



## MEMORANDUM

From: AMC Staff

To: Commissioners

Date: December 1, 2006

Re: Antitrust and the New Economy Discussion Memorandum

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In the context of the “New Economy,” the Antitrust Modernization Commission (AMC) requested public comments in three specific areas: 1) antitrust analysis of industries in which innovation, intellectual property, and technological change are central features; 2) specific issues at the interface of intellectual property, innovation, and antitrust; and 3) examination of the reports on the patent system by the FTC and the National Academies’ of Sciences STEP Board. The Commission already has deliberated the second and third items. This memorandum provides background on responses to the Commission’s questions with respect to the first item.

For the first item, the Commission sought public comment on three questions:

1. Does antitrust doctrine focus on static analysis, and does this affect its application to dynamic industries?
2. What features, if any, of dynamic, innovation-driven industries pose distinctive problems for antitrust analysis, and what impact, if any, should those features have on the application of antitrust analysis to these industries?
3. Are different standards or benchmarks for market definition or market power appropriate when addressing dynamic, innovation-driven industries, for example, to reflect the fact that firms in such industries may depend on the opportunity to set prices above marginal costs to earn returns? Or, are existing antitrust

principles sufficiently flexible to accommodate the facts relevant to dynamic industries?<sup>1</sup>

The following is a summary of the comments and testimony relevant to those questions.

1. Static versus Dynamic Analyses

AMC witnesses and commenters pointed out the overriding importance of innovation in much of the economy—“innovation is king”<sup>2</sup>—since innovation accounts for the lion’s share of consumer welfare improvement.<sup>3</sup> As a result, to serve consumers, antitrust analysis must effectively account for effects on innovation and focus on dynamic issues.<sup>4</sup> Several witnesses emphasized that antitrust does, and articulated how antitrust should, focus on dynamic considerations:

- ▶ “[A]ntitrust doctrine does not focus on static analysis.”<sup>5</sup> However, “[a]ntitrust analysis in dynamic industries can be challenging when one needs to make reliable projections of future industry conditions . . . . [T]hese projections inevitably tend to be less reliable in highly dynamic industries than in more settled and stable industries.”<sup>6</sup>
- ▶ “The antitrust laws are not limited to static economic efficiency concerns and nothing prevents their application to dynamic industries.”<sup>7</sup>
- ▶ A traditional static focus is inadequate in many cases. For example, as the Supreme Court made clear over thirty years ago, “market shares are only ‘relevant

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<sup>1</sup> 70 Fed. Reg. 28,902, 28,906 (May 19, 2005).

<sup>2</sup> See Prepared Statement of M. Howard Morse, Before the Antitrust Modernization Commission, Hearing on Antitrust and the New Economy, at 5 (Nov. 8, 2005) (“Morse Statement”) (citing Richard Gilbert and Carl Shapiro).

<sup>3</sup> See Mergers—Substantive Issues Discussion Memorandum, at 34-35 (June 14, 2006).

<sup>4</sup> *Id.* at 37-39.

<sup>5</sup> Carl Shapiro, Antitrust, Innovation, and Intellectual Property, Testimony Before the Antitrust Modernization Commission, at 3-4 (Nov. 8, 2005) (“Shapiro Statement re: New Economy”).

<sup>6</sup> *Id.* at 5.

<sup>7</sup> Richard J. Gilbert, New Antitrust Laws for the “New Economy”?, Testimony Before the Antitrust Modernization Commission, at 4 (Nov. 8, 2005) (“Gilbert Statement”).

as prediction of future competitive strength.”<sup>8</sup> Current market shares may overstate or understate likely future competitive significance, and such factors must be taken into account to determine dynamic effects.<sup>9</sup>

- ▶ “Antitrust analysis that accords substantial and even potentially dispositive weight to such measures as static market share does not fit markets in which competition develops and shifts with exceptional speed . . . . Competitors can shift positions overnight after a change in underlying technologies gives one an unforeseen advantage over the others. Dominant shares are often fleeting—at least in the absence of active anticompetitive conduct.”<sup>10</sup>
- ▶ Enforcement agencies and parties should ground their assessments of future competitive effects “in the historical record, carefully identifying recent and emerging trends in technology, business strategies and capabilities, and other factors such as the expiration of patents or entry or exit by non-merging parties . . . . Modern merger analysis is far from static.”<sup>11</sup>
- ▶ “In such ‘innovative industries,’ antitrust must pay careful attention to the incentives and obstacles facing firms seeking to develop and commercialize new technologies, and antitrust must very explicitly recognize that market conditions, business strategies, and industry structure can be highly dynamic.”<sup>12</sup>
- ▶ “Parties should be permitted to demonstrate that a merger or other arrangement promotes innovation in their industry and that the increased incentive for innovation offsets any adverse static product market effects.”<sup>13</sup> At the same time, antitrust enforcers should recognize that, “in high-tech industries, at least, anticompetitive effects on innovation can have much greater impact than effects on price.”<sup>14</sup>
- ▶ “Further consideration should now be given to efficiencies that lead to more rapid or enhanced innovation, including development of new or improved products, given their potentially substantial impact.”<sup>15</sup>

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<sup>8</sup> Prepared Statement of M. Howard Morse, Before the Antitrust Modernization Commission, Hearing on Antitrust and the New Economy, at 3 (Nov. 8, 2005) (quoting *United States v. General Dynamics Corp.*, 415 U.S. 486, 498, 502, 510-11 (1974)) (“Morse Statement”).

<sup>9</sup> Morse Statement, at 3.

<sup>10</sup> Daniel Cooperman, Testimony Before the Antitrust Modernization Commission, at 10 (Nov. 8, 2005) (“Cooperman Statement”).

<sup>11</sup> Shapiro Statement re: New Economy, at 4.

<sup>12</sup> Shapiro Statement re: New Economy, at 2.

<sup>13</sup> Gilbert Statement, at 8.

<sup>14</sup> Morse Statement, at 5.

<sup>15</sup> More Statement, at 4.

Witnesses recognized the ongoing debate regarding the relationship between competition and innovation, but specified that antitrust can play an important role in promoting innovation.<sup>16</sup>

- ▶ “[M]ajor innovations often come from lean and hungry firms introducing disruptive technologies, hoping to topple current market leaders, rather than from dominant incumbents who profit greatly from the status quo . . . to promote technological progress we must prevent dominant firms from abusing their power to hold back smaller, innovative rivals who would overtake them.”<sup>17</sup>
- ▶ “Based on the totality of economic theory and empirical evidence, it is my view that a presumption that competition promotes innovation is warranted, however that presumption should be rebuttable.”<sup>18</sup>

## 2. Features of Dynamic, Innovation-Driven Industries

AMC witnesses and commentators generally found that antitrust enforcement is sufficiently flexible to take account of features of industries in the New Economy:

- ▶ “While the new economy has a number of distinct characteristics, antitrust enforcement is sufficiently flexible to account for the distinguishing features of the new economy and to preserve competition when it benefits consumers.”<sup>19</sup>
- ▶ “In my view, the fundamental principles of antitrust should be applicable to the ‘New Economy,’ but government enforcers and the courts should recognize that there are important characteristics of the high-tech sector that may impact the antitrust analysis.”<sup>20</sup>
- ▶ The federal antitrust laws “are flexible enough to work in industries that are constantly evolving through the introduction of new technology that alters the products and services available to consumers and the identity of present and likely future competitors.”<sup>21</sup>

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<sup>16</sup> See Comments of the Computer & Communications Industry Association to the AMC Working Group on the New Economy, at 1 (July 20, 2005) (“CCIA Comments”).

<sup>17</sup> Shapiro Statement re: New Economy, at 3.

<sup>18</sup> Gilbert Statement, at 8.

<sup>19</sup> Gilbert Statement, at 2.

<sup>20</sup> Morse Statement, at 6.

<sup>21</sup> Statement of James J. O’Connell on Behalf of the United States Department of Justice, Antitrust Modernization Commission Hearing on Antitrust and the New Economy, at 1 (Nov. 8, 2005) (“O’Connell Statement”).

- ▶ “[T]he same economic principles that have guided antitrust law and policy for the past century remain relevant and valid today. Nor does the rapid pace of technological progress in some industries itself imply that our core antitrust laws are outdated. To the contrary, innovation has been the driver of American economic growth since at least the passage of the Sherman Act in 1890. To believe that the basic economic forces now governing innovation, commercial success, and monopoly power are unprecedented is a dangerous conceit.”<sup>22</sup>
- ▶ “We recognize that there are specific characteristics of the New Economy that call for a modernization of the evaluation procedure, but we strongly reject the idea that New Economy industries deserve more lenient treatment under traditional antitrust doctrine . . . . Although the distinctive features of New Economy industries present certain challenges to antitrust enforcers, advancement in modern economics provides a useful framework from which to adequately address these new concerns.”<sup>23</sup>

Judge Posner has concluded that antitrust doctrine is sufficiently supple to handle the competitive issues posed by the New Economy, but has questioned whether the institutional side—enforcement agencies and courts—has the technical knowledge and requisite speed to deal with the issues posed in these complex, rapidly changing sectors.<sup>24</sup> Doubting the ability of antitrust enforcers to address potentially anticompetitive practices in the information technology industry (IT), Commenter Red Hat expressed a similar concern:

“The speed of development within IT industry is far outstripping the ability of antitrust regulators/enforcers to respond. The typical lifespan for software between major versions is 2-3 years. If antitrust enforcers take 5-6 years to reach a settlement or judgment, the accused will be 2-3 generations of software removed from that which was the focus of the initial charges.”<sup>25</sup>

AMC witnesses and commenters and others have specified particular industries and economic characteristics of those industries to which antitrust enforcers should pay special

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<sup>22</sup> Shapiro Statement re: New Economy, at 2.

<sup>23</sup> CCIA Comments, at 1.

<sup>24</sup> Richard A. Posner, *Antitrust in the New Economy*, 68 *Antitrust L.J.* 925, 925 (2001) (“Posner, *New Economy*”).

<sup>25</sup> Comments of Red Hat, at 1 (July 15, 2005).

attention. Various examples of “new economy industries.”<sup>26</sup> have been offered, including computers and software, internet-based businesses, pharmaceuticals, biotechnology, and telecommunications.<sup>27</sup> Judge Posner of the Seventh Circuit Court of Appeals focuses his discussion of the “New Economy” on three industries—the manufacture of computer software; the provision of services by Internet-based businesses; and the communication services and equipment that support the first two industries—because he believes those industries tend to share economic characteristics that “differ markedly from most of the ones in which antitrust doctrine developed, and particularly from the production and distribution of physical goods[.]”<sup>28</sup> He finds roughly six factors that characterize these industries:

- ▶ falling average costs (on a product, not firm, basis) over a broad range of output;
- ▶ relatively modest capital requirements;
- ▶ very high rates of innovation;
- ▶ quick and frequent entry and exit;
- ▶ economies of scale in consumption (also known as “network externalities”), which may require monopoly or interfirm cooperation in standard setting to realize; and
- ▶ a higher degree of vertical integration than in other industries, so that an unusually large number of firms have customer or supplier relationships with firms that are also their competitors.

Most AMC witnesses and commenters agreed it is useful to focus on key economic characteristics shared by industries in which innovation, intellectual property, and technological

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<sup>26</sup> See, e.g., Posner, *New Economy*, at 925.

<sup>27</sup> E.g., Gilbert Statement, at 4 (industries normally associated with the “new economy” include software, communications, computers, and semiconductors); John E. Osborn, U.S. Antitrust Modernization Commission, *Antitrust and the New Economy*, at 2 (Nov. 8, 2005) (discussing pharmaceutical and biotechnology industries as dynamic, innovation-driven industries) (“Osborn Statement”).

<sup>28</sup> Richard A. Posner, *Antitrust Law*, 245 (2d ed. 2001) (“Posner, *Antitrust Law*”).

change are important.<sup>29</sup> In addition, most agreed with Judge Posner that one or more (usually several) of the characteristics he identified did characterize such industries.<sup>30</sup> This is not to say that such characteristics uniquely characterize only “new economy” industries. As a Commissioner has pointed out, a number of old industries also display characteristics often ascribed to “New Economy” industries; he makes the case that antitrust has been dealing with these phenomena almost since its inception.<sup>31</sup> One commenter also pointed out that “many traditional old economy companies” have been transformed by the digital revolution.<sup>32</sup>

AMC witnesses and commenters generally agreed that the existence of these economic characteristics did not require special antitrust rules for new economy industries:

- ▶ “I also would caution against special antitrust enforcement rules for new economy industries. While dynamic, innovation-driven industries have a number of characteristics that challenge conventional approaches to antitrust enforcement, there is nothing in antitrust policy that prevents a sound analysis of competitive effects in the new economy.”<sup>33</sup>

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<sup>29</sup> Shapiro Statement re: New Economy, at 2 (criticizing the use of the term new economy, but “embrac[ing] the formulation” of the AMC study plan, “which focuses on the *economic characteristics* of certain industries”); see Gilbert Statement, at 2 (new economy has a number of distinct characteristics).

<sup>30</sup> E.g., Gilbert Statement, at 4-6 (noting large fixed costs (mostly R&D expenditures) and low marginal costs; network effects that give rise to demand-side scale economies and may result in “tipping” a market; valuable patents; standard setting; innovation competition); Morse Statement, at 6-8 (noting rapid pace of innovation; critical importance of intellectual property; large fixed costs, low marginal costs; presence of network effects; first mover advantages); Comments of Red Hat, at 1 (emphasizing rapid pace of innovation in software (e.g., product life cycles of 2-3 years); Shapiro Statement re: New Economy, at 5-6 (noting importance of collaboration among rivals and intellectual property rights; presence of switching costs, network effects, and other factors that can cause a market to “tip” toward one supplier or technology in a lasting manner; R&D efforts and high fixed/low marginal costs).

<sup>31</sup> Jonathan M. Jacobson, *Do We Need a “New Economy” Exception for Antitrust?*, 16 *Antitrust*, 89, 89 (Fall 2001).

<sup>32</sup> CCIA Comments, at 1.

<sup>33</sup> Antitrust Modernization Commission, Hearing on the New Economy, Transcript, at 22-23 (Nov. 8, 2005) (Gilbert) (“Trans.”).

- ▶ “‘Technology changes. Economic laws do not.’ Hence, a certain conservatism runs through my testimony here: the Commission should be wary of proposals to modify the antitrust laws, or their enforcement, based on claims that we are living in a ‘New Economy.’”<sup>34</sup>
- ▶ “[T]he broad language of the Sherman and Clayton Acts, the antitrust laws are sufficiently flexible to take innovation concerns into account.”<sup>35</sup>
- ▶ “Many of the topics that we’re here to discuss this morning carry with them the suggestion that new industries should perhaps be treated differently under the antitrust laws than old industries, or that at least they should not be subjected to the same analytical process, for example, during merger review. It should perhaps not surprise anyone here that the Antitrust Division does not share that view. . . . [The federal antitrust laws] are flexible enough, we believe, to work in all industries, including those that are constantly evolving through the introduction of new technologies.”<sup>36</sup>

### 3. Different Benchmarks for Market Definition or Market Power

AMC witnesses and commenters did not believe that different standards or benchmarks for market definition or market power were required in dynamic, innovation-driven industries. They emphasized that a price above marginal cost, by itself, does not suggest market power, and that firms with large fixed costs and low marginal costs may need to price significantly above marginal costs simply to earn a competitive return in the long run.<sup>37</sup>

- ▶ “No, different standards or benchmarks for market definition or market power for innovative industries are neither necessary nor desirable.”<sup>38</sup> “The key point to bear in mind here is that the competitive price can easily and significantly exceed marginal cost. Existing antitrust principles are sufficiently flexible to recognize that a gap between price and marginal cost, taken alone, does not imply the presence of true antitrust market power. However, the Commission might play a useful role by emphasizing these economic principles in order to help Courts

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<sup>34</sup> Shapiro Statement re: New Economy, at 2 (quoting Carl Shapiro and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* (1998)).

<sup>35</sup> Trans. at 20 (Morse).

<sup>36</sup> Trans. at 5-6 (O’Connell).

<sup>37</sup> E.g., Morse Statement, at 7; Gilbert Statement, at 9-10.

<sup>38</sup> Shapiro Statement re: New Economy, at 6.

improve the accuracy and sophistication of their antitrust analysis in innovative industries.”<sup>39</sup>

- ▶ “The standards or benchmarks for market definition or market power should be the same for all industries, although the conclusions certainly can depend on the importance of innovation and dynamic competition in the industry.”<sup>40</sup>
- ▶ “The relatively high gross margin in R&D-intensive industries [such as pharmaceuticals] does not mean that firms that spend more on R&D are more profitable—it does not even mean that R&D covers its costs. The lesson for antitrust analysis is that we should expect firms in R&D-intensive industries to have high gross margins, and high margins do not imply that these firms have monopoly power in the antitrust sense. These profits are a return to R&D and could evaporate overnight if new technological developments cause a firm’s current technology to become obsolete.”<sup>41</sup>
- ▶ “[M]any high-tech industries, dependent on intellectual property, incur large upfront fixed costs, and have relatively small marginal costs of production . . . . New investment will not occur in such industries unless firms anticipate earning a competitive return in the long run.”<sup>42</sup>

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<sup>39</sup> Shapiro Statement re: New Economy, at 7.

<sup>40</sup> Gilbert Statement, at 9.

<sup>41</sup> Gilbert Statement, at 10.

<sup>42</sup> Morse Statement, at 7.