INNOVATION AND ANTITRUST

Address by

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It is a great pleasure to appear before the Commonwealth Club. You have long been recognized as the foremost public affairs speakers' forum in our nation, and I am enormously honored to be here. Today, I would like to address a topic particularly relevant in the Bay area -- home to two of the greatest research universities in the world, the University of California at Berkeley and Stanford, and to hundreds, if not thousands, of high-tech companies. The world is envious and California makes this nation proud of the genius, drive, and products of those companies.

My subject is one often casually discussed and remarked upon, but, to my mind, not well enough understood -- the relationship between the technological innovation so central to our economy, on the one hand, and vigorous, but sound, antitrust enforcement, on the other.

From time to time, it is asserted that vigorous antitrust enforce- ment hurts innovation by preventing the concentration of assets that spurs innovation. Competitive research is

derided as duplicative and wasteful. Recently, the argument has been given an international flavor -- it is asserted that the firms of other nations succeed because they are allowed to engage in cartel activity and collaborative research denied to U.S. firms because of the antitrust laws. As a general proposition, I believe that those views are wrong and that innovation is not advanced by a policy of permitting cartel activity. Indeed, my core belief is that the U.S. economy today is the most dynamic, creates the most jobs, and produces the highest level of innovation precisely because we as a nation committed long ago to a policy of vigorous but sound antitrust enforcement. My thesis before you today, then, is that antitrust enforcement is as essential to innovation and economic growth in the 21st Century as it has been in the 20th -- and that vigorous but reasonable antitrust enforcement is a crucial component of the fight to keep America competitive in international and high-tech markets.

Before I explain these views, however, it is imperative that you have a clear understanding of how modern antitrust law is applied. I need not go back to the legislative histories of the Sherman and Clayton Acts to ascertain whether those laws originally reflected an animus against large corporations. If they did, that is simply no longer the case. Congress drafted the antitrust laws in sufficiently general terms to delegate to the courts the task of developing an antitrust jurisprudence that is consistent with contemporary concepts of economic efficiency and consumer welfare. And the courts and federal antitrust enforcement agencies have accepted that responsibility.

As a result, current antitrust law recognizes the economic concepts of economies of scale and scope. Thus, on particular facts, a merger that eliminates competition between significant rivals may nevertheless pass antitrust muster if the parties truly can demonstrate that the merger is necessary to achieve substantial efficiency that will enhance consumer welfare. In the same vein, it is now clearly true that antitrust typically does not treat as inherently suspect horizontal or vertical joint ventures designed to integrate substantial business assets. This is especially true with respect to those types of joint ventures that are most directly involved in innovation. Despite the fact that such joint ventures had rarely been challenged under the antitrust laws, in 1984 Congress took action to lessen what was perceived to be an inhibitory effect of antitrust enforcement by making it clear that research and development joint ventures were to be judged under a rule of reason test. Last year, Congress took similar action with respect to production joint ventures. Whatever may have been the case previously, the time has long since passed when legitimate joint or collaborative activity among rivals could be viewed as inherently suspect under our antitrust laws.

With this understanding of contemporary antitrust policy firmly in mind, let me return to the original issue posed: is enforcement of modern antitrust polices that recognize economies of scale and scope, as well as the risk reduction benefits of collaborative action, inconsistent with the promotion of innovation? Lest you be left in doubt, for me the answer squarely is "no."

The economist Joseph Schumpeter was one of the first to articulate a theory that firms with stable and substantial market power were the most likely to invest in innovation. In particular, he suggested that firms with substantial market power -- those that did not have to think in terms of short-range response to rivals -- were the most likely to invest in long-range research and development. While not implausible as a matter of theory, Schumpeter's thesis has been severely undercut by real world developments, as Professor F. M. Scherer's 1984 book, Innovation and Growth, demonstrated. There, Professor Scherer showed that the largest corporations accomplish less in producing innovation than smaller enterprises, as measured by R & D expenditures, once some threshhold points are passed.

Further, in a world driven by rapid changes in technology, other empirical evidence available to us now indicates that the firms that prosper are more likely to be those that face fierce rivalry in their home markets than the sheltered monopolists. In a very real sense, it seems, the fear of being left behind is more likely to spur innovation than the security bred of stable market power.

This subject is extensively dealt with in Professor Michael Porter's recently acclaimed work, The Competitive Advantage of Nations. Noting that the need for antitrust enforcement has been questioned because of the globalization of industries and the view that domestic firms must merge or closely collaborate to gain economies of scale, Professor Porter found such claims to be inconsistent with available empirical evidence in the ten nations that he and his colleagues at the Harvard Business School studied. Rejecting arguments for lenient merger and cartel policies, he states that

"in fact, creating a dominant domestic competitor rarely results in international competitive advantage. Firms that do not have to compete at home rarely succeed abroad. Economies of scale are best gained by selling globally, not through dominating the home market....." Id. at 662.

Observing that corporate managers often support lenient merger and collaboration policies because it is a "tempting way to raise short-term profits," Professor Porter views such policies as the path to national decline. Pointing to evidence that "active domestic rivalry is strongly associated with international success," he concludes that "a strong antitrust

policy, especially in the area of horizontal mergers, alliances and collusive behavior, is essential to the role of upgrading any economy. " Id. at 663.

Those of us who have spent our lives in antitrust were not surprised by Professor Porter's findings. The fundamental thesis of strong antitrust enforcement is that rivalry, not market power, fosters innovation and efficiency over the long run. For that reason, among others, this nation has committed its public policy for over a century to the view that antitrust enforcement promotes, rather than impedes, innovation. Innovation itself, of course, can and does take many forms. The term is applied to basic scientific breakthroughs, important commercial inventions, product modifications and new production techniques. All are important to society. Innovation, whether in the form of improved product quality and variety, or production efficiency that allows lower prices, is a powerful engine for enhanced consumer welfare. By prohibiting private restraints that impede entry or mute rivalry, antitrust seeks to create an economic environment in which the entrepreneurial initiative that is the hallmark of the U.S. economy can flourish, and opportunities for bringing innovations to market can continue to be exploited by the multitude of private actors in this freest of free market economies.

Acknowledging that an occasional natural monopoly may arise, and that enormous economies of scale may inevitably lead to few rivals in some markets, we remain skeptical about any general policy of eschewing rivalry in favor of collaborative research and development. This nation's experience teaches that innovation comes from unpredictable sources -- from individuals and small firms as well as giant conglomerates. And this diversity in the sources of innovation is not limited to the 19th and early 20th centuries, when change arguably occurred less rapidly.

If you compare the major firms in the computer and telecommunications industries in the 1950s, '60s, and '70s with the major firms today, you will see that rapid technological change can create opportunities for new entrants and individual achievement. It is not difficult to make a list of large U.S. firms who once possessed some degree of market power, only to fall back when confronted by more innovative rivals. It includes IBM, GM, big steel, major airlines, Citicorp, and you would undoubtedly think of additional examples. Happily, a number of those firms have demonstrated the ability to rebound, but their improved performance unquestionably was stimulated by the rivalry they have encountered.

The task of antitrust is not to prejudge winners but to make sure that private restraints do not narrow the potential sources of innovation. By preserving an economic climate that allows efficient sources of innovation to prosper, be they small or large, antitrust promotes

the economic and socio-political values that have been the backbone of the success of the American economy.

An effective antitrust enforcement program promotes innovation by, among other things, reducing barriers to entry. When antitrust enforcement is a reality, potential entrants have less reason to fear market exclusion by existing firms. Antitrust enforcement can also act to prevent horizontal or vertical mergers that create non-efficiency based advantages for incumbent market leaders. For these and other reasons, potential entrants are more likely to invest the capital and effort needed for innovation when they have a "fair" chance at success, that is, when they have a chance to compete on the economic merits of their products or services.

We have brought two major cases in recent months to guarantee exactly this result. The first was against Pilkington, a British company that has maintained a monopoly throughout the world over the past three decades in float glass technology, the lowest cost method of manufacturing float glass used for automobiles and buildings.

While Pilkington may well have achieved its monopoly position fair and square -- through patented innovations -- it later cemented and abused its float glass technology monopoly through unfair and unlawful means. Among other things, Pilkington entered into patent and know-how license agreements with its principal rivals, which discouraged the very firms most likely to develop and use their own innovations in float glass technology. Pilkington continued to enforce against those would-be competitors very restrictive license provisions to thwart competition long after its patents had expired. As a result, Pilkington's major competitors -- including such leading U.S. float glass manufacturers as PPG, Guardian and Ford -- were largely foreclosed from the important international float glass technology market, and consumers were deprived of the benefits of more efficient production techniques and higher quality glass.

In May, the Department reached a settlement and proposed consent decree now before the U.S. District Court for the District of Arizona, that will end Pilkington's unlawful practices and thus free up the market in world float glass technology. We estimate that the settlement will not only stimulate innovation in this industry, but will generate anywhere from $150 million to $1.25 billion in exports through the year 2000 of American goods and services used to build new float glass plants coming on stream throughout the world. The Pilkington case is a paradigm for how U.S. antitrust enforcement can foster innovation and open export markets previously closed by anticompetitive practices.

On July 15, the Department filed a Complaint against, and a proposed settlement with, Microsoft for engaging in practices that we believed stifled innovation in another technology market: the market for operating systems used in personal computers.

Based on an extensive investigation, the Complaint alleges that Microsoft had gained a dominant position in its market by marketing operating systems that the public clearly wanted; but, as in Pilkington, Microsoft then chose to employ various unlawful practices to cement its dominance and thwart innovation.

In particular, the Microsoft Complaint challenges a combination of provisions used by Microsoft in its license agreements with PC manufacturers -- "per processor" royalties that taxed competing operating systems, lengthy terms, and huge minimum commitments, strictly enforced -- that had the effect of locking competing operating systems out of the market. While impeding competitors' access to the PC manufacturing channel, the Complaint further alleges that Microsoft also tried to get developers of applications programs to sign non-disclosure agreements that would have had the effect of preventing them from writing programs for those competing operating systems.

Our proposed consent decree, now before the United States District Court in the District of Columbia, will end each and every one of these challenged practices. It will also prevent Microsoft from engaging in other practices, such as charging licensees on a lump sum basis or tying the sales of its operating systems to other products -- all practices that could produce anticompetitive effects similar to the unlawful practices in which Microsoft had previously engaged.

In short, the proposed Microsoft consent decree does precisely what the antitrust laws are designed to do: provide a level playing field so that all competitors have a fair shot at success on the merits.

Antitrust actions in previous Administrations have been central in promoting innovation and growth in the U.S. economy. The best, and most important example in U.S. history is the challenge and eventual breakup of AT&T -- still an ongoing saga in Congress and before the United States District Court for the District of Columbia.

Prior to the Antitrust Division's challenge in that lawsuit, most of the nation was served by an integrated monopolist that faced little or no rivalry in the various telecommunications markets in which it operated. The quality of service provided by that integrated monopolist was not terrible; indeed, it was considered to be good, at least when compared to that provided in other countries by their monopoly providers. However, consumer choice was hardly the hallmark of the integrated AT&T system. For the most part, improvements

appeared at a pace dictated by AT&T and its lengthy depreciation schedules, not by the needs of business or residential customers, and certainly not by competition.

The divestiture required in the Modified Final Judgment in U.S. v. AT&T separated the local telephone companies from AT&T's long-distance service and equipment manufacturing firms. The newly independent local phone companies were required to provide access to AT&T's long distance rivals that was functionally equivalent to that provided to AT&T. Other equipment manufacturers now had an opportunity to sell their wares on the basis of quality, cost and efficiency to the divested local operating companies, AT&T's emerging long distance rivals, and users of telecommunications services.

In terms of innovation, the results have been spectacular. Fiber optic cable was promoted by Corning to Sprint and MCI. Advantages over the older cable technology for certain purposes are sufficiently clear that it is now widely deployed in local as well as long distance phone companies. The advances in fiber optics triggered responsive unexpected improvement in coaxial cable, through digital compression and other techniques. At the same time, satellite and other wireless technologies have advanced to offer still more options. How will these technologies be deployed in the Information Superhighway of the future? In what proportions will they be used? Which will be dominant? Which will be complementary? Which will be rendered obsolete? Nobody can speak with certainty on such issues. But one thing is clear -- intelligent antitrust enforcement action served as a catalyst to technological innovation in telecommunications that is extraordinary by any measure. And the best technology is most likely to succeed in a competitive environment.

Antitrust has an important role in preserving the rivalry that spurs innovation. In addition to lowering barriers to entry, it can be used to prohibit collaborative conduct that is designed to, or has the effect of, retarding innovation. U.S. v. Automobile Manufacturers Assoc. Inc. (C.D. Cal. 1969), was a classic case of that type. The case, which was settled by consent decree, alleged that the major U.S. automobile producers entered into an agreement that required all members to grant royalty-free patent licenses to each other and to only take patent licenses from outsiders if all members could obtain the same license under the same terms. The effect of this agreement was to eliminate rivalry in pollution-abatement innovation. Since no one had to fear being left behind, the spur to innovate was blunted.

The Antitrust Division will continue to be alert to agreements designed to, or that have the effect of, retarding rivalry with respect to innovation, and will not hesitate to challenge them. At the same time, however, we offer a business review procedure that allows parties to obtain a statement of our enforcement intentions with respect to prospective conduct. Indeed, we recently issued a business review letter indicating that we would not challenge

a joint venture designed to facilitate research on fuel cell development as an alternate energy source.

The arguments of those who endorse collaborative research and the development of national champions as the generally preferred method of advancement find little support in recent developments. Where commercial success depends on such ephemeral factors as consumer taste for services or products that do not yet exist and the pace and direction of new technology, there appears to be a definite advantage to fostering a competitive approach rather than developing a national champion. The history of HDTV technology development provides a vivid example. You may recall that both Japan and the European Community promoted a single chosen technological approach well in advance of technological readiness or clear expression of consumer desires.

By contrast, the U.S. approach was to promote rivalry in technological design. Initially, the chosen instrument approach to technology seemed to pay off, as both Japan and the EC developed prototypes before we did. However, there is often a difference between getting the quickest start and winning the race, a fact sadly recognized by Boston Red Sox fans over the years, and that is what appears to have happened with respect to HDTV development. At this point, neither the Japanese nor European systems have experienced any significant commercial success in their home markets. More importantly, there appears to be a growing consensus that a digital approach such as that developed by the various U.S. rivals will be superior to the analog systems utilized by the Japanese and Europeans.

I discuss the post-AT&T divestiture developments and the HDTV history as cautionary tales, not as proof that a chosen instrument approach to innovation can never succeed. I am not so presumptuous as to make such a categorical claim. These tales, however, and others that I will relate in a moment, reinforce my view that competitive markets are likely to be superior to government planning in bringing about innovation that will satisfy consumer tastes and needs.

The salutary effect of competition on innovation has been demonstrated repeatedly in this country when a variety of previously regulated industries have been deregulated, either in whole or in part. I have already talked about telecommunications in connection with the AT&T divestiture. But I would be remiss if I failed to credit at least part of the dynamism of that industry to the deregulatory actions of the FCC over the past 25 years. Deregulation of land and air transportation also has allowed consumers to reap the benefits of innovations in those fields. Freed of limitations on entry, trucking firms and airlines have deployed new and specialized types of equipment based on consumer desires and efficiency. In both of these fields, fierce service rivalry has produced substantial benefits to consumers. For

example, the entry and subsequent growth of Southwest Airlines stimulated price competition that has benefitted air travellers. Our securities industry provides another example of the benefits of competition. Since Congress reduced economic regulation of the securities industry, consumers of such services have saved hundreds of millions of dollars annually. Numerous strong firms compete for business on the basis of quality as well as price. Employing the latest developments in computer technology, they seek to provide consumers with added value.

In response to those who point to certain foreign successes as proof that a collaborative or chosen instrument approach to innovation is the better way, I make the following response. It is not foreign monopoly airlines that are seeking to exploit their superior efficiency by expanding international competition. Rather, it is our airlines, toughened by domestic rivalry, that are willing and anxious to compete on a global basis. Similarly, the U.S. telecommunications industry, both carriers and equipment manufacturers, is leading the way in attempts to modernize telecommunications capabilities around the world. And, while it is by no means a one-way street, U.S. banks and securities firms seem to be more willing and anxious to compete abroad than their foreign counterparts who have developed in a more sheltered environment. There are many other examples of industries in which the rough and tumble of U.S. competition has prepared our firms to play a leading role in international commerce. U.S. law firms, accounting firms, consulting firms, and advertising firms have all been, in general, more willing than their foreign counterparts to expand abroad. They have proved to be at least as adept as their foreign counterparts in innovating to meet the new and changing requirements of international trade.

Do not be misled by the fact that many of these examples involve services. Rivalry in domestic product markets also benefits U.S. manufacturers in their international efforts. Can there be any doubt that the relatively open U.S. automobile markets placed great pressure on U.S. auto firms to improve their products and efficiency? As a result, with better products, produced in factories that adopted recent innovations, the U.S. firms seem poised to regain international preeminence, or at least a place in the very first rank of auto producers. Telecommunications equipment, aircraft, agricultural equipment, pharmaceuticals, computers (hardware and software), medical equipment, and entertainment are other examples of U.S. products and services that excel in international competition at least in part because of the fierce quality rivalry that characterizes our domestic markets. Indeed, your own Silicon Valley is home to a company which has made the United States the world leader in the use of computers for animation, Silicon Graphics. Other U.S. companies, such as Lucas Films and Industrial Light and Magic, produce the computer-generated special effects that are seen in films such as Jurassic Park and

Terminator 2. And many other industries and companies could be cited which have given this country a position in world markets second to none.

As you can plainly see, I have at least two strongly held beliefs: innovation is critically important to the advancement of this nation's economic interests; and, in general, the competitive approach is superior to the collaborative approach in terms of producing commercially valuable innovation. I do not, however, want you to lose sight of some important qualifications to my general preference for competition in the effort to foster innovation. I have already noted them, but they bear repetition. I recognize that there may be situations in which collaboration in R&D or production may be necessary or simply more efficient than unilateral efforts. We are well aware of the benefits of risk reduction and economies of scale and scope that attend some joint ventures. In some rare instances, risk reduction or economies of scale may even justify a unified approach to research and development, but we will require those who promote that view to demonstrate why competition would be an inferior approach.

A similar reservation is appropriate with respect to government involvement in innovation. My celebration of the competitive benefits that usually flow to consumers from economic deregulation should not be viewed as denying any role to government. There is most definitely a role for government in the innovative process. The market does not do everything well. Appropriately, we do not rely solely on the market to protect us from unsafe products and workplaces, or from despoliation of the environment. In the same manner, government can provide an innovation vision, can suggest priorities, can provide an infrastructure through education and standardization, and in some cases can accelerate research in areas of potentially great value to society by providing planning and, in some instances, financial assistance. But, where consumer desires are uncertain, and the technology is as yet undeveloped, we should not lose sight of our experience -- competition is generally the most effective means of promoting the innovation so critical to our nation's success in the international economic community of the 21st Century. Sound, reasoned and vigorous antitrust enforcement can make its own significant contribution to that goal, and the Antitrust Division will remain a vital part of that effort.