

11-15-2013

## Predatory Hiring as Exclusionary Conduct: A New Perspective

Richard J. Braun

Michael A. Williams

Follow this and additional works at: <http://digitalcommons.pepperdine.edu/jbel>

 Part of the [Antitrust and Trade Regulation Commons](#), and the [Corporation and Enterprise Law Commons](#)

---

### Recommended Citation

Richard J. Braun and Michael A. Williams, *Predatory Hiring as Exclusionary Conduct: A New Perspective*, 7 J. Bus. Entrepreneurship & L. 1 (2013)

Available at: <http://digitalcommons.pepperdine.edu/jbel/vol7/iss1/1>

This Article is brought to you for free and open access by the School of Law at Pepperdine Digital Commons. It has been accepted for inclusion in The Journal of Business, Entrepreneurship & the Law by an authorized administrator of Pepperdine Digital Commons. For more information, please contact [Kevin.Miller3@pepperdine.edu](mailto:Kevin.Miller3@pepperdine.edu).

---

# PREDATORY HIRING AS EXCLUSIONARY CONDUCT: A NEW PERSPECTIVE

RICHARD J. BRAUN\*

MICHAEL A. WILLIAMS\*\*

Abstract.....	2
I. Introduction .....	2
II. Overview of the Ambulance Service Industry and the Parties .....	4
A. The Ambulance Services Industry .....	4
B. The Parties: Rural/Metro and ICare .....	7
III. Market Definition .....	8
A. Antitrust Product Market .....	10
B. Antitrust Geographic Market .....	12
C. Antitrust Market.....	13
D. Antitrust Barriers to Entry .....	13
IV. Rural/Metro’s Actions and Their Competitive Effects .....	14
A. Contingent Job Offers .....	14
B. Effects of Rural/Metro’s Contingent Job Offers on ICare’s Provision of Ambulance Services in the Relevant Markets .....	15
C. An Economic Analysis of the Competitive Effects of Rural/Metro’s Actions .....	16
1. ICare Ceases Operations in McMinn and Polk Counties .....	16
2. Effect of Rural/Metro’s Actions on a Subsequent Procurement Auction.....	17
a. If ICare Would Have Bid in a Subsequent Procurement Auction .....	17
b. If ICare Would Not Have Bid in a Subsequent Procurement Auction .....	21
V. A Failing Plaintiff Firm Defense in a Monopolization or Attempted	

---

\* Attorney, Braun and Associates PLLC, 501 Union Street, Suite 500, Nashville, Tennessee 37219. rbraun@braunlawassociates.com.

\*\* Director, Competition Economics LLC, 2000 Powell Street, Suite 510, Emeryville, California, 94608. mwilliams@c-econ.com.

Monopolization Case .....	23
VI. Conclusions .....	24

#### ABSTRACT

The showing of predatory or exclusionary conduct is a necessary element to prove an attempted monopolization claim under section 2 of the Sherman Act. Predatory hiring as a form of exclusionary conduct has not been extensively analyzed from legal or economic perspectives. Most litigated cases have followed *Universal Analytics, Inc. v. MacNeal-Schwendler Corp.*, where the court held that unlawful predatory hiring occurs when talent is acquired not for purposes of using that talent, but for purposes of denying it to a competitor.

An anticompetitive act by a single firm is an act that is not profit maximizing but for the monopoly rents the act creates or maintains, but that is profit maximizing inclusive of those monopoly rents. However, a monopolist likely will use and derive profits from important labor talent once acquired, even if the effect of the hiring is anticompetitive. Thus, the current legal standard for proving predatory hiring as an element of an attempted monopolization claim may prevent plaintiffs from successfully prosecuting cases in which antitrust impact and injury exist.

Therefore, we argue that the current legal standard required to prove a predatory-hiring claim should be revised. We use a recently litigated matter in the ambulance industry, *ICare-EMS v. Rural/Metro*, as a case study to make our argument. This case study is particularly revealing because, unlike most litigated matters, internal company documents and deposition testimony from plaintiff and defendant firm witnesses were not designated confidential. Therefore, we are able to illuminate the bases for the firms' internal business decisions in great detail. These decisions reveal the companies' intentions in ways not normally observable by antitrust scholars.

#### I. INTRODUCTION

The showing of predatory or exclusionary conduct becomes relevant in terms of proving one of the elements of an attempted monopolization claim under section 2 of the Sherman Act.<sup>1</sup> Predatory hiring as a form of exclusionary

---

<sup>1</sup> See *Taylor Publ'g Co. v. Jostens, Inc.*, 216 F.3d 465, 474 (5th Cir. 2000). An attempted monopolization claim has three elements: (1) the defendant engaged in predatory or exclusionary conduct, (2) the defendant had a specific intent to monopolize, and (3) there was a dangerous probability that the defendant would successfully attain monopoly power. *Id.* (citing *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993)).

conduct has not been extensively analyzed from either legal or economic perspectives. In the last two decades the courts have only reviewed a few such cases.<sup>2</sup> Most of these cases have followed the opinion of the court in *Universal Analytics, Inc. v. MacNeal-Schwendler Corp.*,<sup>3</sup> where the court held that unlawful predatory hiring occurs when talent is acquired not for purposes of using that talent, but for purposes of denying it to a competitor.<sup>4</sup> The courts in *American Professional Testing Service v. Harcourt Brace Jovanovich Legal & Professional Publications, Inc.*<sup>5</sup> and *McCabe Hamilton & Renny, Co. v. Matson Terminals, Inc.*<sup>6</sup> have referred to the “two-prong test” set forth by the court in *Universal Analytics*, which established two means of showing predatory hiring: hiring to harm competition without helping the monopolist or a clear nonuse in fact.<sup>7</sup> In other cases, courts have held that the hiring of a competitor’s employees has to be made jointly with other wrongful acts in order for an antitrust violation to result.<sup>8</sup>

An anticompetitive act by a single firm is an act that is not profit maximizing but for the monopoly rents the act creates or maintains, but that is profit maximizing inclusive of those monopoly rents.<sup>9</sup> However, a monopolist likely will use and derive profits from important labor talent once acquired,<sup>10</sup> even if the effect of the hiring is anticompetitive. Thus, the current legal standard for proving predatory hiring as an element of an attempted monopolization claim may prevent plaintiffs from successfully prosecuting cases in which antitrust impact and injury exist.

Therefore, we argue that the current legal standard required to prove a predatory-hiring claim should be modified. We use a recently litigated matter in the ambulance industry, *ICare-EMS, Inc. v. Rural/Metro Corp.*, as a case study

---

<sup>2</sup> See, e.g., *id.* at 465–87; *Am. Prof’l Testing Serv., Inc. v. Harcourt Brace Jovanovich Legal and Prof’l Pub’ls, Inc.*, 108 F.3d 1147 (9th Cir. 1997); *Universal Analytics, Inc. v. MacNeal-Schwendler Corp.*, 914 F.2d 1256 (9th Cir. 1990); *McCabe Hamilton & Renny, Co. v. Matson Terminals, Inc.*, No. CIV.08-00080JMS/BMK, 2008 WL 2437739 (D. Haw., June 17, 2008); *Wichita Clinic, P.A. v. Columbia/HCA Healthcare Corp.*, 45 F. Supp. 2d 1164 (D. Kan. 1999).

<sup>3</sup> *Universal Analytics*, 914 F.2d 1256.

<sup>4</sup> *Id.* at 1258–59.

<sup>5</sup> *American Professional*, 108 F.3d at 1153.

<sup>6</sup> *McCabe*, 2008 WL 2437739, at \*6.

<sup>7</sup> *Universal Analytics*, 914 F.2d at 1258.

<sup>8</sup> See *Natsource L.L.C. v. GFI Group, Inc.*, 332 F. Supp. 2d 626 (S.D.N.Y. 2004). “While the hiring of [a competitor’s] employees alone generally cannot give rise to antitrust liability, the hiring of a competitor’s employees in conjunction with other wrongful acts . . . can constitute anticompetitive conduct in violation of the Sherman Act.” *Id.* at 631.

<sup>9</sup> Franklin M. Fisher, *The IBM and Microsoft Cases: What’s the Difference?*, 90 AM. ECON. REV. (PAPERS & PROC.) 180–83 (2000).

<sup>10</sup> *Universal Analytics*, 914 F.2d at 1258.

to make our argument.<sup>11</sup> This case study is particularly revealing because, unlike most litigated matters, internal company documents and deposition testimonies from plaintiff and defendant firm witnesses were not designated confidential. Therefore, we are able to illuminate the bases for the firms' internal business decisions in great detail. These decisions reveal the companies' intentions in ways not normally observable by antitrust scholars.

In addition, counsel for the defendant pursued a novel legal defense. In response to plaintiff's attempted monopolization claim, defendant asserted a failing plaintiff firm defense. That is, defendant asserted that if the plaintiff were not financially viable or if it were going out of business, irrespective of any actions by defendant, then the defendant could not have engaged in any anticompetitive conduct.<sup>12</sup> We also analyze the economic implications of this novel legal defense to a Sherman Act section 2 attempted monopolization claim.

The remainder of this article is organized as follows. Section II describes the specifics of the ambulance services industry and the parties to the case. Section III examines the appropriate market definition in the product and geographic dimensions, as well as any barriers to entry. Section IV discusses actions taken by defendant Rural/Metro and its competitive effects in the relevant market, which formed the basis for plaintiff's predatory-hiring claim. Section V presents an economic analysis of defendant's failing plaintiff firm defense in an attempted monopolization case. Section VI summarizes our conclusions.

## II. OVERVIEW OF THE AMBULANCE SERVICE INDUSTRY AND THE PARTIES

### *A. The Ambulance Services Industry*

The ambulance services industry consists of firms that provide emergency and non-emergency ambulance services.<sup>13</sup> Emergency ambulance services include "the dispatch of ambulances equipped with life support equipment and staffed with paramedics and/or emergency medical technicians, or EMTs, to provide immediate medical care to injured or ill patients."<sup>14</sup> Non-emergency services include sending ambulances, staffed with paramedics, EMTs, or both,

---

<sup>11</sup> Compl., *ICare-EMS, Inc. v. Rural/Metro Corp.*, 2012 WL 2343164 (E.D. Tenn. June 20, 2012) (No. 1:11-CV-45), a case that was litigated in the United States District Court for the Eastern District of Tennessee at Chattanooga. The authors (Braun and Williams) served as counsel and expert antitrust economist, respectively, for the plaintiff.

<sup>12</sup> Supplemental Brief in Support of Defendant's Motion in Limine to Exclude the Testimony of Dr. Michael A. Williams at 8, *ICare-EMS, Inc.*, 2012 WL 2343164 (No. 1:11-CV-45).

<sup>13</sup> Emergency Med. Servs. Corp., Annual Report (Form 10-K), 6 (Feb. 17, 2011).

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

to transfer patients between healthcare facilities or between facilities and patient residences.<sup>15</sup> Annual expenditures for ambulance services in the United States total approximately \$14 billion.<sup>16</sup> American Medical Response (AMR) and Rural/Metro, the only national providers in the U.S.,<sup>17</sup> are the two leading ambulance service firms in the United States in terms of revenue.<sup>18</sup> The ambulance services industry is in “the growth phase of its life cycle.”<sup>19</sup> From 2008 to 2017, U.S. ambulance service industry revenues are expected to increase at an average annual rate of 7.58%, exceeding the projected 2.1% annual growth rate for the U.S. Gross Domestic Product.<sup>20</sup> The driving forces behind strong industry growth are (1) an aging population that requires more emergency healthcare services;<sup>21</sup> (2) the outsourcing of ambulance services by municipalities and hospitals;<sup>22</sup> and (3) stable reimbursement for ambulance services.<sup>23</sup> In addition, “[d]emand for non-emergency services is also positively affected by an increase in the use of outpatient services and home care, which results in an increase in demand for medical transport between various care locations.”<sup>24</sup>

Ambulance services are provided by both private companies and local government agencies, such as public fire departments.<sup>25</sup> As shown in Table 1, government agencies and private ambulance service providers receive fifty-four percent and thirty-four percent respectively, of U.S. ambulance services expenditures.<sup>26</sup> Generally, private ambulance companies have superior equipment compared to public providers and operate at lower cost.<sup>27</sup> According to one report: “Seventy percent of private providers have defibrillation devices

---

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

<sup>16</sup> Rural/Metro Corp., Annual Report (Form 10-K), 5 (Sept. 8, 2010) (hereinafter “Rural/Metro Annual Report”).

<sup>17</sup> Rural/Metro Corp., *Results as of FY11 Second Quarter Ended 12/31/10*, INVESTOR PRESENTATION, (hereinafter “Rural/Metro Investor Presentation”) [http://files.shareholder.com/downloads/RURL/0x0x447136/dd1c7406-7091-42ac-aae780835845220c/2Q11\\_Investor\\_Presentation.pdf](http://files.shareholder.com/downloads/RURL/0x0x447136/dd1c7406-7091-42ac-aae780835845220c/2Q11_Investor_Presentation.pdf); *see also* Emergency Med. Servs. Corp., *supra* note 13, at 15.

<sup>18</sup> *Ambulance Services Industry Overview*, HOOVERS, <http://www.hoovers.com/industry/ambulance-services/1805-1.html> (last visited Sept. 22, 2013).

<sup>19</sup> IBISWORLD, *AMBULANCE SERVICES IN THE US: MARKET RESEARCH REPORT (2012)* (on file with authors), at 13.

<sup>20</sup> *Id.*, at 13.

<sup>21</sup> *Id.*, at 13.

<sup>22</sup> Rural/Metro Investor Presentation, *supra* note 17, at 7.

<sup>23</sup> *Id.*

<sup>24</sup> IBISWORLD, *supra* note 19, at 13.

<sup>25</sup> Erwin A. Blackstone et al., *The Economics of Emergency Response*, 40 POLICY SCIENCES 313 (2007).

<sup>26</sup> Rural/Metro Investor Presentation, *supra* note 17, at 7.

<sup>27</sup> *Id.*

for heart attacks compared to only 48% of public ambulances. Further, 48% of ambulance companies use automatic vehicle locators compared to 20% of city agencies.”<sup>28</sup>

Table 1. 2010 U.S. Ambulance Expenditure Share by Type of Provider

Provider	Share
Government	54%
Private	34%
Hospital	5%
Public Utility	3%
Other	4%

Source: Results as of FY11 Second Quarter Ended 12/31/10, Investor Presentation, Rural/Metro Corporation, p. 7.

---

<sup>28</sup> *Id.* (citing Robin A. Johnson, *Ambulance Wars*, MICH. PRIVATIZATION REP., Winter 2002, at 12).

Table 2 provides a comparison of average emergency and non-emergency transport rates nationwide. Basic Life Support (BLS)<sup>29</sup> service is less expensive than Advanced Life Support (ALS)<sup>30</sup> service, and emergency transport is more expensive than non-emergency transport.<sup>31</sup> Emergency ambulance services are provided primarily through long-term contracts with communities and government agencies.<sup>32</sup> Non-emergency ambulance services are provided primarily by private providers through non-exclusive contracts with healthcare facilities, managed care companies, and insurance companies.<sup>33</sup>

Table 2. Average Nationwide Emergency and Non-Emergency Transportation Rates

Type	Emergency Transport	Non-Emergency Transport
BLS	\$654.58	\$603.14
ALS	\$821.34 - \$875.26	\$794.77

Source: 2010 Journal of Emergency Medical Services 200-City Survey, February 2011, at 42.

### *B. The Parties: Rural/Metro and ICare*

Founded in 1948 and one of the largest ambulance companies in North America, Rural/Metro provides ambulance services and transportation services to more than one million individuals annually in twenty states and more than 440 communities.<sup>34</sup> For the fiscal year ended June 30, 2010, Rural/Metro

<sup>29</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-07-383, AMBULANCE PROVIDERS, COSTS AND EXPECTED MEDICARE MARGINS VARY GREATLY, n.17 (2007). "BLS services include basic, noninvasive interventions to reduce morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies." *Id.*

<sup>30</sup> *Id.* at note 18. "ALS services include advanced, invasive, and pharmacological interventions to reduce morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies." *Id.*

<sup>31</sup> *Id.* at 21; see also IBISWorld, *supra* note 19, at 15-16.

<sup>32</sup> Emergency Med. Servs. Corp., *supra* note 13, at 6.

<sup>33</sup> Rural/Metro Annual Report, *supra* note 16, at 5; see also Emergency Med. Servs. Corp., *supra* note 13, at 6.

<sup>34</sup> Rural/Metro Annual Report, *supra* note 16, at 4.



generated net revenues of \$530.8 million.<sup>35</sup> Formed in December 2009<sup>36</sup> from the purchase of Med-Trans' assets in bankruptcy,<sup>37</sup> ICare-EMS, Inc. ("ICare") was a North Carolina corporation that provided emergency medical and transportation services in McMinn and Polk counties in Tennessee.<sup>38</sup> In 2010, ICare generated revenues of \$8 million.<sup>39</sup>

### III. MARKET DEFINITION

Antitrust market definition is a tool for identifying markets that must be examined in order to analyze structurally the ability of a firm or firms to exercise substantial market power or, equivalently, monopoly power.<sup>40</sup> Antitrust economists generally equate the term "substantial market power" with the term "monopoly power." Similarly, antitrust economists generally equate the terms "high degree of market power," "significant market power," or "considerable market power" with "monopoly power."<sup>41</sup>

The goal of market definition is to define a product and an associated geographic area in which a hypothetical monopolist would profitably exercise substantial market power.<sup>42</sup> Substantial market power is the ability of a firm to

---

<sup>35</sup> *Id.*

<sup>36</sup> Walker Dep. at 17:22–18:2, 47:11–47:15, ICare-EMS, Inc. v. Rural/Metro Corp., 2012 WL 2343164 (E.D. Tenn. June 20, 2012) (No. 1:11–CV–45) (on file with authors).

<sup>37</sup> *Id.* at 46:20–51:16.

<sup>38</sup> Compl., *supra* note 11, at 2-3.

<sup>39</sup> Compl., *supra* note 11, at 2.

<sup>40</sup> See, e.g., Gregory J. Werden, *Four Suggestions on Market Delineation*, 37 ANTITRUST BULL. 107 (1992), at 108.

<sup>41</sup> See Richard Schmalensee, *Standards for Dominant Firm Conduct: What Can Economics Contribute?*, in THE ECONOMICS OF MARKET DOMINANCE 61, at 62 (D. Hay and J. Vickers, eds., 1985) ("The meanings attached to 'dominant firm' and 'monopoly' in antitrust are broader than the definitions of those terms in economic theory. A 'dominant firm' in economic theory is generally a single large seller facing many, small, price-taking rivals, while a 'monopoly' is the only seller of some good or service. In antitrust, both terms are generally used to refer to a seller that is able to exercise substantial market power (or, equivalently, monopoly power) unilaterally, without the need for collusive arrangements."); see also Richard G. Price, *Market Power and Monopoly Power in Antitrust Analysis*, 75 CORNELL LAW REV. 190, 190 (1989) ("Courts, legal scholars, and economists define market power as the ability to raise prices above the competitive market level for a period of time long enough to make doing so profitable. Legal scholars and economists generally regard a substantial amount of market power as monopoly power."); Daniel L. Rubinfeld, *Antitrust Enforcement in Dynamic Network Industries*, 43 ANTITRUST BULL. 859, 860 (1998) ("I believe it vital that while being appropriately cautious about criticizing aggressive procompetitive behavior, the antitrust authorities make every effort to insure that dominant incumbent firms with monopoly power (firms with the ability to raise prices above and/or reduce quality below competitive levels and/or to exclude competitors) not use their substantial market power to harm innovation, to retard technological progress, and ultimately to harm consumers.").

<sup>42</sup> Werden, *supra* note 40, at 108.

“raise prices above and/or reduce quality below competitive levels and/or to exclude competitors.”<sup>43</sup> Consistent with this approach, the U.S. Department of Justice (DOJ) and Federal Trade Commission (FTC) “Horizontal Merger Guidelines” define an antitrust market as follows:

The Agencies employ the hypothetical monopolist test to evaluate whether groups of products in candidate markets are sufficiently broad to constitute relevant antitrust markets. The Agencies use the hypothetical monopolist test to identify a set of products that are reasonably interchangeable with a product sold by one of the merging firms.

The hypothetical monopolist test requires that a product market contain enough substitute products so that it could be subject to post-merger exercise of market power significantly exceeding that existing absent the merger. Specifically, the test requires that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products (“hypothetical monopolist”) likely would impose at least a small but significant and non-transitory increase in price (“SSNIP”) on at least one product in the market, including at least one product sold by one of the merging firms. For the purpose of analyzing this issue, the terms of sale of products outside the candidate market are held constant. The SSNIP is employed solely as a methodological tool for performing the hypothetical monopolist test; it is not a tolerance level for price increases resulting from a merger.<sup>44</sup>

These market definition principles have been summarized by Dr. Gregory Werden:

Market delineation in antitrust is a means to an end rather than an end in itself. Markets are tools used to aid in the assessment of market power-related issues. The best tool for any task is one designed to perform it. A market delineated for one purpose may be not any more suitable for another than a dental drill is for coal mining or a mining drill for dentistry. Assuring that markets are suitable for the purposes to which they are put requires that a preliminary step be taken before market delineation. This step is the identification of who might exercise market power, against whom it might be exercised, and how it might be exercised.<sup>45</sup>

In the current context, Dr. Werden’s preliminary step is taken by asking “who might exercise market power”—Rural/Metro; “against whom it might be exercised”—buyers of ambulance services; and “how it might be exercised”—through predatory hiring.

---

<sup>43</sup> Rubinfeld, *supra* note 41, at 860.

<sup>44</sup> U.S. DEP’T OF JUSTICE AND FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES § 4.1.1 (rev. Aug. 19, 2010) [hereinafter HORIZONTAL MERGER GUIDELINES] (footnote omitted).

<sup>45</sup> Werden, *supra* note 40, at 108.

### A. Antitrust Product Market

We review the economic evidence in order to determine the possible existence of other products or services that are reasonably interchangeable<sup>46</sup> with ambulance services — that is, economic evidence that would be considered as “practical indicia as industry or public recognition”<sup>47</sup> of such reasonable interchangeability. In this regard, economists have performed a number of peer-reviewed studies of the elasticity of demand for ambulance services. In a study of the demand for ambulance services in Los Angeles, Aldrich et al.<sup>48</sup> report the following percentage changes in the demand for ambulance services in the 1964–1967 time period: (1) an increase of twenty-three percent from 1964 to 1965; (2) an increase of eleven percent from 1965 to 1966; and (3) a decrease of one point seven percent from 1966 to 1967.<sup>49</sup> They note there was no charge for ambulance services from 1964 to the second half of 1966, and during the last months of 1966, a fee of \$15 was instituted for cases where the victim was transported to the hospital.<sup>50</sup> Collection of this fee began in 1967.<sup>51</sup>

We use the data reported in Aldrich et al. to estimate the arc elasticity of demand for ambulance services in Los Angeles for the 1966–1967 time period.<sup>52</sup> If the quantity of ambulance services demanded in 1964 is  $q_1$ , then the quantity of ambulance services demanded in 1966 equals  $1.3653q_1$ , and the quantity demanded in 1967 equals  $1.3421q_1$ .<sup>53</sup> As noted, the price of ambulance services increased from \$0 in 1966 to \$15 in 1967.<sup>54</sup> Using the midpoint formula for arc elasticity,<sup>55</sup> the estimated value of the elasticity of demand for ambulance services equals  $-0.009$ , showing that the demand for ambulance services is

<sup>46</sup> See, e.g., *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

<sup>47</sup> *Id.* at 325.

<sup>48</sup> C.A. Aldrich, J.C. Hisserich & L.B. Lave, *An Analysis of the Demand for Emergency Ambulance Service in an Urban Area*, 61 AM. J. PUB. HEALTH 1156 (1971).

<sup>49</sup> *Id.* at 1168.

<sup>50</sup> *Id.* at 1163.

<sup>51</sup> *Id.* at 1163.

<sup>52</sup> See, e.g., ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* (4th ed. 1997), at 117-119.

<sup>53</sup> The quantities of ambulance service demanded in 1966 and 1967 are derived in the following way. Let  $q_2$ ,  $q_3$ , and  $q_4$  denote the quantities of ambulance service demanded in 1965, 1966, and 1967, respectively. Then,  $q_2 = q_1 + (23 \times q_1 / 100)$ ,  $q_3 = q_2 + (11 \times q_2 / 100)$ , and  $q_4 = q_3 - (1.7 \times q_3 / 100)$ . Substituting for  $q_2$  in  $q_3$ , and for  $q_3$  in  $q_4$ , it follows that  $q_3 = 1.3653q_1$  and  $q_4 = 1.3421q_1$ .

<sup>54</sup> Aldrich, *supra* note 48, at 1163.

<sup>55</sup> See PINDYCK & RUBINFELD, *supra* note 52, at 119. Suppose that the change in quantity is  $\Delta Q$ , the change in price is  $\Delta P$ , the average of the initial and final quantities is  $Q_{av}$ , and the average of the initial and final prices is  $P_{av}$ . *Id.* Then, the midpoint formula for arc elasticity states that the arc elasticity equals  $(\Delta Q / \Delta P)(P_{av} / Q_{av})$ . *Id.*

highly inelastic.<sup>56</sup> In particular, this demand elasticity is more than 100 times smaller than the critical demand elasticity required in order for ambulance services to constitute an antitrust market according to the DOJ/FTC hypothetical monopolist test.<sup>57</sup>

In the context of the demand for ambulance services in rural areas, Daberkow,<sup>58</sup> and Daberkow and King<sup>59</sup> study the demand for ambulance services in rural northern California. These peer-reviewed studies do not econometrically estimate the elasticity of demand for ambulance services, but they use a demand elasticity of zero (i.e., perfectly inelastic) in their mathematical models.<sup>60</sup> Similarly, Lakshmanan et al. state: “Note that demand for these [emergency ambulance] service trips is (almost) price inelastic: the willingness to pay for it is very high, so that for the relevant price ranges of transport costs the demand can be considered as fixed.”<sup>61</sup> This peer-reviewed study does not econometrically estimate the elasticity of demand for ambulance services, but states that the demand elasticity is almost zero. These studies provide “practical indicia as industry or public recognition” that the demand elasticity for ambulance services is inelastic.<sup>62</sup>

Similarly, Ohshige et al.<sup>63</sup> estimate the demand elasticity for ambulance services in Yokohama, Japan. They use logistic regression to analyze survey data<sup>64</sup> and find that the demand elasticity for ambulance services in Yokohama is inelastic with respect to price<sup>65</sup> because the coefficients of the price variable were zero for both serious and non-serious situations.<sup>66</sup> The authors conclude: “The demand curve for ambulance service must be almost vertical in the price

---

<sup>56</sup> See PINDYCK & RUBINFELD, *supra* note 52, at 33-34.

<sup>57</sup> See, e.g., Gregory J. Werden, *Demand Elasticities in Antitrust Analysis*, 66 ANTITRUST L. J. 363, 390 (1998).

<sup>58</sup> S.G. Daberkow, *Location and Cost of Ambulances Serving a Rural Area*, 12(3) HEALTH SERVICES RES. 299, 299-311. (1977).

<sup>59</sup> S.G. Daberkow & G.A. King, *Response Time and the Location of Emergency Medical Facilities in Rural Areas: A Case Study*, 59 AM. J. OF AGRIC. ECON. 467 (1977).

<sup>60</sup> Daberkow, *supra* note 58, at 303 and Daberkow & King, *supra* note 59, at 469.

<sup>61</sup> T.R. Lakshmanan et al., *Benefits and Costs of Transport: Classification, Methodologies and Policies*, 80 PAPERS IN REGIONAL SCI., 139, 151 (2001).

<sup>62</sup> *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

<sup>63</sup> Kenji Ohshige et al., *A Contingent Valuation Study of the Appropriate User Price for Ambulance Service*, 12 ACAD. EMERGENCY MED. 932, 936 (2005) [hereinafter “Ohshige et al. (2005)”].

<sup>64</sup> *Id.* at 933. The prices considered in the study are \$0 (free ambulance service), \$9.50, \$28.50, \$47.50, \$95.00, \$190.00, \$285.00, and \$475.00. *Id.* The highest price level was set at \$475 (¥50,000) “because the city’s allotment for regional ambulance service divided by the number of patients transported by ambulances was \$427.50 in 2003.” *Id.*

<sup>65</sup> *Id.* at 936.

<sup>66</sup> *Id.* at 935.

range presented in this study, especially when persons face a serious situation. This probably stems from the fact that the ambulance service has no close substitutes.”<sup>67</sup> In sum, the economic evidence is clear that ambulance service constitutes a relevant antitrust product market.

Moreover, in its 10-K filings with the Securities and Exchange Commission (SEC), Rural/Metro identifies as its competitors for emergency services as other ambulance companies, such as American Medical Response, fire departments offering ambulance services, and hospitals and other health care organizations.<sup>68</sup> Rural/Metro does not identify owners of private automobiles, buses, taxis, or helicopters as competitors.<sup>69</sup> Since the SEC requires companies to make full disclosures regarding risks posed by competitors, Rural/Metro has a powerful economic incentive to fully disclose all the service providers with which it competes. The SEC Form 10-Ks of Rural/Metro also provide “practical indicia as industry or public recognition”<sup>70</sup> that ambulance service is a relevant antitrust product market and services provided by automobiles, buses, taxis, and helicopters are not reasonably interchangeable with ambulance service.<sup>71</sup>

### *B. Antitrust Geographic Market*

A relevant antitrust geographic market has been defined as “the market area in which the seller operates, and to which the purchaser can practicably turn for supplies.”<sup>72</sup> A relevant geographic market has been said to “correspond to

---

<sup>67</sup> *Id.* at 936. See also Chihiro Kawakami et al., *Influence of Socioeconomic Factors on Medically Unnecessary Ambulance Calls*, 7 BMC HEALTH SERVICES RES. 120 (2007). “The results of probit regression modeling for estimating the impact of factors likely to influence the decision to call an ambulance are shown in Table 3. The marginal effect of price was 0.00 for Scenarios 1, 2, and 3; thus, a downward effect of price was not observed.” *Id.* at 123.

<sup>68</sup> Rural/Metro Annual Report, *supra* note 16, at 11; Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 9, 2009); Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 15, 2008); Rural/Metro Corp., Annual Report (Form 10-K) (Nov. 14, 2007); Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 22, 2006); Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 28, 2005); Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 28, 2004); Rural/Metro Corp., Annual Report (Form 10-K) (Oct. 14, 2003); Rural/Metro Corp., Annual Report (Form 10-K) (Oct. 9, 2002); Rural/Metro Corp., Annual Report (Form 10-K) (Oct. 15, 2001); Rural/Metro Corp., Annual Report (Form 10-K405) (Sept. 28, 2000); Rural/Metro Corp., Annual Report (Form 10-K405) (Sept. 27, 1999); Rural/Metro Corp., Annual Report (Form 10-K) (Sept. 29, 1998).

<sup>69</sup> *Id.*

<sup>70</sup> *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

<sup>71</sup> In 2011, Rural/Metro was acquired by the private equity firm Warburg Pincus. See Evelyn M. Rusli, *Warburg Buys Rural/Metro*, N.Y. TIMES (Mar. 28, 2011, 10:11 AM), <http://dealbook.nytimes.com/2011/03/28/warburg-buys-ruralmetro/>.

<sup>72</sup> *Tampa Elec. Co. v. Nash. Coal Co.*, 365 U.S. 320, 327 (1961).

the commercial realities' of the industry and be economically significant."<sup>73</sup> These characterizations are consistent with the Horizontal Merger Guidelines.<sup>74</sup> In the present case, counsel for Rural/Metro stipulated that McMinn and Polk Counties each constitute separate relevant antitrust geographic markets.<sup>75</sup>

### *C. Antitrust Market*

Based on these findings, suppose that a hypothetical monopolist, not subject to price regulation, was the only present and future seller of ambulance services in McMinn County. Would that firm find it profitable to impose a SSNIP on the price of ambulance service? If the market demand elasticity for ambulance services is inelastic, as the evidence discussed above suggests, then a hypothetical monopolist would find it profitable to impose a SSNIP. This necessarily follows since a monopolist always finds it profitable to raise the price of its product or service if the demand elasticity at that price is inelastic.<sup>76</sup> Our conclusion, therefore, is that ambulance service in McMinn County constitutes a relevant antitrust market. Based on this analysis, the same conclusion follows for Polk County.

### *D. Antitrust Barriers to Entry*

There exist substantial antitrust barriers to entry in the relevant markets.<sup>77</sup> These include the need to recruit, train, and certify emergency medical technicians and paramedics as well as the need to recruit and train other skilled

---

<sup>73</sup> *Brown Shoe Co.*, 370 U.S. at 336–37 (quoting *American Crystal Sugar Co. v. Cuban-Am. Sugar Co.*, 152 F. Supp. 387, 398 (S.D.N.Y. 1957)).

<sup>74</sup> HORIZONTAL MERGER GUIDELINES, *supra* note 44, at §4.2.

<sup>75</sup> Letter from Tony R. Dalton to Richard J. Braun, Esq., 2 (Oct. 5, 2011) (on file with authors) (“Interrogatory No. 5: Rural/Metro will stipulate that McMinn County and Polk Counties are relevant geographic markets; to the extent those counties are part of Rural/Metro’s east Tennessee operations, Rural/Metro will stipulate that the Eastern District of Tennessee is a relevant geographic market as well.”).

<sup>76</sup> DENNIS WILLIAM CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 94 (4th ed. 2005) (“[A] monopoly never operates on the inelastic portion of its demand curve. If a monopoly were operating in the inelastic portion of its demand curve, it could increase its profits by raising its prices until it was operating in the elastic portion of its demand curve. In the inelastic portion of the demand curve, a 1 percent increase in the monopoly’s price causes the quantity sold to fall by less than 1 percent, so that revenues increase. With reduced output, however, the monopoly’s costs must fall, so that total profits must rise. Thus, if the monopoly is operating in the inelastic portion of the demand curve, it should keep increasing its price, obtaining ever more profits, until it is in the elastic portion of the demand curve.”)

<sup>77</sup> R. Preston McAfee, Hugo M. Mialon & Michael A. Williams, *What is a Barrier to Entry?*, 94 AM. ECON. REV. 461 (2004).

staff.<sup>78</sup> Specialized capital, e.g., in the form of different types of ambulances, is required.<sup>79</sup> Ambulance firms bear substantial litigation risks and are required to maintain significant automobile and medical professional liability insurance policies.<sup>80</sup> Indeed, in its answer to ICare's complaint, counsel for Rural/Metro admitted the presence of substantial barriers to entry into the provision of ambulance services.<sup>81</sup>

#### IV. RURAL/METRO'S ACTIONS AND THEIR COMPETITIVE EFFECTS

##### *A. Contingent Job Offers*

In December 2010, Rural/Metro made job offers to a number of ICare employees.<sup>82</sup> These job offers included a \$1,000 bonus, with \$500 paid immediately upon acceptance of the offer and \$500 to be paid if the individual were still employed by Rural/Metro after ninety days.<sup>83</sup> The job offers were "contingent on the fact that they [the individual currently employed by ICare] did not show up for their next crew assignment in order to qualify for the bonus."<sup>84</sup>

The contingent job offers made by Rural/Metro to a number of ICare's employees in McMinn and Polk Counties in December 2010 differed from Rural/Metro's and other ambulance companies' stated hiring policies. This is based upon the publicly available information on the hiring policies of First Call

---

<sup>78</sup> See, e.g., Contract between McMinn Cnty. and Am. Med. Response (March 28, 2012) (facsimile from McMinn County Director of Finance on file with authors).

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> See Rural/Metro Answer ¶ 7, *Jervis v. Rural/Metro Corp.* (Ariz. Super. Ct. April 14, 2011) (CV2011-052605).

<sup>82</sup> Walker Dep., *supra* note 36, at 124:6–132:4.

<sup>83</sup> *Id.*

<sup>84</sup> Walker Dep., *supra* note 36, at 124:24–125:2. See also E-mail from Mike Hahn, ICare, to Gary Walker, ICare (Dec. 6, 2010) (I-0201) ("On 6 Dec 2010 approximately 1800 hours I received a call from Tim Evans of Rural/Metro Ambulance Service. Mr. Evans offered me a signing bonus of \$1000 to quit ICare-EMS without notice. \$500 to be paid in check form before Christmas the remaining \$500 to be paid upon completion of 90 days employment at Rural/Metro Ambulance Service. I was to report to Rural/Metro McMinn Station for my next scheduled shift. I would be given further instructions upon arrival. The only condition to this offer was I had to accept it before my next shift due to start in less than 48 hours. I was also informed that this offer expired if I reported to my next ICare-EMS shift. Signed, Mike Hahn."); E-mail from David Greaves to Gary Walker (I-0202) (Dec. 6, 2010); E-mail from David Asbury to Gary Walker (Dec. 6, 2010) (I-0203); Facsimile from Tom Wilder to Gary Walker (Dec. 7, 2010) (I-0204); E-mail from Kristy Wilder to Gary Walker (Dec. 7, 2010) (I-0205); E-mail from Colby Eaton to Gary Walker (Dec. 7, 2010) (I-0206); RM000295 (on file with authors).

Ambulance Service,<sup>85</sup> McCormick Ambulance,<sup>86</sup> Medic One Medical Response,<sup>87</sup> and Rural/Metro.<sup>88</sup> The hiring policies described by these firms are not consistent with the contingent job offers made by Rural/Metro. For example, a number of the ICare employees who received contingent job offers from Rural/Metro had not undergone the extensive hiring review process described by ambulance companies on their websites before they received the contingent job offers.<sup>89</sup> The contingent offers were not made to ICare employees in a more distant county in which ICare's operations were unprofitable.<sup>90</sup>

*B. Effects of Rural/Metro's Contingent Job Offers on ICare's Provision of Ambulance Services in the Relevant Markets*

By December 6, 2010, Rural/Metro had made contingent job offers to most ICare employees.<sup>91</sup> By December 7, 2010, a number of ICare employees accepted Rural/Metro's contingent job offers and failed to show up for their shifts at ICare.<sup>92</sup> As a result, ICare faced the likelihood that it would not be able to properly staff its ambulances in McMinn County.<sup>93</sup> ICare's contract with McMinn County was a 911 contract; in order to maintain the contract, ICare had to guarantee that it could properly staff all of its ambulances.<sup>94</sup> If ICare could not properly staff its ambulances, McMinn County citizens' lives would be jeopardized.<sup>95</sup> Unable to guarantee staffing for all of its ambulances, on December 7, 2010, ICare submitted a resignation letter to McMinn County that

---

<sup>85</sup> See *Staff*, FIRST CALL AMBULANCE SERVICE, <http://www.firstcall-ambulance.com/staff.php> (last visited September 22, 2013).

<sup>86</sup> See *MCCORMICK AMBULANCE*, <http://www.mccormickambulance.com/newsite/newbuild/index.html> (last visited September 22, 2013).

<sup>87</sup> See *Difference Between Paramedics and EMT's*, MEDICONE MEDICAL RESPONSE, <http://mediconeresponse.com/difference.html> (last visited September 22, 2013).

<sup>88</sup> See *EMT Field Opportunities*, RURAL METRO CORPORATION, <http://www.ruralmetrocareers.com/job-opportunities/field-opportunities/emt> (last visited September 22, 2013).

<sup>89</sup> Huckaby Dep. at 156:16–165:10, *ICare-EMS, Inc. v. Rural/Metro Corp.*, 2012 WL 2343164 (E.D. Tenn. June 20, 2012) (No. 1:11–CV–45) (on file with authors).

<sup>90</sup> Webb Dep. at 44:2–9, *ICare-EMS, Inc. v. Rural/Metro Corp.*, 2012 WL 2343164 (E.D. Tenn. June 20, 2012) (No. 1:11–CV–45) (on file with authors).

<sup>91</sup> Walker Dep., *supra* note 36, at 124:6–132:4; Huckaby Dep., *supra* note 89, at 159:7–14, 160:9–19; I-201–I-206.

<sup>92</sup> Huckaby Dep., *supra* note 89, at 163:14–165:3; Walker Dep., *supra* note 36, at 127:12–23.

<sup>93</sup> Huckaby Dep., *supra* note 89, at 164:19–25, 170:1–20, 171:4–21; Walker Dep., *supra* note 36, at 127:7–128:6.

<sup>94</sup> Walker Dep., *supra* note 36, at 133:5–22.

<sup>95</sup> Huckaby Dep., *supra* note 89, at 163:4–10, 171:4–21.



ended ICare's 911 contract with McMinn County.<sup>96</sup> Rural/Metro replaced ICare as the emergency ambulance service provider in McMinn County. ICare also shut down its only remaining station in adjacent Polk County in December 2010.<sup>97</sup>

*C. An Economic Analysis of the Competitive Effects of Rural/Metro's Actions*

*1. ICare Ceases Operations in McMinn and Polk Counties*

Rural/Metro's contingent hiring actions were not profit maximizing but for the monopoly rents that the hiring actions created. But those hiring actions were profit maximizing inclusive of those monopoly rents. Rural/Metro's contingent job offers were not consistent with ambulance companies' stated hiring policies.<sup>98</sup> These policies generally describe a careful, detailed, thorough, and time-consuming personnel evaluation. Given the insurance risks borne by ambulance companies, such hiring policies make economic sense.<sup>99</sup> In contrast, Rural/Metro's contingent job offers were designed to prevent ICare from being able to operate profitably. Indeed, as discussed above, ICare ceased its operations in McMinn County approximately twenty-four hours after Rural/Metro made its contingent job offers.<sup>100</sup> ICare also shut down its only remaining station in adjacent Polk County in December 2010.<sup>101</sup>

Moreover, \$500 of Rural/Metro's bonus payment was not contingent on

---

<sup>96</sup> Walker Dep., *supra* note 36, at 137:13–142:16, Exs. 1a–1b; *see also* Huckaby Dep., *supra* note 89, at 165:10–166:17, 170:1–171:3.

<sup>97</sup> *ICare, Rural/Metro at Odds*, POLK COUNTY NEWS, (Dec. 23, 2010), [http://www.polknews.com/2010/12/23/Top\\_News/ICare,\\_Rural/Metro\\_at\\_odds/8705.html](http://www.polknews.com/2010/12/23/Top_News/ICare,_Rural/Metro_at_odds/8705.html).

<sup>98</sup> *Supra* notes 85–88.

<sup>99</sup> Rural/Metro Annual Report, *supra* note 16, at 25 (“In recent years, physicians, hospitals and other participants in the healthcare industry have become subject to an increasing number of lawsuits alleging medical malpractice and related legal theories such as negligent hiring, supervision and credentialing. Similarly, ambulance transport services may result in lawsuits concerning vehicle collisions and personal injuries, patient care incidents or mistreatment and employee job-related injuries. Some of these lawsuits may involve large claim amounts and substantial defense costs, which may not be covered by our insurance policies or for which we may not have established adequate reserves.”); Emergency Med. Servs. Corp., *supra* note 13, at 41 (“In recent years, physicians, hospitals and other participants in the healthcare industry have become subject to an increasing number of lawsuits alleging medical malpractice and related legal theories such as negligent hiring, supervision and credentialing. Similarly, ambulance transport services may result in lawsuits concerning vehicle collisions and personal injuries, patient care incidents or mistreatment and employee job-related injuries. Some of these lawsuits may involve large claim amounts and substantial defense costs.”).

<sup>100</sup> Walker Dep., *supra* note 36, at 137:13–142:16; Exhibit 1 (Letter of resignation of ICare from contract with McMinn County) (on file with authors).

<sup>101</sup> *ICare, Rural/Metro at Odds*, *supra* note 97.

any performance for Rural/Metro, and thus, could not affect its profitability directly. Instead, the \$500 employee bonus was contingent on employees' non-performance at a rival firm, *i.e.*, ICare.<sup>102</sup> Thus, because these bonus payments are not related to performance at Rural/Metro, they are, by definition, not profit maximizing but for their anticompetitive effect. Indeed, the action led to a direct reduction in the number of competitors.

## *2. Effect of Rural/Metro's Actions on a Subsequent Procurement Auction*

### *a. If ICare Would Have Bid in a Subsequent Procurement Auction*

One of the primary ways in which competition occurs in the ambulance industry is through bidding for the right to serve a given geographic area, *e.g.*, a county.<sup>103</sup> This approach has been described as follows:

When comparing private to public ambulance service, private companies perform at lower cost and use more sophisticated equipment and technology while some evidence suggests faster response time as well. This finding is consistent with the fact that firms operating in a competitive market are often more efficient than government monopolies. A solution often used by localities is to contract out service to private companies for a few years. Maintaining the contract requires meeting performance targets like response time. This solution introduces competition in price setting at bidding time. However, the possible lack of a sufficient number of companies bidding for the service and the granting of monopolistic power for the contract term raises some troublesome issues. Nevertheless, such a contract term provides an incentive to improve performance beyond the targets specified in the contract.<sup>104</sup>

Economists have studied the competitive effects of such "competition for the market." The following quotations describe, in general terms, relevant economic research on "competition for the market."

The government may use bidding to capture the monopoly profit from a private monopoly, as Chicago and San Francisco do to a large extent with private towing companies and many cities do when they grant monopoly rights to operate stores at airports. Alternatively, the government may require, as a condition of bidding, that the firm operate so as to increase welfare over the

---

<sup>102</sup> Walker Dep., *supra* note 36, at 124:16–125:2.

<sup>103</sup> Rural/Metro Annual Report, *supra* note 16, at 6.

<sup>104</sup> Erwin A. Blackstone et al., *supra* note 25, at 325.

monopoly level. For example, in deciding to whom to award the franchise, a government agency could consider not only the fee for the right to operate that a bidder will pay, but also the price that the bidder will charge consumers. If bidders are forced to charge these low prices, monopoly profits are eliminated (Demsetz 1968; Posner 1972; Baumol et al. 1982). That is, instead of awarding the franchise to the highest bidder for a lump-sum payment (which allows the government to capture the expected monopoly profits), the franchise is awarded to the firm that offers to produce in the manner that is best for consumers (see [www.aw-bc.com/carlton\\_perloff](http://www.aw-bc.com/carlton_perloff) “Cable Television”). A century ago, railroad franchises were awarded to firms offering to charge the lowest rates (Chadwick 1859).<sup>105</sup>

Demsetz (1968) argues that just because the market is a natural monopoly does not mean that regulation is required. Rather he suggested that if competition in the market is not possible or undesirable, as in the case of natural monopoly, replacing competition in the market with competition for the market might eliminate the necessity for regulation. Demsetz proposed that competition for the market could arise if the government auctioned off a monopoly franchise contract. The bids by firms would be the price at which they are willing to serve the market. The firm that bids the lower price would win the monopoly franchise and be awarded a contract to serve.<sup>106</sup>

In franchising schemes, competition for the market can occur ‘on paper’ without the need for anyone to incur irrecoverable (specific) investments. A franchise authority simply awards a franchise to the producer offering the lowest price for a given quality and quantity of product. The auction may be systematically repeated to ensure that consumers continue to obtain the best price.<sup>107</sup>

Contracting out . . . means opening up to competition a set of economic activities which were previously immune from it. Organizations are invited to submit bids for contracts to provide particular services to the client. The distinctive feature of contracting out is the element of ex-ante competition—competition for the market as opposed to competition in it. The market in this case is defined by the contract specification, and the bidding process resembles an auction. Other things being equal, the lowest-price tenderer would win the right to supply for the duration of the contract term. In this way the government is able to secure the provision of services at the lowest possible cost. With contracting out, the client retains a fair measure of control over the activities concerned, monitoring performance, imposing financial penalties, and replacing the contractor in cases of outright performance failure.<sup>108</sup>

---

<sup>105</sup> CARLTON & PERLOFF, *supra* note 76, at 694–95.

<sup>106</sup> JEFFREY CHURCH & ROGER WARE, *INDUSTRIAL ORGANIZATION: A STRATEGIC APPROACH* 761 (2000).

<sup>107</sup> Antony W. Dnes, *Franchising and Privatization*, in *STRATEGIC PUBLIC POLICY FOR THE PRIVATE SECTOR 6* (World Bank, Working Paper No. 47578, 1995).

<sup>108</sup> Simon Domberger & Paul Jensen, *Contracting Out by the Public Sector: Theory, Evidence, Prospects*, 13 *OXFORD REV. OF ECON. POLICY* 67 (1997).

After Rural/Metro replaced ICare in McMinn County, the County held an auction in March 2011 to select an ambulance company to be the exclusive 911 provider.<sup>109</sup> Economists call these “procurement auctions.”<sup>110</sup> Four companies bid: AMR, Lifeguard, Pro-Med EMS, and Rural/Metro.<sup>111</sup> Lifeguard’s bid was thrown out because the County determined that the firm was not qualified.<sup>112</sup> AMR’s bid was higher than Rural/Metro’s bid, but the County nevertheless selected AMR.<sup>113</sup> For all the reasons discussed above, Rural/Metro’s contingent job offers caused ICare to cease its operations in McMinn County.

Economists have conducted a large number of empirical studies on the effect of the number of bids on the price received by the winning (low-bid) seller in a procurement auction. Not surprisingly, the winning (low-bid) price received by sellers, such as ambulance companies selling their services to McMinn County, tends to fall as the number of bidders increases.<sup>114</sup> Similarly, the winning (high bid) prices paid by buyers, such as oil companies bidding on offshore oil tracts, tend to rise as the number of bidders increases. As one well-known study found:

An obvious and important result is the very significant positive effect of the number of bidders on buying price (negative effect on selling price), regardless of the specific index used. Here is a place where concentration clearly leads to higher selling prices (lower buying prices) in both theory and practice.<sup>115</sup>

In the context of oil companies bidding on off-shore oil tracts, economic research shows that winning bids tend to rise as the number of bidders increases: “Both the percentage of tracts that are drilled and the value of the social rent are increasing functions of the number of bidders, with both sequences being significantly higher on drainage tracts than on wildcat tracts.”<sup>116</sup> As one study summarizes: “There has been considerable work showing that high bids, no

---

<sup>109</sup> Webb Dep., *supra* note 90, at 114:25–116:1.

<sup>110</sup> R. Preston McAfee, & John McMillan, *Auctions and Bidding*, 25 JOURNAL OF ECONOMIC LITERATURE 699 (1987).

<sup>111</sup> Facsimile from McMinn Cnty. Dir. of Fin. (March 28, 2012) (on file with authors).

<sup>112</sup> Webb Dep., *supra* note 90, at 115:9-11.

<sup>113</sup> Webb Dep., *supra* note 90, at 115:13-23.

<sup>114</sup> R. Preston McAfee, & John McMillan, *Auctions and Bidding*, 25 JOURNAL OF ECONOMIC LITERATURE 699 (1987).

<sup>115</sup> Lance Brannman, J. Douglas Klein & Leonard W. Weiss, *The Price Effects of Increased Competition in Auction Markets*, 69 REV. OF ECON. AND STAT. 24 (1987); *see also* PAUL E. SENDAK, UNITED STATES DEP’T OF AGRIC., *TIMBER SALE VALUE AS A FUNCTION OF SALE CHARACTERISTICS AND NUMBER OF BIDDERS* (July 11, 1991) (showing that the winning bid on USDA Forest Service timber auctions rises in a statistically significant manner as the number of bidders increases).

<sup>116</sup> Kenneth Hendricks, Robert H. Porter & Bryan Boudreau, *Information, Returns, and Bidding Behavior in OCS Auctions: 1954-1969*, 35 J. INDUS. ECON. 517, 536 (1987).

matter what the auction method, increase with the number of bidders.”<sup>117</sup>

In a procurement auction, a firm bids a price above its estimated costs to allow itself an estimated profit from winning the contract.<sup>118</sup> The degree of this markup depends on the number of other bidding firms and the statistical distribution from which each firm’s cost is drawn.<sup>119</sup> If the firms are symmetric, i.e., their costs are drawn from the same statistical distribution, then the markup over costs is of the order  $1/N$ , where  $N$  is the number of bidders.<sup>120</sup> For example, if there are five bidders, a firm will, on average, bid twenty percent above its cost. But if the number of bidders falls to four, the firm will, on average, increase its bid to twenty-five percent above its cost. Thus, eliminating a competitor raises each firm’s bid, and so the winning bid (e.g., the price paid by a county for ambulance services) also rises. If the firm eliminated from the procurement auction has lower costs than the average of all bidding firms’ costs, then the effect on raising bids and prices will be greater.<sup>121</sup>

ICare’s absence from the McMinn County bidding process in March 2011 caused the expected winning (low bid) price paid by McMinn County to be higher than the price would have been had ICare not been forced to exit the market by Rural/Metro’s contingent job offers. Recall that ICare was the incumbent provider of emergency ambulance services in McMinn County and, therefore, would be expected to have superior information regarding the costs of providing such services in that county. Such an informational asymmetry would have yielded an advantage to ICare in the bidding process.<sup>122</sup> Moreover, the incumbent, ICare, had revealed itself to be the low-cost supplier as a consequence of the fact that ICare was the high bidder for the assets of Med-Trans, the previous incumbent in McMinn County.<sup>123</sup> Therefore, ICare likely would have been the low-cost bidder in the March 2011 auction had it remained viable. Removing ICare as an effective or unpredictable competitor would, therefore, have a more significant effect on the likely winning bid than removing a high-cost bidder. As a consequence of these factors, competition in the relevant market for ambulance service in McMinn County was adversely

---

<sup>117</sup> Robert G. Hansen, *Empirical Testing of Auction Theory*, 75 AM. ECON. REV. 156, 157 (1985).

<sup>118</sup> Roger B. Myerson, *Optimal Auction Design*, 6 MATHEMATICS OF OPERATIONS RES. 58 (1981).

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Id.*

<sup>123</sup> Walker Dep., *supra* note 36, at 34:3-10, 43:20-24, 46:20-22, 49:7-12, ICare-EMS, Inc. v. Rural/Metro Corp., 2012 WL 2343164 (E.D. Tenn. June 20, 2012) (No. 1:11-CV-45) (on file with authors).

affected.

As discussed above, Rural/Metro became the exclusive provider of emergency ambulance services in the areas of Polk County over which the Polk County commission has authority.<sup>124</sup> Rural/Metro obtained that right in a bidding process in which four or five firms bid, including Rural/Metro, ICare, Lifeguard, and one or two other companies.<sup>125</sup> Polk County has not conducted a bidding process since ICare exited the market for the provision of ambulance services in that county. For all the reasons discussed above, Rural/Metro's contingent job offers caused ICare to cease its operations in Polk County. Again, removing a firm that has historically been a relatively unpredictable or low-cost bidder would adversely affect competition by raising all bids and thus raising the price paid by Polk County.

*b. If ICare Would Not Have Bid in a Subsequent Procurement Auction*

Suppose that in the but-for world, ICare would have only served out some or all of the remainder of its contract with McMinn County after December 8, 2010 (i.e., the date it ceased operations in the county), but that ICare would not have bid in a subsequent procurement auction in McMinn County. In this case, Rural/Metro's actions would enable it to take over the McMinn County contract before it could have but for its contingent job offers. In this case, Rural/Metro would learn from its experience in serving as the incumbent ambulance service provider. Thus, Rural/Metro would be expected to have superior information regarding the costs of providing such services in that county, i.e., Rural/Metro would be an "informed bidder." Such an informational asymmetry would have yielded an advantage to Rural/Metro in the subsequent procurement auction.

An informed bidder lowers the county's surplus from contracting out the provision of ambulance service, i.e., it raises the price paid by the county. We provide a simple example for the case of a monopolist bidder to illustrate this point. Suppose that the county has a reservation value for ambulance service equal to  $x$ , such that  $0 \leq x \leq 100$ . A monopolist with a marginal cost of 0 whose bid in the procurement auction equals  $b$  wins the contract and receives a payment for the provision ambulance services equal to  $b$ , if  $b \leq x$ .

Ex ante, i.e., prior to bidding, according to an uninformed monopolist (who does not know the value of  $x$ ),  $x$  is a random variable distributed according

---

<sup>124</sup> See *Exclusive Contract Approved*, POLK COUNTY NEWS (May 19, 2010), [http://www.polknewsonline.com/2010/05/19/Top\\_News/Exclusive\\_contract\\_approved/7224.html](http://www.polknewsonline.com/2010/05/19/Top_News/Exclusive_contract_approved/7224.html); see also Letter from Tony R. Dalton to Gary Walker (Sept. 8, 2010) (on file with authors).

<sup>125</sup> Webb Dep., *supra* note 90, at 28:5-22 (on file with authors).

to the cumulative distribution function  $F$  and probability density function  $f$ . The ex ante expected profit of an uninformed monopolist equals  $(1 - F(b))b$ .<sup>126</sup> The monopolist chooses the optimal bid,  $b^*$  to maximize expected profit; therefore,  $b^*$  satisfies the equation  $b^* = (1 - F(b^*)) / f(b^*)$ .<sup>127</sup>

For example, if  $F$  is the uniform distribution,  $b$  equals 50.<sup>128</sup> In this case, if  $x > 50$ , then the county's surplus is  $x - 50$ : The county receives a positive surplus because the monopolist's bid of 50 is less than  $x$ , the amount that the county was willing to pay for ambulance service. If  $x \leq 50$ , then the county's surplus is zero because the monopolist does not obtain the contract and there is no sale. Thus, the county's surplus is  $(x - 50)$  if the contract is awarded to the monopolist. An informed monopolist, however, knows the value of  $x$ , and therefore submits a bid equal to  $x$ , thereby yielding a surplus of zero for the county. The county's expected surplus in this scenario is zero. For the case of the uniform distribution, therefore, the county's surplus is lower, on average, by 12.5 if the bidder is informed.<sup>129</sup>

By forcing ICare to exit and by operating the ICare contract, Rural/Metro obtained information about the market not available to outsiders. This means that in the but-for world, the procurement auction would consist of only "outsider bidders" without the private information. But because of Rural/Metro's actions, the auction was composed of one less "outside bidder" and one "inside bidder"—Rural/Metro. Consequently, the buyer (the county) obtains a lower expected surplus.<sup>130</sup> In other words, the county pays a higher

<sup>126</sup> The ex-ante expected profit of an uninformed monopolist equals  $(b - 0)$ , the payment received minus marginal cost, multiplied by  $(1 - F(b))$ , the probability that  $x$  is less than or equal to  $b$ . Therefore, the ex-ante expected profit equals  $(1 - F(b))b$ .

<sup>127</sup> The monopolist chooses the bid that maximizes expected profits  $(1 - F(b))b$ . The first order condition of this maximization problem, satisfied by the optimal bid  $b^*$ , is  $(1 - F(b^*)) - f(b^*)b^* = 0$ . Rearranging terms,  $b^* = (1 - F(b^*)) / f(b^*)$ .

<sup>128</sup> In this case,  $F(b^*) = b^*/100$ , and  $f(b^*) = 1/100$ . Substituting these terms in the equation  $b^* = (1 - F(b^*)) / f(b^*)$  yields  $b^* = (1 - (b^*/100)) / (1/100)$ , or  $b^* = 100 - b^*$ , or  $b^* = 50$ .

<sup>129</sup> For the case of the uniform distribution, the expected value of the county's surplus in the case of an uninformed bidder is calculated as follows. Let  $I(x)$  denote the indicator function that equals 1 whenever  $x > 50$  and equals 0 whenever  $x \leq 50$ . Then, the county's surplus as a function of its valuation  $x$  is the function  $S(x) = (x - 50)I(x)$ . The expected value of the county's surplus is the integral from 0 to 100 of the function  $(x - 50)I(x)f(x)$  with respect to  $x$ , which equals 12.5. With an informed bidder, the expected value of the county's surplus is zero. Therefore, on average, the county loses a surplus of  $(12.5 - 0)$ , or 12.5, if the bidder is informed.

<sup>130</sup> See Richard Engelbrecht-Wiggans, Paul R. Milgrom & Robert J. Weber, *Competitive Bidding and Proprietary Information*, 11 J. MATHEMATICAL ECON. 161 (1983). In a first-price, sealed-bid auction with  $N-1$  uninformed bidders and one informed bidder, only the informed bidder has positive expected profits. See Paul R. Milgrom & Robert J. Weber, *The Value of Information in a Sealed-Bid Auction*, 10 J. MATHEMATICAL ECON. 105 (1982). In an auction with only uninformed bidders, each bidder's expected profit equals zero. *Id.* Since the seller's revenue and bidders' profits add up to the value of object being sold, with an informed bidder, the seller's expected revenue is lower than the corresponding expected seller's revenue in an auction with only

expected price for ambulance service.

For these reasons, our conclusion is that Rural/Metro's contingent job offers were anticompetitive. An anticompetitive act by a single firm is an act that is not profit maximizing but for the monopoly rents the act creates or maintains, but that is profit maximizing inclusive of those monopoly rents.<sup>131</sup> Rural/Metro engaged in anticompetitive actions by making job offers to ICare employees contingent on those employees not being present for their next crew assignment, the effect of which was to cause an ICare employee who accepted the offer to be absent for their next scheduled ICare shift. In taking these anticompetitive actions, Rural/Metro attempted to acquire substantial market power or, equivalently, monopoly power in the relevant markets. Based on our economic analysis of the relevant antitrust markets and actual or likely changes in the structure of those markets, we conclude that competition in those markets likely had been, or would be, adversely affected. Thus, there existed a significant probability that Rural/Metro would acquire substantial market power or, equivalently, monopoly power in the relevant markets.

#### V. A FAILING PLAINTIFF FIRM DEFENSE IN A MONOPOLIZATION OR ATTEMPTED MONOPOLIZATION CASE

In a novel legal defense, counsel for defendant Rural/Metro asserted:

One of the fundamental flaws in [plaintiff expert's] Report and testimony was his refusal to acknowledge that if ICare was not financially viable or if it was going out of business irrespective of any actions by Rural Metro, then his conclusions about Rural Metro's supposed 'anticompetitive' actions would be invalid.<sup>132</sup>

Defendant's argument is that (1) if ICare were not financially viable or if it were going out of business irrespective of any actions by Rural/Metro and, thus, would not have bid in a subsequent procurement auction and (2) Rural/Metro's conduct constitutes monopolization or attempted monopolization, then (3) Rural/Metro should be absolved of any claimed Section 2 violation.<sup>133</sup>

We conducted extensive literature searches and reviewed fifteen different

---

uninformed bidders. *Id.*

<sup>131</sup> Fisher, *supra* note 9.

<sup>132</sup> See Supplemental Brief in Support of Defendant's Motion in Limine to Exclude the Testimony of Dr. Michael A. Williams, *supra* note 12, at 8.

<sup>133</sup> *Id.*



Industrial Organization textbooks<sup>134</sup> in order to determine whether there were any peer-reviewed economics articles or scholarly treatises that analyzed or endorsed a failing plaintiff firm defense in a monopolization or attempted monopolization antitrust case. We were unable to find any peer-reviewed economics articles or scholarly treatises that analyzed, much less endorsed, a failing plaintiff firm defense in a monopolization or attempted monopolization antitrust case.

Rural/Metro's failing plaintiff firm defense would create an economic incentive for firms to seek out financially weak companies and engage in anticompetitive actions in an attempt to monopolize a relevant market. Moreover, the firms incited to engage in such anticompetitive actions would have an incentive to ensure their actions drove the financially weak firms out of business. This follows because if a firm engaged in anticompetitive actions, but failed to drive the financially weak firm out of business, it could not use the failing plaintiff firm defense since the plaintiff firm would still be in operation. Allowing a failing plaintiff firm defense in a monopolization or attempted monopolization antitrust case would, from an economic perspective, harm competition and thereby reduce consumer welfare.

## VI. CONCLUSIONS

*ICare-EMS, Inc. v. Rural/Metro Corporation* illustrates how the public safety nature of a relevant market can enable a dominant firm to make

---

<sup>134</sup> These textbooks are as follows:

- Paul Belleflamme & Martin Peitz, *Industrial Organization: Markets and Strategies* (2010).  
Paolo Buccirossi, *Handbook of Antitrust Economics* (2008).  
Luis M. B. Cabral, *Introduction to Industrial Organization* (2000).  
Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization* (4th ed. 2004).  
Jeffrey Church & Roger Ware, *Industrial Organization: A Strategic Approach* (1999).  
John Lipczynski, John O.S. Wilson, & John Goddard, *Industrial Organization: Competition, Strategy, Policy* (3d ed. 2009).  
W. Kip Viscusi, Joseph E. Harrington, Jr., & John M. Vernon, *Economics of Regulation and Antitrust* (4th ed. 2005).  
David Jacobson & Bernadette Andreosso-O'Callaghan, *Industrial Economics and Organization: A European Perspective* (1996).  
Stephen Martin, *Advanced Industrial Economics* (2nd ed. 2002).  
Stephen Martin, *Industrial Organization in Context* (2010).  
Massimo Motta, *Competition Policy: Theory and Practice*, Cambridge (2004).  
Louis Phlips, *Applied Industrial Economics* (1998).  
Louis Phlips, *Competition Policy: A Game-Theoretic Perspective* (1995).  
Jean Tirole, *The Theory of Industrial Organization* (1988).  
Michael Waterson, *Economic Theory of the Industry* (1984).

predatory-hiring offers. The substantial expected costs of being unable to operate for even a small number of hours caused ICare to fail within twenty-four hours of its employees receiving hiring offers from Rural/Metro. The ability of dominant firms to take such profitable, anticompetitive actions calls for a more stringent legal standard to be applied in predatory-hiring cases. In particular, the present case should be considered in shaping a more stringent legal standard than that set forth by *Universal Analytics, ICare-EMS, Inc. v. Rural/Metro Corporation* shows that even when a dominant firm uses talent hired away from its competitors, that hiring can constitute predatory or exclusionary conduct in an attempted monopolization claim under Section 2 of the Sherman Act.