitable, which is usually attributed to "the Chicago School," recent research has identified some conditions under which "monopolists may be able to exploit customer disorganization so as to exclude potential rivals." Eric B. Rasmusen et al., *Naked Exclusion*, 81 AM. ECON. REV. 1137, 1137 (1991). These conditions include economies of scale and certain beliefs on the part of consumers about others' actions. For instance, buyers who expect others to sign such provisions will see no reason not to sign those contracts themselves. For more information on naked exclusion, see *id.*; see also Ilya R. Segal & Michael D. Whinston, *Naked Exclusion: Comment*, 90 AM. ECON. REV. 296 (2000); Eric B. Rasmusen et al., *Naked Exclusion: Reply*, 90 AM. ECON. REV. 310 (2000). For the perspective usually attributed to the Chicago School, see, for example, Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281 (1956).

arrangement, the airline might find a way to compensate the CRS vendor tacitly for placing its competitors at a disadvantage in the market for CRS services. For example, the airline might pay the CRS vendor a premium over the market price for CRS services in exchange for the CRS vendor placing the airline's competitors at a disadvantage—through the levying of high CRS booking fees, for example—in the market for passenger air travel. Assuming such an agreement would be mutually beneficial, the airline and CRS vendor must each be able to engage in sufficient monitoring of the other's compliance to deter cheating, and all the more so absent an explicit contract.<sup>104</sup> The issues in forming, monitoring, and enforcing compliance with a tacit coordinated agreement can be restrictive, similar to those that arise in the case of contracting. The potential for any harmful exercise of influence by an airline over a CRS vendor is thus significantly lower post-divestiture than when the CRS unit is airline-owned.

Finally, this argument ignores the fact that just as it is more costly for an airline to exercise influence over a CRS unit that it does not own, it also is more costly for the government to write rules that can successfully prevent the harmful exercise of influence through such contractual, or worse still, tacit channels. Any rule that sets out to govern contract terms between a CRS and an airline risks prohibiting relations that are actually beneficial and does not ensure the cessation of harm. First, the rule may be difficult to enforce. Second, regulated parties may find ways to avoid complying with the rule in principle without technically violating it.<sup>105</sup> These difficulties, taken together, indicate that the net benefits to society from writing command-and-control regulations to prevent the anticompetitive exercise of influence over CRSs by non-owner airlines are significantly smaller than the pre-divestiture net benefits associated with the initial rule.

There is another, and perhaps more important, point. As global CRS alliances formed, the CRS vendors that had been formed by major domestic airlines began to emerge as separate and distinct lines of business. When the CRS rules were first written, CRS units were found to generate profits primarily by increasing bookings on their owner airlines. A decade later, the booking fees were accounting for a significant share of CRS-generated profit. By the turn of the millennium, "strained" relations were reported between the largest CRS supplier, Sabre, and its airline-owner,

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104 George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44, 44-46 (1964); Edward J. Green & Robert H. Porter, *Noncooperative Collusion Under Imperfect Price Information*, 52 ECONOMETRICA 87, 87-100 (1984).

105 For discussion of problems that can arise in enforcing rules against certain forms of contract between CRSs and travel agents, see DOJ COMMENTS, *supra* note 10, at 28.



American Airlines.<sup>106</sup> Sabre was completely spun off from American Airlines' parent company, AMR, in 2000, amid talk that independence from AMR would better enable Sabre to compete for business generally.<sup>107</sup>

In short, the divestiture changed not only CRS ownership structures but also reflected changes in the conditions under which CRS units could profitably compete. Major CRS vendors today compete by taking advantage of scale and scope economies that are achievable by offering not only airline reservation services but also hotel reservations, rental cars, and discount programs. That said, it remains possible that these changes reflect the effect of the CRS rules not in facilitating entry but in preventing major airlines from using their CRSs to compete in the air travel market. By limiting the ability of CRSs to pay their costs by increasing their owner airlines' bookings, the CRS rules may have caused CRS vendors to incur more costs competing in the ticket-distribution market more generally.

#### B. *No Entry by New CRS Vendors*

The CRS rules purporting to facilitate new CRS entry appear not to have done so, and have thus not produced the expected benefits. Only six CRS vendors offered their services to domestic airlines and travel agents in the mid-1980s, as Table 2 shows. If the rules had actually facilitated entry, the number of CRS vendors should have grown or some new entrants should have been seen during the past twenty years. The evidence, however, is to the contrary. It remains that "[s]ince the [CAB] first adopted CRS rules, no firm has entered the CRS business."<sup>108</sup> Meanwhile, there has been a series of mergers coupled with introduction of multinational CRS; the cumulative effect was to reduce the number of CRSs.<sup>109</sup> Today there are mainly four CRSs: Sabre, Worldspan, Galileo, and Amadeus. While it is possible that there would be even fewer CRS

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106 See Scott McCartney, *Sabre's Durham Resigns Amid Flap with AMR Corp.*, WALL ST. J., Sept. 8, 1999, at B2 (citing coordination difficulties between the CRS unit of American Airlines, Sabre, and the parent corporation, AMR).

107 American Airlines divested its remaining stake through an IPO of 19% that occurred in July 1996.

108 2004 Final Rule, *supra* note 1, at 980. While Worldspan, Galileo, and Amadeus did not exist *as such* in 1983, they were formed through various mergers and acquisitions, and thus were never *de novo* entrants. See *infra* note 110 and accompanying text.

109 European airlines formed alliances in response to entry by American CRS vendors and, through these alliances, developed their own CRS service suppliers. Amadeus was formed by Air France, Iberia, Lufthansa and SAS in 1987. Galileo was formed in 1988 through an alliance that included the Apollo system. Its initial owners included British Airways, United Airlines, Alitalia, Swissair, and KLM. The 1990 formation of Worldspan occurred through a merger of the two smallest American CRS suppliers, Pars, then owned by TWA and Northwest, and Datas-II, then owned by Delta. Mergers subsequently occurred between other domestic CRS vendors and their European counterparts. Galileo completed its acquisition of Apollo in 1994. Amadeus merged with System One in 1995.

vendors today in the absence of regulation, this result seems unlikely. If these rules have not led to any entry after almost twenty years, it seems unlikely that any benefits will arise from keeping them in place in the future.

Even if a regulation could successfully facilitate entry by a supplier of CRS services, the gain from such entry would at this point be relatively small, and possibly negative. Whereas twenty years ago—when Internet services were not developed and CRSs faced little outside competition—the benefit of new entry into the CRS market may have been substantial, any benefit has likely decreased due to the increased market pressures that CRS vendors today face from alternative channels. In this light, the potential for unintended adverse effects, such as the possible suppression of innovation, raises the possibility that the maintenance of regulations that purport to encourage entry would inadvertently yield greater social costs than benefit, even assuming that the regulations were socially beneficial when they were first promulgated. Thus, the DOJ is correct to point out that “when the risk level [of eliminating particular rules] is uncertain, it will often be most appropriate to rely on law enforcement on a case-by-case basis to deal with anticompetitive conduct, rather than on industry-wide regulation.”<sup>110</sup>

Given that the CAB assigned high priority to promoting entry when it issued the first CRS rules, it might seem a bit puzzling that no new CRS vendors have entered the market. The up-front cost of entry and the scale a CRS vendor must achieve to operate profitably are clearly substantial. But these challenges were presumably all known to the CAB when it wrote the rules.

A better explanation might be that the CAB overestimated the role that certain contracting practices had played, and might continue to play, in preventing entry. The CAB’s strategy for facilitating CRS entry was to prevent airline-owned CRSs from “locking” travel agents into CRS service contracts. In doing so, the CAB sought to limit both the switching costs of travel agents and the first-mover advantages of certain airlines, both of which were then thought to inhibit entry.

CRS regulations sought to facilitate entry primarily by restricting the kinds of contracts that CRSs could enter into with travel agents. Prohibitions against exclusivity were designed to allow travel agents to procure the services of more than one CRS vendor at a time. Along with limits on contract duration, these rules were designed to cause CRS vendors to compete for an individual agent’s business on a day-to-day or even minute-to-minute basis. Yet travel agents typically prefer to deal with one CRS vendor at a time, regardless of CRS rules, and this tendency

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110 DOJ COMMENTS, *supra* note 10, at 18.

appears likely to persist.<sup>111</sup> The American Society of Travel Agents has noted that “most travel agencies will never need, want or use multiple CRSs—multiple system use is a pipedream.”<sup>112</sup> This tendency reflects the cost and inconvenience, relative to the benefits, to a travel agent of acquiring and operating a second system. For example, costs of training employees to operate a second system can be prohibitive. Only relatively large travel agencies find it beneficial to operate multiple systems.<sup>113</sup>

The prohibited contracting practices—long-term contracting and exclusive dealing—that had been regarded as exclusionary might not have proved to be such a critical barrier to entry: entry did not occur, independently of those practices. Evidence on the dealings between travel agents and CRS vendors, post-regulation, suggests that these practices may have enhanced overall allocative efficiency. Travel agents appear to have agreed to some, if not all, restrictive contracts with CRS vendors as a means of providing those vendors with assurance that they would be repaid gradually, over time, for their up-front investments in the travel agent, such as investments in equipment or training.

In addition, the one-CRS vendor tendency of travel agents is consistent with the existence of healthy competition. Rather than compete on a minute-by-minute basis, CRS vendors have tended to compete with one another for multi-year travel agency contracts, the terms of which depend partly on how much of the up-front hardware and software costs are borne by the CRS rather than the travel agent. Shorter-term contracts appear to reflect greater assumption of up-front costs by travel agents, consistent with conventional economic theories of contract. This form of competition between CRS vendors, however, would not extend to CRS competition with Internet ticket distribution systems, as we will explain.

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111 “The commenters generally agree . . . that the great majority of travel agencies will use a single system, not multiple systems.” 2004 Final Rule, *supra* note 1, at 1001.

112 AMERICAN SOCIETY OF TRAVEL AGENTS, INC., COMMENTS OF THE AMERICAN SOCIETY OF TRAVEL AGENTS, INC. 22 (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237445\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237445_web.pdf).

113 “Agency dependency on one system is . . . driven . . . by the complications of managing passenger data in multiple systems . . . . Those complexities require management staff and integration software that is generally only within the reach of very large agencies with multi-regional or global reach.” *Id.* at 24.

Table 2. National Shares of All Travel Agencies, 18 Months Ending June 1983<sup>114</sup>

CRS	Number	Percent	Domestic	
			Revenues (\$)	Percent
Sabre (American)	5,692	27	6,376,288,718	43
Apollo (United)	3,865	18	4,040,856,002	27
PARS (TWA)	2,159	10	1,561,123,415	10
SODA (Eastern)	1,074	5	605,345,545	4
DATAS II (Delta)	688	3	259,774,372	2
Mars Plus (Tymshare)	344	2	281,932,911	2
Unautomated	7,546	35	1,822,511,524	12
Total	21,368	100	14,947,832,487	100

The dynamic nature of the competition facing CRS suppliers becomes more apparent from a global perspective. It is true that travel agents and airlines today have fewer CRS vendors to choose from. Among the four CRS vendors that serve domestic travel agents today, Sabre and Worldspan still account for over seventy percent of domestic CRS revenues. Nonetheless, the markets are not identical, and restricting our attention to the U.S. market can give a misleading impression of the nature of competition on a world basis. As shown by Table 3, world CRS shares indeed differ significantly from the United States-only shares. The global dimension of CRS markets likely affects many, if not all, CRS decisions about competition strategy.

Table 3. Percent Share of CRS Airline Bookings in the United States and Worldwide in 2002<sup>115</sup>

CRS	U.S.	Worldwide
Sabre	44.7	30.8
Worldspan	26.5	15.1
Galileo	19.7	26.4
Amadeus	9.2	27.7
Total	100.0	100.0

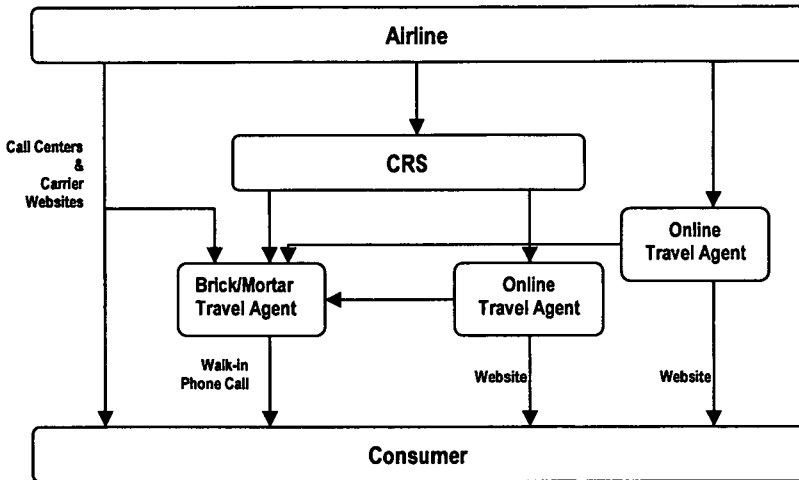
114 1984 NPRM, *supra* note 3, at 11,649.

115 2004 Final Rule, *supra* note 1, at 979-81 (citing Margaret Guerin-Calvert et al., *Economic Analysis of DOT Proposals To Change the CRS Rules* 18 (Mar. 15, 2003), in GALILEO INT'L, APPENDIX TO COMMENTS OF GALILEO INTERNATIONAL IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING (Mar. 17, 2003), available at [http://dmses.dot.gov/docimages/pdf85/237372\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237372_web.pdf)).

### C. *More Substitutes for CRS: Smaller Gain from Regulation*

Although the number of CRS suppliers has declined over the past decade, simple statistics on supplier concentration, or the number of suppliers, can be misleading.<sup>116</sup> Alternate means of ticket distribution have emerged, and, unlike the situation in 1984, travelers now have close substitutes for CRS channels. Direct-to-traveler electronic ticket distribution services now constitute a significant option for travelers to use as an alternative to CRS-dependent travel agent services (airline call centers have always been a substitute). Figures 2 and 3 are diagrammatic representations of the modern information and payment flows involving CRSs, which should be compared with Figure 1 from Section I.A.

Figure 2. Modern Information Flow

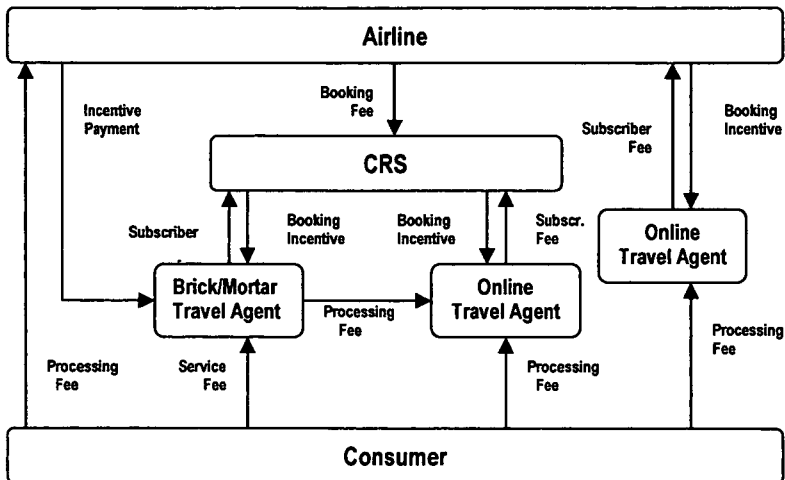


Let us closely examine the various channels available for distributing flight information and bookings as of 2004. First of all, in addition to traditional brick-and-mortar travel agencies, there are now many online travel agencies. The most prominent of them are Travelocity, Expedia, and Orbitz. Travelocity is owned by Sabre and uses Sabre as its CRS vendor. The site allows consumers to make reservations for flights,

116 See generally GEORGE J. STIGLER, *The Measurement of Concentration*, in THE ORGANIZATION OF INDUSTRY 29, 29 (1968) ("[It] is . . . clear that the degree of competition would vary more closely with the number of potential rivals than with the number of actual rivals."); W. KIP VISCUSI ET AL., *ECONOMICS OF REGULATION AND ANTITRUST* 5 (3d ed. 2000) ("[O]ne major consideration [in thinking about monopolies] is not simply how big a firm currently is and what its current market influence is, but rather the extent to which there is a possible entry from a competitor.")

hotels, rental cars, cruises, and other vacation plans. Consumers can search for flights by lowest fare or by specific dates. Travelocity also offers last-minute deals for vacation packages. Expedia is a wholly-owned subsidiary of InterActiveCorp and uses Worldspan as its primary CRS vendor. Orbitz was launched in June 2001 as a joint venture among the five largest United States airlines (American, United, Northwest, Delta, and Continental), and thirty-seven additional airlines participate in the program; Orbitz uses Worldspan. To the extent that these online agencies still use a CRS to provide fare information, however, their competitive significance in constraining the price and quality choices of incumbent vendors could be limited.

Figure 3. Modern Payment Flow



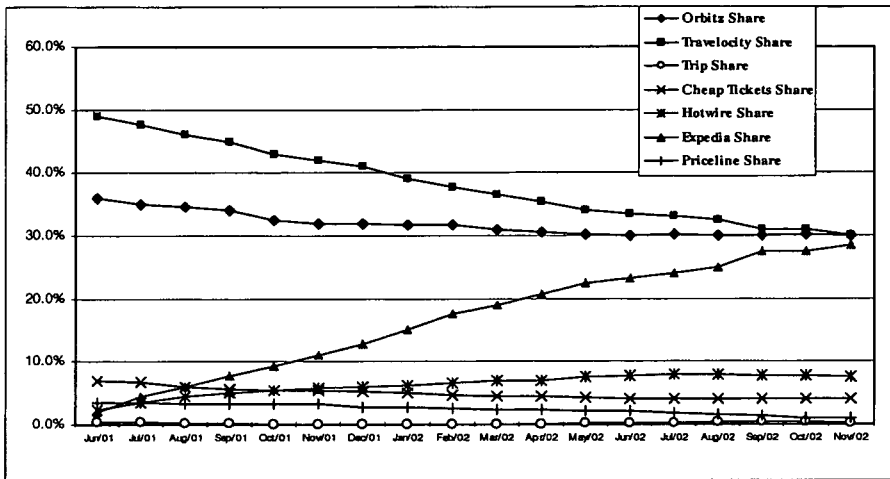
Orbitz and Expedia, however, have arrangements that should be distinguished from “conventional” online agencies. Unlike Travelocity, Expedia and Orbitz have been developing direct connection technologies and allow bookings to be made directly with an airline’s internal reservation systems.<sup>117</sup> In other words, while Orbitz may rely on Worldspan for some functions involved in the booking process, the Orbitz website is essentially designed to limit airlines’ reliance on CRSs and thus to facilitate the flow of information directly to consumers, through the Orbitz website.

All of the participating airlines have signed agreements with Orbitz that effectively ensure that all publicly-available fares of these airlines, representing nearly the entire domestic market, will be available through

117 2004 Final Rule, *supra* note 1, at 980.

Orbitz.<sup>118</sup> Herein lies a key point: Because Orbitz, Travelocity, and Expedia all provide similar services—and perhaps equally well—consumers using Travelocity could easily switch over to Orbitz or Expedia if booking an airline ticket through a CRS-based site were to become more expensive than doing so through direct-connection technologies. In particular, Orbitz has exhibited a dramatic growth over the past three years, possibly at the expense of Travelocity, as shown by Figure 4.

Figure 4. Shares of Major Online Travel Services<sup>119</sup>



In addition to these online agencies, only some of which use a CRS, almost all airlines today provide their own Internet sites through which consumers can directly purchase low-cost flight tickets. Tables 4 and 5 provide some recent data on online ticketing revenues for most of these airlines and the trend.

118 For details on the Charter Associate Agreement of Orbitz, see W.F. Adkinson & T.M. Lenard, *Orbitz: An Antitrust Assessment*, 16 ANTITRUST 76, 76-77 (Spring 2002).

119 Margaret Guerin-Calvert et al., *Economic Analysis of DOT Proposals To Change the CRS Rules* 28 (Mar. 15, 2003) (on file with author) (citing MIDT Data, Shepherd Systems Inc.). The graph depicts the shares of major online travel services until November, 2002. Since then, Expedia has taken over the lead, with Travelocity and Orbitz being second and third, respectively. See, e.g., FORBES.COM, *UPDATE 3-Orbitz Shares Lose 4 Pct on First Nasdaq Trade Day*, Dec. 17, 2003, available at <http://www.forbes.com/newswire/2003/12/17/rtr1184919.html>.

Table 4. Percentage of Revenues Booked Online (Jan-June 2002)<sup>120</sup>

Airlines	Percent of Revenues
Southwest	46
America West	43
Alaska	28
US Airways	24
Delta	16
Northwest	16
Continental	14
American	13
United	11

Table 5. Percent Growth in the Share of Airline Revenue Accounted for by Airline Website, 2000-2002<sup>121</sup>

Airlines	Growth in Website Share
America West	262.6
American	221.3
Delta	145.5
United	140.6
Northwest	132.8
Continental	129.6
US Airways	100.6
Alaska	64.5
Southwest	64.3
Weighted Average	127.5

In 2001, the Internet represented 14% of all airline sales for domestic airlines, as shown in Table 6. Also by 2001, the share of online airline ticket sales through websites (and not through online agencies) was already 58%.<sup>122</sup> Airlines have recently begun using their websites to offer promotional fares, known as Web-only or e-fares.<sup>123</sup> These fares tend to be 5-10% below normal sale fares, and have become the standard selling

120 McAfee & Hendricks, *supra* note 15, app. at 9 tbl.9 (citing PhocusWright Report).

121 Steven C. Salop & John R. Woodbury, *Economic Analysis of the DOT's NPRM Proposals*, app. at 9 (Mar. 17, 2003), in COMMENTS OF SABRE, INC., *supra* note 15 (citing PHOCUSWRIGHT, INC., AIRLINE INTERNET SALES 2000-2001 AND FIRST 6 MONTHS OF 2002).

122 2002 NPRM, *supra* note 5, at 69,376.

123 *See id.* at 69,370; *see also id.* at 69,373 ("While airlines initially offered their E-fares exclusively through their own websites, Delta allows travel agents to book its E-fares through its website for travel agencies, although such bookings are non-commissionable.").



price online.<sup>124</sup> A few highly successful low-cost airlines, such as Southwest and JetBlue, had developed distribution strategies that rely less heavily on travel agents (and therefore on CRSs) prior to the DOT announcement of rule termination. The DOJ found that Southwest derived only 20% of its revenue from tickets sold via travel agents; this compared with 10% for JetBlue.<sup>125</sup> American Airlines and Delta have also developed CRS bypass programs for agents.<sup>126</sup> These numbers are projected to rise. Table 6 shows an industry projection that more than a third of airline ticket sales will occur through the Internet by 2005.

Table 6. Airline Internet Gross Bookings, 2000-2005<sup>127</sup>

	Projected Share (Percent)					
	'00	'01	'02	'03	'04	'05
Airline Branded Websites	57	58	57	58	58	59
Intermediary Websites	43	42	43	42	42	41
Total Airline Online Travel	100	100	100	100	100	100
Airline Online Travel						
as a percent of						
Online Travel	59	57	54	52	50	49
Revenue	8	14	21	26	31	36

All of these changes affect the market for CRS services by giving consumers, travel agents, and airlines—all of whom are necessary parties to CRS-facilitated transactions—alternative sources of ticket distribution that do not rely on the use of a CRS and that are closer substitutes for distribution through CRSs than those that existed when the rules were first promulgated.

The implications of this emergence of close substitutes for CRS-based distribution are readily understood in terms of whether CRS services constitute a “relevant market” in the antitrust sense. That is, would a monopolist in the supply of CRS services find it profitable to institute a small but significant and non-transitory increase in its price or fees?<sup>128</sup> The

124 See Adkinson & Lenard, *supra* note 119, at 78.

125 See DOJ COMMENTS, *supra* note 10, at 14 n.14.

126 Delta started an “Online Agency Service Center” that allowed agents to bypass CRSs. Similarly, American Airlines introduced an “EveryFare” program. See *id.* at 17 n.23. The “EveryFare” program offered “travel agencies access to American’s webfares if they agreed to assume the airline’s booking fee liability.” 2004 Final Rule, *supra* note 1, at 989.

127 Guerin-Calvert et al., *supra* note 120, at 24 (citing table from *PhoCus Wright Online Travel Overview: Market Size and Forecasts 2002-2005*, at tbl.3.1 (Feb. 2003)).

128 According to the DOJ’s Horizontal Merger Guidelines:

answer to this question in part depends on the extent to which consumers regard CRS services as substitutes for the services that other suppliers provide. Consider what would happen if one CRS were to raise its booking fees or subscriber fees, according to the institutional arrangement described in Figure 3. From the perspective of consumers, if any of these costs are passed on to them, the alternatives to paying more for travel are to switch to airline call centers or book tickets via airline websites or online agencies that do not rely on the relevant CRS services. By making it easier for consumers to compare prices across airlines and travel agencies, the emergence of the Internet has placed downward pressure on fees and fares. It is thus realistic to consider that a CRS vendor that raised its fares would face loss of business not only to other CRSs but also to other channels that include direct-to-airline bookings.

Alternatively, if the hypothetical price or fee increase were not passed on to consumers, airlines and travel agents would face the burden themselves. From the perspective of airlines that participate in that CRS, their best alternative might be to more aggressively promote the online distribution of tickets through their own websites, such as by offering consumers special fare discounts in exchange for website bookings.<sup>129</sup> Similarly, faced with hypothetical new subscriber fees, the travel agents may turn to airline call centers or websites for bookings. The important point here is that for a hypothetical monopolist in the supply of CRS services to profitably increase its price, all three parties—airline, travel agent, and consumer—must have an insufficient incentive to switch to another CRS or another channel.

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Market definition focuses solely on demand substitution factors. . . . A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least 'small but significant and nontransitory' increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.

U.S. DEP'T OF JUSTICE & U.S. FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 1.0 (1997). This is also consistent with antitrust law, which relies on "reasonable interchangeability" for defining relevant markets. For example, in *United States v. E.I. du Pont De Nemours & Co.*, 351 U.S. 377 (1956), the Supreme Court declared that "[i]n considering what is the relevant market for determining the control of price and competition, no more definite rule can be declared than that commodities reasonably interchangeable by consumers for the same purposes make up that 'part of the trade or commerce.'" *Id.* at 395.

129 The magnitudes of these responses, and their effects on the likely profitability, of a CRS vendor's price increase, have been the subject of a debate that is likely to continue into the future. Some commentators have gone so far as to suggest that airlines are unable to switch their flow of bookings away from CRSs, even as discount airlines have successfully led increased numbers of consumers to book travel electronically. For example, see Guerin-Calvert et al., *supra* note 120.

Table 7. Ticket Distribution Channel Shares (Percent)<sup>130</sup>

North America	1983	1987	1998	1999	2000	2001	2002
<b>Agency Breakdown</b>							
<i>Online</i>	0.0	0.0	0.7	2.7	4.8	8.9	10.9
<i>Corporate</i>	NA	NA	0.0	0.1	0.4	1.0	1.6
<i>Brick &amp; Mortar</i>	NA	NA	63.8	60.5	56.2	48.8	40.4
Total Agency	88.0	87.4	64.5	63.4	61.4	58.8	52.9
<b>Bookings</b>							
<b>Carrier Direct Breakdown</b>							
<i>Offline/Call Center</i>	12.0	12.6	NA	34.1	33.0	31.3	31.9
<i>Online</i>	0.0	0.0	NA	2.5	5.6	9.9	14.0
Total Direct	12.0	12.6	35.5	36.6	38.6	41.3	47.1
<b>Bookings</b>							

A more complete analysis of the implications of the Internet for CRS competition will require evidence beyond what we have reviewed here. Such an analysis might attempt to estimate the cross-elasticity of demand for CRS services relative to the alternative forms of distribution.<sup>131</sup> Issues to be resolved include whether substitution between Internet and brick-and-mortar forms of ticket distribution is sufficient to discipline the pricing of ticket distribution for all consumers, rather than just for those consumers who face relatively low costs of booking directly with the airline through the Internet. Table 7 illustrates the emergence of carrier-direct bookings, which do not rely on travel agents that use CRSs, over the past two decades. Between 1999 and 2002, carrier-direct bookings through the Internet reportedly rose from 2.5 percent to 14.0 percent of the total. Also, by 2002, the total carrier direct bookings accounted for nearly half of all airline ticket distribution.

#### D. Greater Complexity: Higher Costs of Regulation

The changes examined in the previous Sections reflect increases in the complexity of CRS markets and technology that have occurred over the past decade. It is generally more costly for the government to intervene in complex, dynamic markets than in simple, static ones. The changing nature of the marketplace raises the possibility that regulation might have

130 McAfee & Hendricks, *supra* note 15, app. at 8 (citing data from 1984 NPRM, *supra* note 3, at 11,649, and 1992 CRS Rules, *supra* note 28, at 43,782).

131 Cross-elasticity of demand measures how much the quantity demanded of one good is altered by changes in the price of another.

adverse unintended consequences. Even if case-by-case intervention may be a less costly solution overall, the costs of any type of intervention are higher in complex and dynamic settings. Already in 1989, an observer noted that “[e]ven if DOT adds more CRS rules to prevent alleged abuses, no one thinks government will be able to catch up with competitive or anti-competitive practices buried into something as complex and secretive as CRS.”<sup>132</sup> Richard Posner also has suggested that it would be appropriate to devote more resources for antitrust enforcement—as opposed to drafting regulation—as the Internet, or “new economy,” sector grows relative to other sectors of the economy.<sup>133</sup>

That the complexity of the markets in which CRS vendors compete has grown over the past two decades is not surprising. The initial CRS rules governed computer systems that were owned and operated by the airlines that developed them. Though the leading edge of technology at the time, the initial systems were also extensions of internal airline reservation systems. The CAB had only recently phased out of regulating airlines, whose CRSs were the subject of the new regulation. This eased the task of developing and enforcing CRS regulations relative to what the DOT faces today in determining whether concerns about market misconduct are best met by continued application of legacy command-and-control regulations of the type first promulgated by the CAB.

The effect of increased complexity is to reduce the net social benefit of CRS regulation relative to what it was when the rules were first issued. The DOT has said that it would not extend CRS-style regulations to the new electronic ticket distribution channels<sup>134</sup> that now enable travelers to book tickets without the use of a travel agent. This is a good policy since it prevents regulation from inadvertently impeding the advance of technology. Future advances in the use of Internet-related technology in distributing airline tickets (and related information) are likely, and this progress is likely to occur more quickly in the absence of regulatory constraints.

#### E. *Consumer Protection Justification Is Questionable*

The delay in termination of anti-bias rules reflects a lasting concern on the part of the DOT and other commentators that display bias rules might indeed be beneficial to consumers. The consumer-protection argument against display bias is that it encourages travel agents to provide poor service by relying upon, or providing, poor information when serving

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132 Feldman, *supra* note 30.

133 See Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925 (2001).

134 2002 NPRM, *supra* note 5, at 69,410.

consumers.<sup>135</sup> The relevant concern is thus distinct from the argument that such bias can aggravate antitrust-related harms from airline ownership of CRSs.<sup>136</sup> The issue is that it can be costly for consumers to find good travel agents and to monitor the quality of the services that travel agents provide. By forcing the CRS vendor to put the best flight for each consumer at the top of the display, a perfect regulator could make it easier for the travel agent to provide the best quality of service and thereby reduce the consumer's cost of monitoring the travel agent or, alternatively, of being booked on flights that are unduly expensive or inconvenient.

It is difficult to reconcile this idealized view on how CRS regulation improves the quality of consumer information, independently of airline ownership, with the facts on how anti-bias regulations have evolved. First, virtually all of the dramatic evidence on real consequences of display bias comes from an era in which CRS vendors were owned and controlled by major airlines, as previously explained. The DOT relied extensively on such evidence when it rejected the arguments by Boudreaux and Ellig and by Kleit that the practice of favoring one airline over another on the CRS display need not be harmful and may be beneficial.<sup>137</sup>

Second, as a practical matter, *the DOT has only selectively prohibited display bias*. Displays that CRS vendors supply to corporate travel departments are exempt from regulation.<sup>138</sup> Also exempt are special displays that travel agents prepare for their employees to use in advising individual consumers. The DOT has indeed considered and dismissed the idea of prohibiting biases introduced by travel agents when advising consumers on bookings.<sup>139</sup> The DOT has in fact gone as far as to *permit* airlines to distribute software that can introduce bias into displays.<sup>140</sup> It is thus unclear whether and to what extent the anti-bias regulations that the DOT has proposed to terminate in July of 2004 have had any real effect on

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135 Guerin-Calvert et al. discuss the potential for CRS regulation to eliminate the heightened "agency costs" of consumers' reliance on travel agents who use CRSs. The underlying point is that regulation to eliminate CRS display bias can be a good substitute for extra care on the consumer's part in selecting a good travel agent and monitoring the quality of services that the travel agent provides. See Guerin-Calvert et al., *supra* note 120; see also Boudreaux and Ellig, *supra* note 98.

136 See, e.g., 2004 Regulatory Assessment, *supra* note 1, at 27-28 ("[S]ystems that are no longer owned by U.S. airlines would be unlikely to have an incentive of their own to provide untimely or incorrect information on carriers.").

137 See *supra* note 93.

138 See 2004 Final Rule, *supra* note 1, at 1000:

The existing rules . . . do not cover computer systems that do not provide all of these functions, systems that are not owned or marketed by an airline or airline affiliate, and system services that are not used by travel agencies (for example, they do not cover CRSs when used by corporate travel departments). The rules also do not govern the operations of traditional travel agencies or on-line travel agencies.

139 See 2004 Final Rule, *supra* note 1, at 1003.

140 *Id.* ("We will not adopt our proposals to bar airlines from distributing software that can bias displays . . .").

the quality of information consumers receive.

Further, the DOT has seemed unconcerned about travel agencies' building bias into their own information displays. We have found no reports of DOT enforcement actions against travel agents who fail to disclose their biases to client travelers. The DOT has indeed expressly declined to apply its anti-bias CRS rules to travel agent displays.<sup>141</sup> The DOT explains this decision by observing that "[t]he competitive pressures on travel agencies should offset incentives to give customers misleading advice."<sup>142</sup>

Perhaps concerned about possible harms arising from the DOT's uneven approach to consumer protection in CRS regulation, the FTC filed comments to the 2002 NPRM and showed that the FTC's legal doctrine regarding consumer protection has changed over the years. In particular, FTC remarked that "to justify a finding of unfairness, any consumer injury must . . . not be outweighed by any offsetting benefits to consumers or competition."<sup>143</sup> The FTC's position indicates that rules designed to protect consumers by improving the quality of the information they receive must not seriously undermine competition or reduce allocative efficiency. Unfortunately, prohibiting display bias might do both of those while failing to actually protect consumers.

To be sure, the DOT's decision to not prohibit biases that are introduced by travel agents reflects its express observation that agents face enough competition and travelers have enough good alternatives today that a travel agent who consistently sells tickets of overpriced or otherwise ill-suited flights is unlikely to survive unless all brick-and-mortar travel agents were to collude to do so, which appears unlikely. In short, a travel agent would accept a biased display and not bother to scroll down for further options only if that agent believed the consumer would tend to be indifferent to, or benefit from, this arrangement. Absent concerns about travel agents' favoring one airline over another,<sup>144</sup> there is little reason to

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141 According to the DOT, Lufthansa alleged that travel agencies commonly negotiated preferred supplier arrangements with airlines and then used in-house software to bias the displays in favor of those airlines. Midwest Express claimed that American Express provided biased displays to its travel agents, which downgraded the flights offered by Midwest Express and other airlines that were not among American Express's preferred airlines, and that American Express would not book a non-preferred airline unless the customer specifically asked to fly on that airline. See 2002 NPRM, *supra* note 5, at 69,397-98.

142 *Id.* at 69,398.

143 FTC COMMENTS, *supra* note 47, at 1-2.

144 The claim is not that markets will eliminate all bias. Rather, it is that CRS-instituted bias will not likely be great enough to warrant special regulations to prevent it. Consumers buy products from Internet-based retailers who choose how to display their information without special regulatory guidance. This includes travel agents selling hotel reservations and other non-airline bookings that are not the subject of CRS regulation. Some displays may be biased to favor particular hotel chains, just as grocery shelf-space displays may favor certain food manufacturers. The harm from this bias, if any, has not proven great enough to warrant special regulations for Internet-based retailers, nor does it

issue special anti-bias rules to *constrain travel agents*, and continued command-and-control regulation of CRS displays and functionality would thus make little sense.

All of this recognizes the potential for markets and consumer protection laws to work hand in hand. Markets give retailers incentives to offer good products and make them easy to find. Consumer-protection rules that deter fraud reinforce this market incentive by allowing consumers to be more confident about the information each seller provides about quality.<sup>145</sup>

There are, of course, other methods by which regulators could attempt to address market failures associated with perceived asymmetries between the quality of information that consumers receive and the quality of information that suppliers might ideally provide. The wide array of regulatory interventions in other industries illustrates some of the available options.<sup>146</sup> The evidence from research on the effects of these interventions has been mixed, however.<sup>147</sup> There are several possible reasons for such regulations to fail to achieve their objectives of improving the quality of consumer information: (i) the market has already addressed the problem;<sup>148</sup> (ii) the regulation is poorly designed; and (iii) the regulation is not adequately enforced. Any future concerns about CRS display bias may thus give rise to numerous proposals for new rules, including traditional disclosure regulations through which consumers would be informed of the presence of any bias that might exist.

It is possible that some or all CRSs will choose to introduce, or “sell,” display bias after the CRS regulations are terminated. Now that airlines have divested their CRS ownership, the decision will depend solely on how it affects the CRS vendor’s profits, rather than on how it affects the

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appear great enough to warrant ongoing regulation in the context of airline CRS displays.

145 Consistent with this, the enforcement efforts of the FTC pertaining to consumer protection tend to target misleading and fraudulent conduct by sellers, such as fraudulent advertising. While the seller of a bad product might go out of business eventually, the FTC’s enforcement efforts can speed up this process.

146 Examples of these disclosure issues abound in securities, food labeling, and lemon laws by states.

147 See Carol J. Simon, *The Effect of the 1944 Securities Act on Investor Information and the Performance of New Issues*, 79 AM. ECON. REV. 295 (1989) (presenting evidence that disclosure regulation under the 1933 Securities Act improved market efficiency). But see Howard Beales et al., *The Efficient Regulation of Consumer Information*, 24 J.L. & ECON. 491, 491 (1981) (“[T]here has been increased interest in techniques which ensure that consumers have sufficient information to protect themselves against unsafe products or unfair seller behavior. . . . Despite the general acceptance of this goal, analysis of how to efficiently provide consumer information has lagged behind.”).

148 The idea is that information is a margin on which firms can compete, and thus, competition will often generate full disclosure. This is not because every firm fully discloses, but because rivals will exercise negative disclosure, i.e., disclose information unfavorable to others. Nonetheless, competition does not always drive the market to full disclosure; indeed, it is often an empirical question.

joint profits of the CRS and its owner airline.<sup>149</sup> In particular, whatever gains a CRS might accrue from introducing a bias must exceed the cost of its potential loss of travel agents who may prefer to use an unbiased CRS. Post-divestiture, it may make sense to reconsider the previously-dismissed claims that display bias, as defined by the DOT, need not be harmful and may even be beneficial in some instances.

In their 1992 article, Don Boudreaux and Jerome Ellig confront the real possibility that unregulated CRS vendors might choose to sell display space, much as other retailers often sell shelf and other display space to upstream suppliers.<sup>150</sup> In doing so, they review the various incentives that CRS vendors would face in choosing how to “bias” their displays in the context of such a market. They point out that, even if we assume that travel agents would not find it worthwhile to scroll down the screen and search for more suitable flights for their consumers, a hypothetical travel agent would take consumer interests into account when selecting its CRS vendor. If the travel agent’s customers tended to prefer a certain airline, for example, the travel agent might be willing to pay a premium for the services of a CRS that biases its displays so that the preferred airlines’ flights appear first, thereby saving the travel agent and its consumers time that might otherwise be spent scrolling down a screen to find that preferred airline. If being listed on the top of the screen actually confers an advantage to the airline, then so long as airlines could bargain for the top listing position, the CRS vendor may be able to charge premium for these advantageous slots.<sup>151</sup>

The intuition behind this argument in its simplest form follows the Coase Theorem in recognizing the potential for display space to go to its highest-valuing use, so that in our example the airline that consumers most prefer, taking quality and fares into account, is the one that the profit-maximizing CRS vendor ultimately chooses to place at the top of the display.<sup>152</sup> This could, but need not, confer an advantage on an established airline over new entrants; as Boudreaux and Ellig point out, the sale of display space could facilitate entry by allowing a new entrant to “buy in”

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149 See Salop & Woodbury, *supra* note 121, for a formal analysis of the effect of divestiture on the incentive of a CRS vendor to introduce bias into its display. Consumer reaction to any disclosure of the sale of bias is one of the factors that appear likely to affect the CRS vendor’s profits from such sales.

150 See Boudreaux & Ellig, *supra* note 97, at 576-80.

151 See also MERCATUS CENTER, PUBLIC INTEREST COMMENT ON COMPUTER RESERVATIONS SYSTEMS 10 (Mar. 17, 2003), available at [http://dmses.dot.gov/docimages/pdf85/237351\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237351_web.pdf) (“Although some airlines might be ‘harmed’ in this process, it is nevertheless effective in terms of allocating display positions to the highest-valued uses.”).

152 Settings in which the Coase Theorem applies are characterized by low transactions costs, so that efficient bargaining can occur.



to a particular market for passenger air travel.<sup>153</sup>

Finally, even if bias in this context were harmful, estimates of the costs of bias by an independently owned CRS vendor who is not seeking to exclude any airline from the market suggest that those costs are much lower than proponents of display bias regulation once thought. Morrison and Winston in 1995 updated their 1986 study by presenting a model for estimating the social cost of allowing CRS display bias, and report that while “the effects of widespread CRS bias could become a major policy concern, . . . the assumption is probably an inaccurate characterization of the actual effects . . . .”<sup>154</sup> They observed that, “even if bias is present, travelers do not buy their tickets without asking questions. . . . [And] they generally choose carriers on which they have frequent flier mileage.”<sup>155</sup> The idea is that travelers are usually not just passive consumers but informed and repeat players who have their own preferences.<sup>156</sup>

To summarize, the social value of prohibiting display and functionality bias solely to improve the quality of information that consumers receive about travel options appears to be low and may be negative. Travel agents have strong incentives to protect consumers from poor information, through how they customize their internal display screens, and in their choices of CRS vendors. In this regard, there are no significant differences between the CRS channel and other electronic channels through which consumers receive information about their retail options.

#### IV. Antitrust as a Strategic Alternative to Regulation

Having reviewed the changes in market conditions that have led to the termination of CRS rules and the merits of termination relative to the alternative of no government intervention, we now consider what level of government intervention is actually likely to occur in the absence of CRS regulation. We illustrate the correct benchmark for conducting a cost-benefit analysis in regulatory reform and discuss related issues concerning the relative merits of regulation versus antitrust intervention in the CRS

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153 The latest regulatory assessment by the DOT recognizes the possibility of a market in display bias after the regulations are terminated and expresses concern about the possible consequences. See 2004 Regulatory Assessment, *supra* note 1, at 20 (“Biasing displays could still be valuable to carriers, and absent some prohibition, the evidence indicates that the systems may be able to sell it.”).

154 MORRISON & WINSTON, *supra* note 12, at 65 (1995). In estimating a “worst-case scenario,” they showed that most of the deadweight loss came not from “reduced service (the increases in travel time and decreases in flight frequency were negligible)” as one might have expected but, instead, from “the deletion of carriers with greater brand loyalty and brand preference—the smaller carriers that do not own computer reservations systems.” *Id.* at 64–65.

155 *Id.* at 63.

156 In 1993, 44% of all air trips were done by 8% of air travelers. See *id.* at 66.

industry.

### A. *Identifying the Relevant Alternative: Reform with Non-Static Institutions*

A common mistake in evaluating the net benefits of a regulation to society is to assume that a state of *laissez-faire* would arise in the absence of regulation. The naïve view that “no government” is the alternative to regulation can lead to significant overstatement of the downside risks associated with rule termination, especially if market mechanisms for addressing those downside risks are not adequately taken into account. This insight is relevant to our analysis of CRS regulation and appears to have been overlooked in practice.<sup>157</sup> Even as early as 1960, Ronald Coase pointed out the inherent danger and flaw in this assumption and stressed the importance of identifying the most probable state of the post-regulation world:

[T]he usual treatment [involved in discussing harmful effects and welfare economics] proceeds in terms of a comparison between a state of *laissez faire* and some kind of ideal world. This approach inevitably leads to a looseness of thought since the nature of the alternatives being compared is never clear. . . . A better approach would seem to be to start our analysis with a situation approximating that which actually exists, to examine the effects of a proposed policy change, and to attempt to decide whether the new situation would be, in total, better or worse than the original one. In this way, conclusions for policy would have some relevance to the actual situation.<sup>158</sup>

Our review of the history of CRS regulation suggests that the relevant alternative to regulation is heightened antitrust monitoring and enforcement in this instance.

While this observation reflects an older theme in the general literature, the previous literature has not highlighted the strategic nature of the

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157 See, e.g., 2004 Regulatory Assessment, *supra* note 1, at 12 (“A cost-benefit analysis generally involves a comparison of two projections into the future—expected market performance with regulation and expected market performance without regulation.”). While the DOT recognizes the DOJ’s “intent to take action” against CRS antitrust violations, the 2004 Final Rule sets a standard for regulatory intervention that ignores this antitrust alternative. See 2004 Final Rule, *supra* note 1, at 9991 (noting the DOJ’s stated “intent to take action” against CRS antitrust violations); *id.* at 986 (noting the DOT’s view that, “[i]n judging whether any regulation is necessary, the fundamental question is whether market forces would discipline system practices”); cf. DOJ COMMENTS, *supra* note 10, at 18–19. The comment on CRS regulation filed by Steven C. Salop and John R. Woodbury also expressly recognizes antitrust enforcement as an alternative to regulation (in proposing antitrust guidelines for CRS vendors to follow post-reform), although no prior commentary to our knowledge articulates the strategic nature of the federal government’s antitrust alternative to regulation, as proposed here. See Salop & Woodbury, *supra* note 121, at 9.

158 Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 43 (1960), reprinted in THE FIRM, THE MARKET, AND THE LAW, *supra* note 90, at 154 (emphasis added).

substitution. To illustrate, we can formally regard the government's role as maximizing some aggregate measure of social welfare that is increasing in the intensities of effort devoted to regulation,  $x$ , and to antitrust enforcement,  $y$ , so that  $W = W(x, y)$ .<sup>159</sup> Recognizing that it is more difficult to change the level of regulation than the level of antitrust intervention in the short run, it is natural to consider the government as making the two choices sequentially, choosing regulation  $x$  first, and then choosing antitrust  $y = y^*(x)$  optimally, given  $x$ . The amount of regulation promulgated by a welfare-maximizing regulatory agency will then determine the extent of antitrust enforcement by the DOJ or the FTC as opposed to the other way around.<sup>160</sup> Just as antitrust enforcement choices optimally depend on a market's regulatory status, the choice of regulation optimally takes into account the likely strategic response of the antitrust authorities to that choice of regulation.

Applying this to our analysis of CRS reform, the government may be said to have initially chosen a bundle  $(x_0, 0)$  of combined regulatory intervention  $x_0 > 0$  and zero-level of antitrust enforcement, with  $y_0 = 0$ , when it chose to promulgate CRS regulations and to not take antitrust enforcement action in the industry.<sup>161</sup> Assuming that this choice maximized social welfare at the time, it is clear that the social value of  $(x_0, 0)$  must have then exceeded the social value of the laissez-faire alternative,  $(0, 0)$ . The harms that those regulations were designed to correct have lessened due to changes in market conditions, as we have explained, diminishing the value of the initial choice. This corresponds to a lessening over time in the social value of the bundle  $(x_0, 0)$  relative to the laissez-faire benchmark.

The social value of maintaining CRS regulations at  $(x_0, 0)$  may fall below the social value of the laissez-faire alternative in this instance because continued regulation may have adverse unintended consequences. This recognizes that command-and-control regulation, while prohibiting anticompetitive behavior, can hinder innovation in ways that are

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159 The seemingly innocuous assumption that government would choose  $x$  and  $y$  to maximize social value is precisely the notion refuted by the theories put forth in Part VI. But this assumption can actually be relaxed: We only need to assume that even if the level of regulation may be determined by forces other than general interest of society, the level of antitrust subsequently chosen will be determined to maximize the net incremental benefit of antitrust enforcement. This assumption is explained in detail in Part V as we discuss both (i) how government will have incentives to respond with stepped-up antitrust enforcement if misconduct, however unlikely, were to occur, and (ii) how antitrust officials have incentives to maximize the incremental social value. Thus, for a *given* level of regulation,  $x$ , the government is presumed to choose  $y = y^*(x)$  to maximize social welfare.

160 The sequential nature of choices by regulators and antitrust authorities is illustrated in the discussion of the CRS jurisdictional muddle. See *supra* Section I.C. For other distinctions between the choices of regulators and antitrust authorities, see *infra* Part V.

161 The fact that the optimal response to a particular level of regulation was zero antitrust enforcement does not, by itself, show that the given level of regulation is optimal. The amount of regulation might still be in surplus.

unforeseen.<sup>162</sup> We have shown in Part III that the market conditions have changed in ways that prevent the CRS regulations from continuing to achieve their initial objectives. We also examined the net benefit of continued regulation from a consumer protection perspective. In the remaining Sections, we will consider the net benefit of CRS rules as a mechanism for promoting antitrust enforcement. In doing so, we will examine the potential usefulness of regulation as an alternative to antitrust enforcement. This can be illustrated under the natural assumption that the marginal social value of regulation, or of antitrust enforcement, is decreasing in the initial level of either form of intervention. Accordingly, for fixed  $x_0$ ,<sup>163</sup> the marginal social value of CRS regulation is decreasing in the levels of antitrust and regulation.

Assuming that antitrust and regulation are substitute means of market intervention, the optimal level of antitrust intervention increases as the level of regulation decreases in this setting. As “a general principle, the less the regulatory regime interferes with the workings of the market, the more room for antitrust.”<sup>164</sup> What this implies is that the government’s best choice can be to terminate the CRS rules even if their value has not been fully depleted—in the sense of falling below the value of the laissez-faire alternative.

Social welfare can be maximized by terminating regulations even if the value of  $(x_0, 0)$  exceeds the value of  $(0, 0)$  because deregulation would be followed by antitrust enforcement in that instance. This is because the government recognizes that a stage-one decision to terminate the regulations would be followed by a stage-two adjustment to the level of antitrust intervention. The level of antitrust intervention that maximizes social welfare under the assumption of no regulation is  $y^*(0)$ , which weakly exceeds  $y(x_0)$  due to the substitutability of antitrust for regulation. This includes the possibility that  $y^*(0) = y(x_0) = 0$ , as would arise if the discipline of the market were strong enough to eliminate any potential for harm that either regulation or antitrust might address. For the likely hypothetical case in which  $y^*(0)$  exceeds zero, however, it is clear that terminating the regulation would cause an increase in the level of antitrust intervention. In that instance, the government in choosing whether to

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162 It is difficult to predict the kinds of innovations that a certain regulation is suppressing. There may be solutions that policymakers could not imagine but would nonetheless come up when industry participants actually face the situation. A classic example is the hub-and-spoke network system of airlines: Although many scholars had surmised that the overall efficiency of the industry would increase with the airline deregulation, almost nobody predicted the hub-and-spoke networks. See Alfred E. Kahn, *Airline Deregulation: A Mixed Bag, but a Clear Success Nevertheless*, 16 *TRANSP. L.J.* 229, 246–47 (1988).

163 To be sure, the level of CRS regulation has not stayed the same. Multiple revisions have been made. It is nevertheless true that rules were rarely terminated; thus, initial rules have tended to remain.

164 HOVENKAMP, *supra* note 57, at 699.

terminate the regulation in stage one would face a choice between continued regulation ( $x_0, 0$ ) and antitrust intervention ( $0, y^*(0)$ ). Since  $y^*(0)$  is optimally chosen for zero-level of regulation, the social value achieved by terminating the regulation ( $0, y^*(0)$ ) is necessarily greater than if the antitrust authority did not respond by adjusting its enforcement strategy. Ignoring this strategic substitution between regulation and antitrust enforcement will thus introduce an upward bias into the estimated benefit of continued regulation in the traditional cost-benefit analysis.<sup>165</sup>

To summarize, correct identification of the relevant alternative to regulation as being “other government action” allows us to identify a bias toward overestimation of the benefits of continued regulation. This bias arises in cases where regulation is superior to the laissez-faire alternative yet inferior to the government’s likely strategic response to deregulation. In those cases, even if regulation is shown to confer a positive net benefit relative to a hypothetical laissez-faire alternative, regulation may nevertheless be found to reduce social welfare below what is achieved under the next-best alternative in which the existence of strategic substitutes for regulation, previously established by government, has been taken into account. This point is important for industry observers who might be concerned about the downside risk of rule termination and who might erroneously regard regulation as the government’s only means of preventing, or deterring, the occurrence of adverse market outcomes that antitrust enforcement would adequately address.

#### B. *Regulation Is No Longer Justified as a Means of Antitrust Enforcement*

It is difficult to document the extent to which the bias identified in the previous Section has caused the federal government to substitute command-and-control regulation for antitrust and other forms of case-by-case enforcement. In the case of CRSs, there is little discussion of antitrust enforcement as an alternative to regulation in the documents filed by the DOT and commenters on the CRS docket. The federal government’s choice of CRS rules and the claims that those rules benefit the public by preventing antitrust misconduct also suggest that antitrust enforcement tended not to be seen as an alternative to CRS regulation. Indeed, the DOT cited the opinions of the Antitrust Division of the DOJ in explaining the merits of its December 2003 announcement of a plan to delay termination

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165 For more detail on strategic substitutes and complements, see *supra* Section I.B. See also Jeremy Bulow et al., *Multimarket Oligopoly: Strategic Substitutes and Complements*, 93 J. POL. ECON. 488 (1985). Breyer also notes that “antitrust itself is not a *direct* substitute for regulation. . . . [But the] function of antitrust is to make that unregulated market a competitive one.” BREYER, *supra* note 9, at 161 (emphasis added).

of certain regulations.<sup>166</sup>

A good example of a prohibition that would likely be more efficiently enforced through antitrust enforcement action is the parity clause prohibition that the DOT first articulated in 1997. The DOT announced that it would delay termination of the prohibition against parity agreements in December 2003, when it also announced the termination of most CRS regulations. At the same time, the DOT added a new prohibition against CRS vendors' insistence on an airline's best fares as a condition for the airlines' participation in the system. The new rule was identified by the DOT as being only temporary and slated for termination, along with the parity rule, after a six-month transition period, in July 2004. Unlike CRS regulations that purport to ease entry or deny airlines influence over CRS vendors, neither rule appears to serve the initial goals of the CRS regulation. The DOT does not appear to regard them as encouraging entry by new CRS suppliers, nor does it appear to limit airline influence over CRS vendors.

The potential for harm from the inclusion of parity clauses in CRS-airline contracts is similar to the potential for harm from the most-favored customer clauses that have been studied by economists<sup>167</sup> and by the antitrust courts. By allowing an airline to buy another CRS vendor's service only if it also buys the same service from the vendor with the parity clause, the clause raises the total price that the airline must pay for the other vendor's service. This can reduce the demand for the other vendor's service. It can thereby diminish the incentive for other vendors to offer new services and to innovate generally.

Yet parity clauses can also have beneficial effects. If innovation requires continued purchase by the airline from the CRS vendor, a parity clause can help to ensure that the vendor can recoup costs of specific investments incurred in supplying high-quality CRS services to the airline. For example, if improvements in the CRS vendor's services cause a sustained and widespread increase in demand for travel on the airline, then

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166 2004 Final Rule, *supra* note 1, at 985 ("The [Antitrust Division of the] Justice Department recommends that we [the DOT] maintain only the rules prohibiting display bias and possibly short-term rules barring certain types of most-favored-nation clauses in the systems' contracts with participating airlines.").

167 DOJ COMMENTS, *supra* note 10, at 26 (citing both the benefits and harms that can result from a prohibition of MFN clauses). On the merits of most-favored customer clauses, see David Besanko & Thomas P. Lyon, *Equilibrium Incentives for Most-Favored Customer Clauses in an Oligopolistic Industry*, 11 INT'L J. INDUS. ORG. 347, 347-67 (1993); Thomas E. Cooper, *Most-Favored-Customer Pricing and Tacit Collusion*, 17 RAND J. ECON. 377, 377-88 (1986); Patrick J. DeGraba, *The Effects of Price Restrictions on Competition Between National and Local Firms*, 18 RAND J. ECON. 333, 333-47 (1987); and Charles A. Holt & David T. Scheffman, *Facilitating Practices: The Effects of Advance Notice and Best-Price Policies*, 18 RAND J. ECON. 187, 187-97 (1987). A popular survey of a portion of this literature can be found in Steven C. Salop, *Prices that (Credibly) Facilitate Oligopoly Coordination*, in JOSEPH E. STIGLITZ, NEW DEVELOPMENTS IN THE ANALYSIS OF MARKET STRUCTURE 265 (1986).

in the absence of a parity clause, the airline might seek an alternative channel for distributing tickets in order to avoid paying the CRS vendor's booking fee. This would reduce the profit of the CRS vendor from the improvement; the incentive to introduce the improvement in the first place might then suffer. Airlines have indeed recently sought greater Internet bookings, partly to reduce their payment of booking fees to CRS vendors.

It is thus unclear how the use of parity clauses—or any other MFN provision in contracts between CRSs and airlines, such as the best fare provision—affects the efficiency of CRS markets in principle. In such a case, antitrust courts tend not to use bright-line, per se standards but rather to take a rule of reason approach that involves extensive consideration of the facts in each instance of the conduct. As in the case of most-favored nation clauses generally, demonstration that parity clauses diminish the efficiency of markets for CRS services would require clear evidence of harm. But no clear evidence appears to have been put forward on the public record to illuminate the adverse consequences of CRS vendors' use of parity clauses.<sup>168</sup> An antitrust court would be well-suited to evaluate any such evidence that may arise.

The benefits of CRS regulation as a tool for antitrust enforcement<sup>169</sup> appear even smaller when considered at the relevant margin, which is relative to commitments that the federal government has established elsewhere to enforce the antitrust laws.

### C. *The Institutional Commitment to Enforcement*

The relevant alternative to any regulation from an economic perspective depends on the institutional context and its implications for the government's incentive and ability to intervene in the absence of the regulation. In 1984, the antitrust enforcement authorities of the federal government did not have full jurisdiction over the airline and related CRS markets. Antitrust enforcement did not become a credible alternative to regulation as a means for the federal government to prevent or deter antitrust misconduct in those markets until statutory authority shifted from the CAB and its successor, the DOT, to the DOJ.

One might be tempted to conclude that, after two decades of

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168 In reviewing its experience in enforcing the antitrust laws relating to MFNs, the DOJ highlights the absence of clear evidence of harm from MFNs between airlines and CRSs, going so far as to explain how such clauses can be either harmful or beneficial, depending upon the facts. DOJ COMMENTS, *supra* note 10, at 27.

169 Significant antitrust enforcement benefits arose from the initial application of CRS regulations to prevent major airlines from adversely affecting competition in markets for passenger air travel through their exercise of influence over CRSs. The CRS regulations contain several prohibitions against conduct similar to what would violate the antitrust laws. Specifically, these include the rules barring system-tying, the rules prohibiting MFN clauses, and the rules governing travel agents' contracts.

regulation, the federal government is ill-equipped to obtain relief in CRS markets from the antitrust courts. Yet we find ample evidence of the DOJ's propensity to intervene in the airline industry, including into efforts by airlines that purport to avoid payment of booking fees to CRSs.

To illustrate, the Antitrust Division of the DOJ brought *United States v. AMR Corp.*<sup>170</sup> after the DOT unsuccessfully sought regulations to address complaints about predatory pricing in the airline industry. The concern was that major airlines were using fare cuts as part of a strategy to achieve, or maintain, hub domination.<sup>171</sup> After the DOT failed to enact regulations addressing this concern, the DOJ filed a suit against one of the targets of the complaints, American Airlines, alleging monopolization and attempted monopolization through predatory pricing.

A second example is the DOJ's investigation of alleged antitrust misconduct by Orbitz.<sup>172</sup> While Orbitz supplies some of the same services as a CRS, it did not fall within the formal definition of a CRS because it did not supply flight and ticket information to travel agents. While CRSs and other complainants sought to have the DOT extend its CRS rules to encompass Orbitz, the DOJ announced the opening of an investigation into the competitive implications, and legality, of Orbitz' business practices, including corporate governance practices that could facilitate collusion among the airlines that belonged to Orbitz.

The DOJ has thus maintained the ability to intervene in airline and CRS markets, even while the DOT has maintained relevant statutory authority. A more general analysis of the efficiency of antitrust enforcement would take into account the standing of states and private parties to bring suit under the antitrust laws. In abstracting away from these alternatives, our analysis conservatively understates the antitrust discipline that CRS market participants likely would face in the courts, post-rule termination.

In much the same way the airline industry was deregulated, deregulation of the CRS industry would signify a de facto transfer of authority from the DOT to the DOJ and would likely resolve the

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170 *United States v. AMR Corp.*, 335 F.3d 1109 (10th Cir. 2003).

171 See, e.g., Dep't of Transp., Statement of Enforcement Policy Regarding Unfair Exclusionary Conduct (Apr. 6, 1998).

172 Orbitz was created by the five largest domestic airlines—Delta, United, Northwest, Continental, and American—as a joint venture to compete against Internet travel distributors such as Travelocity and Expedia, as well as other traditional ticket agents. The stated purpose of Orbitz was initially to add an online option to existing distribution channels so the public could view of all publicly available schedules and fare options at the same time. On the initial announcement and launch of Orbitz, see Susan Carey and Martha Brannigan, *Airlines To Offer Cheap Tickets on the Internet*, WALL ST. J., June 29, 2000, at B1; and Susan Carey, *Orbitz Launch Faced Technical Problems as Customers Swamped Travel Web Site*, WALL ST. J., June 7, 2001, at A15. For initial perspectives on its competitive significance, see Con Hitchcock, *Orbitz: Consumer Boon or Competition Buster? Service Will Offer Better Information, More Choice*, AIR & SPACE LAW., Spring 2001, at 1; John R. Mietus, Jr., *Recent Developments in Aviation*, 28 TRANSP. L.J. 229 (2001).



jurisdiction muddle described in Section I.C. This would, in effect, cause the DOJ to keep a closer watch over the CRS industry so as to deter abusive activities.

Moreover, unlike CRS regulation, which is industry-specific, the federal government's commitment to monitor and enforce antitrust compliance is quite general. Antitrust enforcement resources are limited, yet the government can readily shift those resources across industries, depending on the relative payoffs from enforcement in those industries. For these reasons, current antitrust enforcement levels in an industry can be poor predictors of future enforcement levels. This *de facto* transfer may occur even without a change in the budget and without statutory authorization because the Antitrust Division retains authority to reallocate resources among cases without the approval of Congress.

Just as market imperfections can be corrected by a combination of regulation and antitrust, the government can employ a combination of the DOT and the DOJ to enhance the market conditions and to address concerns about misconduct in CRS markets. Relaxing the use of one agency will necessarily free up more opportunities for using the other, and a federal government committed to market competition has every reason to increase its reliance on the DOJ, to the extent concerns arise after the termination of CRS rules. Thus, termination of CRS regulation would likely trigger heightened antitrust scrutiny of the industry in the event of antitrust complaints.

To be sure, a possible concern is that the courts might deny relief in the event of misconduct in CRS markets. The failure of private efforts to obtain antitrust remedies in the CRS industry in the past may mean that the potential for harmful misconduct is low or, alternatively, that the courts are unable to recognize the harm that occurs. Such conclusions would be premature for two reasons. First, deregulation will remove any ambiguity about the industry's implied antitrust immunity. As we saw in Section I.D, the courts may have been more reluctant to intervene when regulation was already pervasive in the industry. Second, this point relies on a static view of the market, which is precisely the view we are trying to refute. The fact that the DOJ has not initiated any antitrust action during the regulated period only reveals that the CRSs, in complying with the DOT regulation, have not engaged in any anticompetitive conduct. And if the CRSs do not change their courses of dealings, then there does not need to be any antitrust enforcement. Antitrust enforcement is the government's dynamic response to deregulation because of the possibility that CRSs themselves might respond dynamically to deregulation. The implication is that even skeptics of free markets should reconsider before opposing deregulation in this instance.

*D. Advantages of Antitrust Enforcement Over Regulation*

If the government's expected response to deregulation is stepped-up antitrust enforcement, it may seem as though there is no real merit to deregulation since we are simply replacing one form of government intervention with another. And to this extent, the word "deregulation" is a misnomer: the correct characterization is whether the market "should be 'regulated by the agency' or 'regulated by the antitrust laws.'" <sup>173</sup> Nonetheless, antitrust enforcement has several salient aspects that make it an improvement over traditional command-and-control regulation in addressing the concerns about possible antitrust violations that have been the focus of CRS regulation.

First, the probability is low that a new CRS remedy, or rule, will actually be called for. In the case of CRS, the analysis pertains to a market that has been regulated for twenty years. The relevant comparison is thus not between antitrust and *de novo* regulation—as would have been the case in 1984—but between antitrust and the maintenance of a regulatory apparatus that does not seem to be improving the efficiency of the market or otherwise achieving its expressed objectives. While the record in 1984 showed evidence of misconduct by CRS vendors, the contemporary record in light of changes that have occurred over two decades is weak on potential harm from allowing the market to function without regulation.

Even if the chance of a violation were high, however, antitrust enforcement has several properties that make it more suitable than regulation in this instance. First, there is little evidence that federal antitrust officials are captured, in contrast with the evidence on the interest-group capture of regulators. This may be due to the tendency of antitrust officials to operate in a variety of different industries, so that the value of their human capital is less dependent on their relations with any specific industry, or to other differences between the incentives of antitrust enforcement officials and regulators. Richard Posner has written:

[E]fforts to explain antitrust enforcement as just another example of interest-group politics . . . have not been successful, and the reasons may be that the agencies are dominated by lawyers, most of whom go on to jobs in the private sector, and that antitrust law itself is dominated by federal judges exercising a broad discretion because of the open-endedness of the major federal antitrust statutes. To land good berths in the private practice of law the antitrust enforcers must demonstrate their professionalism, which means keeping within the boundaries fixed by the courts. Federal judges with their secure tenure are largely insulated from

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173 HOVENKAMP, *supra* note 58, at 704.

the interest-group pressures that play on the other branches of government.<sup>174</sup>

The legal rules that govern antitrust enforcement also make it less prone to capture than regulation. Antitrust disputes are resolved under an extensive civil case law that has evolved over more than a century to facilitate the application of general antitrust principles to a variety of market settings. Meanwhile, with administrative cases, the *Chevron* deference given to regulatory agencies makes it difficult for the court to intervene unless the regulation is clearly arbitrary and capricious. This increases the discretion of the regulator relative to that of the antitrust enforcement authority. While the government's enforcement authorities may exercise discretion in choosing what cases to bring, the effect of this discretion on enforcement outcomes is limited by the abilities of private parties to bring their own separate enforcement actions under the federal antitrust statutes.

It is realistic to expect careful scrutiny of CRS conduct by antitrust enforcement officials and potential plaintiffs following the termination of the CRS rules. If the observed conduct is found to cause the kind of injury that the antitrust laws are designed to prevent, specific remedies can be crafted to address that misconduct. While a delay between detection and adjudication might appear to limit the significance of the remedy, the antitrust laws provide for treble damages and other penalties that create disincentives to engage in misconduct. Thus, the prospect of antitrust enforcement promotes deterrence while providing an institutional context in which industry-specific rules can be crafted in the form of court-enforced settlements obtained in response to whatever violations might occur post-deregulation.

## V. Why Has Deregulation Occurred? The Modern Theories

Thus far, our analysis has focused on the net benefit of continuing regulation; in this sense, the perspective has been distinctively normative. We have made no attempt to explain why deregulation, or something close to it, has actually come about. In this Part, we do precisely that: We try to understand the recent move toward deregulation in light of modern theories of regulation. According to modern theories, deregulation occurs not when the costs of regulation exceed the benefits, but when deregulation is compatible with the incentives of influential private parties, including not only special interests but also individuals within government. Deregulation may enhance social welfare, but it need not.

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174 Posner, *supra* note 134, at 942.

Drawing from the many positive models of regulatory reform set forth in the modern literature, this Part will focus on three distinct approaches. We refer to these different approaches as the “interest group,” “institutional barrier,” and “informational asymmetry” theories of regulatory reform. They are not mutually exclusive, but each highlights the importance of a different set of conditions to reform. Our goal is to survey the practical implications of each approach in light of the evidence surrounding CRS reform.

We conclude that the CRS rule termination appears to be a classic case of deregulation under an “interest group” theory in which the gradual dissipation of rents from regulation ultimately triggers reform. In this instance, technological advance appears to have made entry profitable for suppliers not subject to CRS regulation, which accelerated rent dissipation and thus reform. Other modern theories of reform highlight evidence to suggest that the institutional barriers to reform were low in the CRS market; however, those theories do not appear to explain the *timing* of CRS rule termination.

#### A. *Interest Groups and Rent Dissipation*

The interest group theory of regulation hypothesizes that “regulation is acquired by the industry and is designed and operated primarily for its benefit.”<sup>175</sup> Roughly speaking, individuals who have a greater interest in regulation will organize into pressure groups in order to achieve the benefits of regulation, and legislators and other politicians facilitate the mechanism through the administrative process. Pressure groups so-organized will have much greater bargaining power than the general, diffuse public since the groups may deliver votes, campaign contributions, or outright bribes. Consequently, the theory argues, public policy is simply a result of a process driven by interest group control and influence. So long as the interest group remains intact, the regulation should continue to shield the group. The weakness of interest group theory in its simplest form is that it purports to explain why regulations tend to remain; but this obviously cannot be the complete story, since a number of deregulation movements did occur in the 1970s and 1980s.<sup>176</sup>

After observing the deregulation that occurred during the 1980s, Peltzman provided a reassessment of this theory to account for the

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175 Stigler, *supra* note 9, at 3.

176 These industries include railroads, trucking, airlines, long-distance telecommunications, stock brokerage, banking, and oil, among others. For a detailed discussion of these industries, see Sam Peltzman, *The Economic Theory of Regulation After a Decade of Deregulation*, in 1989 BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 1, 21-37 (1989).

apparent tendencies toward deregulation.<sup>177</sup> According to this modified version, regulation is likely to occur where there is a wide discrepancy under deregulation between the political balance of pressure and the distribution of wealth. Eventually, regulation will bring about wealth dissipation, possibly due to some exogenous force. At some point, with the atrophy of payoffs from costly efforts to maintain regulatory rules, restoration of the pre-regulation status quo will become more attractive than continued regulation. Therefore, Peltzman argued, “[D]eregulation is not the correction of some belatedly recognized policy error . . . [but rather] the last stage of the process.”<sup>178</sup> As long as surplus wealth remains to be distributed as political payoffs, regulation will remain and will be preferred and supported by interested groups over the pre-regulation status quo.<sup>179</sup>

The practical implication is that observable changes in the regulatory environment tend to precede deregulation. Peltzman highlights two such changes. First, the cost of maintaining a sufficient coalition of interested parties to support the regulation may increase. Second, changes in the industry’s costs and demand may reduce the amount of rent that is extracted, causing it to fall below the costs of maintaining the regulation. Evidence that such changes preceded the announcement of a plan to terminate the CRS rules would support the view that a modified interest group theory explains regulatory reform in this instance.

Indeed, the conditions leading up to the announced termination of the CRS rules are consistent with this interest group theory of deregulation. For example, evolution of CRS vendor support for CRS regulation suggests that CRS vendors were among the significant beneficiaries of CRS regulation.<sup>180</sup> Throughout the 1990s, CRS vendors—including Sabre, the largest of them—tended to support the DOT’s *continued* regulation of CRS markets, including the addition of new CRS rules in 1997. According to airline complaints, CRS regulations gave the vendors extra bargaining power in setting the booking fees that airlines paid them. Under the mandatory participation rule, the threat of switching among CRS vendors was of limited use to airlines in bargaining with CRS vendors over booking fees. Under the modified interest group theory, this would explain the CRS vendors’ support for the regulation. Other wealth implications of the CRS regulation, not reviewed here, also may account for the sustained

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177 *See id.*

178 *Id.* at 38.

179 In addition, we may have changes in technology that trigger regulatory reforms. *See* 2003 ECONOMIC REPORT OF THE PRESIDENT 159 (2003) (“With time, regulations are more likely to become . . . irrelevant, because of changes in technology or in the products . . . available in the marketplace. Such changes are often a prerequisite for successful regulatory reform, because they weaken resistance to reform from those interest groups that benefit from the status quo.”).

180 *See supra* Section I.E.

support by CRS vendors for continued regulation.<sup>181</sup>

Dramatic changes eventually occurred in CRS cost and demand, however. Advances in electronic and Internet technologies during the 1990s affected the distribution of airline tickets. As the new technology made CRS vendors more efficient, it opened up new channels for electronic commerce generally. Airlines and travelers found alternative channels for the electronic distribution of tickets during this time. CRS vendors accordingly faced real and potential losses in the volume of their airline ticket bookings and related profits. In terms of the modified interest group theory, CRSs' gains from continued regulation appear to have declined. CRS vendors initially responded to these events by supporting the application of CRS regulations to the new direct-to-traveler distributors, rather than just to distributors who provided electronic distribution solely to travel agents. Sabre, Worldspan, and Amadeus expressly urged the DOT to extend its CRS regulations so that they applied to Orbitz and other innovative service suppliers, and not only to the incumbents.<sup>182</sup>

Only after the DOT declined to extend the CRS regulations to the new Internet-based vendors did any CRS vendor change its position publicly to advocate terminating, rather than extending, the CRS regulations. This strongly supports the view that the dissipation of rents from regulation under a modified interest group theory explains the occurrence—and timing—of CRS rule termination. Related costs to incumbents appear to have included costs of supplying services that would not be provided but for the regulation and subtler costs from having to adapt their business models and competition strategies to meet regulatory constraints, which may have included the lost benefits of innovation.

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181 Airlines and travel agents might also pose as interest groups in the modern model of reform. Their larger size and greater heterogeneity of membership make such groups potentially more complex, however. The CRS regulations were designed to treat airlines that owned CRSs differently from other airlines, for example. Airlines' views of CRS regulation may also vary with their competition strategies, such as whether the airline is a traditional network carrier or a regional discount carrier. Airlines indeed expressed different views of CRS regulation during 2003. United Airline was arguing for complete deregulation. See UNITED AIR LINES, INC., COMMENTS OF UNITED AIR LINES, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237376\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237376_web.pdf). Continental, Delta, and Northwest were supporting deregulation with a transition period. See CONTINENTAL AIRLINES, INC., COMMENTS OF CONTINENTAL AIRLINES, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237395\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237395_web.pdf); DELTA AIR LINES, INC., COMMENTS OF DELTA AIR LINES, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237333\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237333_web.pdf); NORTHWEST AIRLINES, INC., COMMENTS OF NORTHWEST AIRLINES, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237373\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237373_web.pdf). By contrast, American Airline and USAirways urged the DOT to continue CRS regulation. See AMERICAN AIRLINES, INC., COMMENTS OF AMERICAN AIRLINES, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237415\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237415_web.pdf); USAIRWAYS, INC., COMMENTS OF USAIRWAYS, INC. (Mar. 17, 2003), *available at* [http://dmses.dot.gov/docimages/pdf85/237405\\_web.pdf](http://dmses.dot.gov/docimages/pdf85/237405_web.pdf).

182 See *supra* text accompanying notes 76-77.

As the value of the regulation fell for these vendors, the cost of maintaining a sufficient coalition to support continued regulation appears to have risen. Specifically, while it is unclear why Galileo would support continued regulation, a modified interest group theory would suggest that when the other three switched their position on CRS regulation, the “well-organized interest groups” became less homogenous, which would raise the cost of maintaining a sufficient coalition of interested parties to support the regulation. This is a predictor of deregulation under the modified interest group theory of CRS rule termination.

In sum, the observed episode of CRS deregulation offers a classic illustration of the occurrence of deregulation as the outcome of a process of regulatory obsolescence following advances in technology and entry under the modified interest group theory.

#### B. *Institutional Barriers: Structure-Induced Equilibrium Theory and Beyond*

Other modern theories of regulatory reform have subtler predictions on the conditions that trigger reform, focusing on the institutions of government itself. Like the theory of economic change as a trigger for reform, the theory of structure-induced equilibrium emerged from attempts to understand why changes in government regulation occur less frequently than predicted under earlier theories of reform.

The institutional theory of regulatory reform dates back to the 1970s. The theory of structure-induced equilibrium—then pioneered by Kenneth A. Shepsle—emerged as a response to a quandary posed by existing models that had then predicted the existence of volatile government institutions rather than the stable institutions we observe.<sup>183</sup> This theory posits that “participants in the political process, recognizing its propensity for chaotic behavior and being risk averse (and hence valuing stability in its own right), [tend to] construct constraints on policy change that increase the difficulty and cost of upsetting the status quo.”<sup>184</sup>

The long administrative process necessary for regulatory reform to occur is a case in point. The notice-and-comment procedures established

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183 See Kenneth A. Shepsle, *Institutional Arrangements and Equilibrium in Multidimensional Voting Models*, 23 AM. J. POL. SCI. 27 (1970). Recent criticism of Shepsle’s approach argues that the institutional set-up inducing equilibrium still needs to be designed by some authorities, and that designing a political institution is, in and of itself, a political outcome. Structure-induced equilibrium theory does not explain how these institutions arise. For a critique and an attempt to salvage structure-induced equilibrium, see THRAINN EGGERTSSON, *ECONOMIC BEHAVIOR AND INSTITUTIONS* 69-73 (1990).

184 Roger Noll, *Comment on The Economic Theory of Regulation After a Decade of Deregulation*, in 1989 BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 50 (1989) (reviewing Peltzman, *supra* note 177).

by the Administrative Procedure Act for informal rulemakings,<sup>185</sup> while necessary “to ensure that these regulations [are] in society’s best interests,”<sup>186</sup> inevitably delay implementation of new policies. Even apart from the arduous process, the inherent set up of the regulatory process is often such that regulators generally tend to favor the status quo over new experiments.<sup>187</sup> While the delays that appear to be induced by the APA may account for lags in CRS rule termination, the practical relevance of the Act becomes clearer from the perspective of the informational theories to be reviewed in Section V.C.

The theory of regulation as a structure-induced equilibrium suggests that institutional barriers to reform can prevent the termination of non-meritorious rules that have lost the support of interest groups. Roger Noll has, however, identified the conditions under which those barriers could be overcome.<sup>188</sup> First, deregulation is more likely to occur if it does not require changes in legislation. Second, actions by the courts or by other government agencies can trigger deregulation by confronting Congress (or the incumbent regulator) with a new status quo. Third, the arrival of a political entrepreneur can undermine structure-induced stability and thus trigger deregulation. A political entrepreneur in this context is a person who “discovers how to take advantage of the fundamental instability of majority rule within the constraints imposed by the institutional arrangements designed to induce stability.” Noll, for example, attributes the Airline Deregulation Act of 1978 to the entrepreneurship of Alfred E. Kahn at the CAB.

Generally speaking, institutional obstacles to CRS rule termination appear to have been low. There is no evidence of statutory or court obstacles to CRS rule termination. No legislation was required for the termination of CRS regulations; instead, the DOT continued to specify sunset dates. The DOT could have terminated the CRS regulations at any time since their inception without the express consent of Congress. Unlike the airline deregulation in the 1970s, we have found little evidence of any “political entrepreneur” as a trigger to CRS rule termination.

Nonetheless, Noll’s concept of political entrepreneurship may still apply here. Such a person could arrive eventually, since over time there is substantial turnover of personnel involved in any organization. In other

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185 Administrative Procedure Act, 5 U.S.C. §§ 551-560 (2001). For a detailed account of the chronology of new rule-making regulations, see VISCUSI ET AL., *supra* note 117, at 18-22.

186 VISCUSI ET AL., *supra* note 117, at 23.

187 For example, allocating public resources through a renewal process tends to favor the status quo, thereby protecting existing firms at the expense of new ones. See BREYER, *supra* note 9, at 89-90.

188 These hypothesized predictors of reform under the theory of regulation as a structure-induced equilibrium follow Noll’s discussion of the conditions under which barriers to reform appear to have been overcome in the past under that theory. See Noll, *supra* note 185, at 50-51.



words, one would expect the chances of a real reform to increase with the amount of turnover and, accordingly, with the passage of time. More specifically, recall that the first CRS regulations were put into place very soon after the termination of comprehensive economic regulation of the airline industry, including the setting of ticket prices and attempts to regulate quality of service. Significant expertise thus resided within the federal government on the regulation of airlines and related ticket distribution. Such expertise would surely obsolesce over time, however, in the sense that personnel turnover can reduce the regulatory institution's specific investment of human capital in the regulation, so that the institution's cost of maintaining the regulation rises, and the cost of reform falls. Since the CRS rules have existed for twenty years, we would expect a change of personnel involved in drafting or enforcing these rules, and, in theory, this may have facilitated elimination of some of the rules.

That said, the institutional theory does not significantly contribute to our understanding of the timing of reform. While the DOJ gained authority to intervene in CRS markets during the period of the regulation, the expansion of the DOJ's authority occurred too early to provide a meaningful explanation for the decision to deregulate CRS markets. Moreover, the DOT expanded the scope of the CRS regulations several times after the DOJ gained authority. We have found no significant changes in regulatory institutions that would suggest a lowering of regulatory barriers to reform in the period immediately preceding the DOT's announcement of plans to terminate the regulations.

### C. *Informational Asymmetry and Slack*

Information-based theories of regulatory reform highlight the role of information and its allocation in shaping both institutions and the choices of individuals in both government and the private sector. This approach builds on the natural assumptions that the public has less information than industry participants or regulators about the regulations and their consequences and, accordingly, that those "in the know" can exploit this informational asymmetry to their advantage. The literature highlights several ways in which government officials can shift the regulatory equilibrium by affecting the information that outsiders receive about regulations. These include spreading free information, obfuscating information, or taking advantage of institutionally opaque information. Of these, the institutional slack model—developed by Michael E. Levine and Jennifer Forrence—seems to provide a useful insight into CRS deregulation.<sup>189</sup> In the next section, we also return to the model of optimal

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189 Michael E. Levine and Jennifer L. Forrence, *Regulatory Capture, Public Interest and the*

obfuscation to consider a plausible explanation for the choice of the rules that were slated to remain until July 31, 2004.

It is difficult to determine what informational asymmetries may have existed around the period of CRS rule termination. Nevertheless, we can identify institutions that appear to have reduced the cost of obtaining information about CRS reform to affected parties. Our review of the record additionally suggests that some of the rules had more transparent implications for the public interest than others. That said, the potential for informational asymmetry to affect the outcomes of CRS regulation appears to be large because CRS markets and their regulation never moved onto the public agenda over the twenty years of regulation of that industry.

The lack of public awareness of CRS regulations and markets seems to reflect the obscurity and complexity of CRS markets, rather than any express attempt to obscure public perception of those markets. Under the information-based theories of reform, a lack of public awareness is generally associated with the increased exercise of discretion by regulators and, relatedly, less attention to the general interest (accordingly, more “slack” or “shirking”). This would, in turn, suggest relatively high barriers to rule termination.

Other institutional conditions were present, however, that have countervailing, slack-reducing effects. First of all, the requirement of periodic review of the social value of the regulation intensified the monitoring that CRS regulators received within the executive branch and brought their actions more closely into alignment with the general interest, particularly after the lessening of interest group support for the regulation. Second, we can consider the possibility of “political competition” between enforcement institutions, here the DOT versus the DOJ. Admittedly, this is not the purest example of political competition since the agencies are both part of the executive branch. Be that as it may, the DOT had even more slack prior to 1989 since (i) it was a monopolist in the government’s supply of antitrust discipline in the airline and related CRS markets, and (ii) the rules were sufficiently complex to shield the effectual outcomes. Any institutional barriers arising from the DOT’s exercise of discretion as sole enforcement authority diminished significantly when an additional antitrust enforcement authority came on board.

The theory posits that if slack is reduced concerning certain regulatory issues, outcomes on those issues will tend more frequently to serve the general interest. The general idea behind the institutional slack model is that regulatory outcomes depend on what regulators choose to do with the informational asymmetry that they face.<sup>190</sup> For instance, a

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*Public Agenda: Toward a Synthesis*, 6 J.L. ECON. & ORG. 167 (1990).

<sup>190</sup> *Id.* at 167-98.

regulator who prefers to pursue a policy that the general public would oppose can do so more easily if his actions are shielded from the general public. Therefore, depending on how much slack a regulator has, both interest groups and the general polity can affect the process of regulatory reform.

Regardless of whether a regulator is captured or Burkean,<sup>191</sup> information costs are critical to the amount of slack.<sup>192</sup> If information were costless, there would be no slack, and the regulator would choose to act in the interest of the general public or face removal from office. There would be neither capture nor indulgence in self-interested or Burkean regulation. Levine and Forrence formulate their hypothesis as follows:

Whether a regulator will be captured or not is a function of whether slack has been drastically reduced by moving an issue onto the public agenda and, if not, whether or not the regulator with the relevant slack will behave in a Burkean manner [which] depends on her demands for Burkean behavior—the costs of which are the risk of exposure and the loss of the opportunity to sell slack, and the benefits of which are the strength of her other-regarding conviction and the utility she gets from seeing them carried out . . . .<sup>193</sup>

Consequently, the outcomes of regulatory issues that make it onto the public agenda will more likely be characterized as in the general interest.

While it is difficult to determine what informational asymmetries may have existed around the period of CRS rule termination, we do know that CRS markets and their regulation never moved onto the public agenda over the twenty years of regulation of that industry. To this day, the general public knows very little about how CRSs operate. This lack of public awareness is generally associated with the increased exercise of discretion by regulators, less attention to the general interest, and more slack, all of which would in turn suggest relatively high barriers to rule termination.

If CRS regulation had lost its social value as early as 1989, this should have led to its termination at that time, or shortly thereafter. The opposite occurred, however, when the regulations were not terminated but instead grew in scope during the 1990s. It is not clear whether this reflects the

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191 Note that this literature recognizes two cases in which the regulator's policy interest deviates from the general public's wish. One is the familiar notion of capture, where a regulator caters to special interest groups so as to gather votes. The other is the case of a Burkean regulator—one who is ideologically driven in the sense of wanting to do what he or she believes is good for society, independently of society's expressed wishes.

192 Levine and Forrence identify several slack-reducing institutions. These include: (i) incumbent self-publicity; (ii) political competition that creates more opportunities for monitoring; (iii) single-issue, proactive organizations such as Public Citizen, or scholars who constitute the public policy intelligentsia; and (iv) the news media, whose profits depend on attracting mass audiences. See generally Levine & Forrence, *supra* note 190.

193 *Id.* at 193.

merits of the regulations, uncertainty about their social value, or the persistence of some other obstacle to deregulation. But the slack-reducing institution in this case may not have been sufficient to generate *immediate* scrutiny because the transition of authority did not exactly happen with a bang.<sup>194</sup> By 2003, however, the looming presence of the DOJ had a clear effect on the regulatory process and, possibly, on the outcome of that process. The DOT's "final rule" from January, 2004 illustrates its reaction to, deference to, and accommodation of suggestions by the DOJ on the design of CRS regulations.

Finally, the notice-and-comment procedures for informal rulemakings inevitably caused delays in implementation of new policies; as such, the status quo was hard to overcome in a short period. With more reviews of the rules, however, it was becoming clear that the market situations had changed drastically in the preceding twenty years ago. In short, the APA, while causing delays in the short run, can also serve to reduce slack as periodic reviews require scrutiny under multiple parties. These set-ups may explain both why the sunset dates have been delayed for so long and why many of the rules were eventually eliminated.

#### D. *Possible Explanation for a Remaining Lag in Rule Termination*

While the primary challenge of the modern theories as they apply to CRS reform is to explain the apparent alignment between the reform decision and the public interest, it remains the case that the DOT has delayed termination of two remaining regulations. Our analysis of the merits uncovered no evidence that retaining these remaining CRS regulations will create social value.<sup>195</sup> While the 1984 regulations were triggered by complaints about CRS vendor and airline misconduct, market

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194 See *supra* text accompanying note 43.

195 The DOT explained the 6-month "transition" period before termination of CRS rules against display bias and against CRS vendor requirements that airlines pay for parity in services or supply webfares as necessary to enable travel agents, airlines, and consumers to institute their own precautions against such CRS vendor requirements, which the DOT found likely to occur. See 2004 Final Rule, *supra* note 1, at 977:

We are readopting the rules against display bias because we believe that, were the rules terminated immediately, systems might well be expected to bias their displays . . . .

Similarly, we are adopting for the same short transition period two rules governing the contracts between the systems and airlines: rules prohibiting parity clauses . . . and clauses requiring airlines to provide access to all webfares as a condition to any participation in a system. However, an airline is free to agree to such clauses. We believe that, were these prohibitions terminated immediately, the systems would have sufficient market power to impose contract terms on airlines that would unreasonably restrict the airlines' ability to bargain for better terms for participation. The transition period during which these prohibitions will be maintained will furnish the industry with reasonable notice of the forthcoming change with an opportunity to prepare for it.

conditions have changed since the rules' inception, and those changes make the recurrence of such misconduct unlikely. The simplest story behind the temporary retention of these rules may be that some commenters prefer to keep the CRS rules as a form of insurance against the possibility that the misconduct might nevertheless recur, as it might if the market conditions that led to the misconduct were also to recur. Alternatively, one could see the retention as the DOT's signal and warning, indicating that the DOT continues to maintain authority to intervene if anticompetitive conducts are observed in the future. After all, the DOT may be able to re-regulate the industry. Nevertheless, the low probability of the recurrence of misconduct, in combination with the efficiency considerations favoring antitrust over regulation, leads us to believe that other issues might also be at play.

A relevant framework in this instance might be the model of optimal political obfuscation developed by Magee, Brock, and Young.<sup>196</sup> Obfuscation in this context refers to distorting the policy in a way that makes it difficult for voters to determine the merits of the policy and, especially, who benefits from the policy and who is harmed. Obfuscation, however, is achieved in this context only at the expense of lost benefits to constituents. A government official's rational choice is thus an optimally obfuscated policy that reflects a trade-off between the cost of obfuscation—which limits the value of the policy to constituents—and the value of the obfuscation in limiting opposition to the policy by third parties—which increases its probability of successful realization.

In this view, government officials exercise their discretion by skillfully balancing social benefits and private political benefits of regulation. Thus, they choose to terminate regulations that create the greatest social harm—including regulations that most adversely affect interested parties—while retaining those that are less obviously harmful and politically popular. In our context, the complexity of CRS rules and how they affect the market equilibrium plausibly indicate either uncertainty about the effect of the rules (as when nobody has the information) or asymmetric information (when only insiders have the information).

Letting the DOT take the role of "party" in the above discussion, the model would presumably rank-order different CRS rules according to (i) their efficiency (from a cost-benefit analysis perspective) and (ii) their complexity (as a proxy for obscurity). Among rules that are inefficient, Magee, Brock, and Young would predict termination of rules with low obscurity—such as the mandatory participation rule—and retention of

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196 WILLIAM A. BROCK, STEPHEN P. MAGEE & LESLIE YOUNG, *BLACK HOLE TARIFFS AND ENDOGENOUS POLICY THEORY* 259-63 (1989).

rules with high obscurity—such as, perhaps, the parity rule whose benefits and harms are not widely understood. Obscurity is not an absolute litmus test, however: The display bias rules remain despite its low obscurity. In this instance, the model would conclude that this rule must be a politically feasible one—one that garners a great deal of support from airlines that might not otherwise benefit from CRS regulation.

Under a more general reform-barrier hypothesis, rules are terminated only if the social value of termination exceeds the real cost of overcoming institutional barriers to termination. Consistent with the reform-barrier hypothesis, the evidence is that the rules chosen for immediate termination cause greater social harm and more directly affect commenting parties than do rules chosen for delayed termination. The rules to be terminated after the six-month transition period appear less harmful than those chosen for immediate termination, and their adverse effect does not as directly accrue to any specific CRS market participant.

## VI. Conclusion

Deregulation of the airline computer reservation system industry has been overdue. Twenty years have passed since the Civil Aeronautics Board first promulgated rules governing the market for CRS services. With regard to the proponents' expressed goals, some may have been achieved, while it is implausible to expect others to be attained by means of continued regulation. In this Article, we have examined the merits of CRS rules and the likely regulatory dynamics in the absence of these regulations. We have approached these issues from the perspectives of both the traditional theory of regulation in the public interest and modern theories that highlight the institutional and rational-choice properties of regulation and its reform.

Analysis of market conditions, in light of the social value of CRS regulation, supports the conclusion that even proponents of initial CRS regulation would find the current plan to terminate all CRS rules to be desirable. Additional analysis of the dynamics of regulation reinforces this conclusion on the merits, while revealing that the decision to deregulate CRS markets can also be seen as a rational choice of government under modern positive political theories of reform.

We have applied the modern theory in arguing that the government maintains a strategic commitment to enforce the antitrust laws, and that this limits the potential for harm post-termination. Traditional cost-benefit studies that neglect the government's strategic alternatives can thus produce biased results generally, and overstate the benefits of regulation and the cost of termination in this instance.

An additional implication of the modern theory is that changes in the

private value of the regulations to CRS industry participants may have alone been enough to trigger reform. An “interest group” theory, rather than an “institutional” or “information-based” theory of regulatory reform appears best to account for the DOT’s decision to lift its regulation of CRS markets. Institutional barriers to CRS reform were low, yet had been low for more than a decade prior to the DOT’s announcement of its decision. The deregulation of CRS markets, which are obscure, did not make it onto the public agenda during this period. We have nevertheless identified some features of the institutional setting that plausibly affected the flow of information and the incentives within government to eliminate the CRS rules.

That said, this Article has provided only a first look at the CRS rule termination from the perspective of the modern theory. As time passes and a record emerges on CRS market dynamics without DOT regulation, we expect this case to yield additional insights into the practical relevance of modern rational-choice theories of reform.

