

1 Transamerica Computer Co., Inc. v. IBM Corp. (In re IBM Peripheral EDP Devices Antitrust  
... Litig.) 481 F.Supp. 965 (N.D. Cal. 1979)

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3 SCHNACKE, District Judge.

4  
5 I.

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7 Plaintiff, Transamerica Computer Company, Inc. ("Transamerica"), has alleged that certain  
... activities of Defendant, International Business Machines Corporation ("IBM"), violated  
... Section 2 of the Sherman Act which forbids the monopolization or attempted monopolization  
... of any part of trade or commerce.[1]

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9 [...]

10  
11 IBM offered its first electronic computer in 1953. [...] In 1964, IBM announced a series  
... of machines, the System/360; these were the first of the third generation computers. The  
... 360s not only employed improved components (integrated circuits replace transistors), they  
... also relied upon a single general design or architecture for a broad spectrum of machines.  
... [...] System/360 was a tremendous commercial success.

12  
13 In 1970 IBM announced its 370 system, a further significant improvement, and superior to  
... the 360 system.

14  
15 The new 370 system involved improved central processing units as well as new and improved  
... peripherals. All of the acts Transamerica claims caused it damage were related to the  
... introduction of the 370 system.

16  
17 IBM is a supplier of computer systems, supplying all, or nearly all of the user's  
... computing needs. It offers a wide range of services and products, both software and  
... hardware.[2]

18  
19 The hardware of a computing system consists of a central processing unit ("CPU"), which  
... houses the arithmetic and logical electronic circuits, and a variety of peripheral gear.

20  
21 [...]

22  
23 The tape and disk drives which attached to System/360 CPUs were a lucrative part of IBM's  
... business, so lucrative in fact, that they attracted competition. In the late 1960's,  
... several companies began marketing copies of IBM's tapes, disks and printers, which were  
... "plug-compatible" with IBM CPUs. A user could simply unplug the IBM peripheral, substitute  
... the cheaper copy, and plug it into the IBM CPU. The companies providing this new  
... competition became known in the industry as plug-compatible manufacturers ("PCMs").

24  
25 The PCMs enjoyed a tremendous success. They were offering equivalent or better performance  
... at a substantial discount. [...]

26  
27 Telex and Marshall were but two of the companies which were successful in displacing IBM  
... peripheral equipment by offering it at prices well below those IBM was charging. IBM  
... responded to the PCM competition by offering certain of its own products at substantially  
... reduced prices, and by offering its peripherals for lease on longer and better terms than  
... it had previously. In addition, new CPUs were introduced that were incompatible with the  
... PCMs' existing peripherals. These actions, and others described herein, are those that  
... Transamerica contends were the means by which IBM monopolized and attempted to monopolize  
... in violation of Section 2. {973}

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29 [...]   
30  
31 II.   
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33 In order to establish that IBM monopolized in violation of Section 2 of the Sherman  
... Act,[3] plaintiff must prove:   
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35 1) that the defendant was in possession of monopoly power in a relevant market;   
36  
37 and either   
38  
39 2) that the defendant has willfully acquired or maintained that power;[4]   
40  
41 or   
42  
43 3) that the defendant used its monopoly power, whether lawfully or unlawfully acquired, to  
... foreclose competition, to gain a competitive advantage, or to destroy a competitor.[5]   
44  
45 The first essential inquiry must be whether IBM possessed monopoly power; whether it had  
... the power to control prices in, or to exclude competition from some relevant market[6]   
... during the years here in question, 1969 to 1973.   
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47 III.   
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49 [...]   
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51 A. MARKET STRUCTURE   
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53 [...]   
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55 B. MARKET PERFORMANCE   
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57 [...]   
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59 Transamerica asserts that IBM had monopoly power in three markets:   
60  
61 1. The manufacture and placement of general purpose electronic digital computer systems  
... ("systems market");   
62  
63 2. The manufacture and placement of tape drives and their controllers plug-compatible to  
... IBM CPUs ("tape market"); and   
64  
65 3. The manufacture and placement of disk drives and their controllers plug-compatible to  
... IBM CPUs ("disk market").   
66  
67 C. THE GENERAL PURPOSE SYSTEMS MARKET   
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69 [...]   
70  
71 This Court accepts the view that the market for general purpose computer systems should be  
... analyzed separately from the market for special purpose computer systems. The systems sold  
... to satisfy these different needs are not readily interchangeable and different suppliers  
... specialize in each of the markets. {977}

72  
73 [...]   
74  
75 This is not the story of a stagnant, dominated industry. There is no doubt that the pace  
... of technological progress in the computer industry is extraordinary. Commentators are fond  
... of saying that had the auto industry kept the same pace over the last 30 years, a  
... Rolls-Royce would cost \$2.50 today and would have an EPA gas rating of 2,000,000 miles per  
... gallon. {982}

76  
77 This market was not monopolized. IBM did not control prices, it reacted to the prices set  
... by others. IBM's market share (if the market had been properly defined) was below 57  
... percent and falling. Entry was easy for anyone with a good idea and the courage to exploit  
... it, and new entrants, along with the old, grew and prospered. This Court finds that  
... Transamerica has failed to prove that IBM had monopoly power in the general purpose  
... systems market.

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79 Nonetheless, Transamerica's other contentions will be considered on the assumption that  
... IBM did have such monopoly power.

80  
81 D. TAPE AND DISK MARKETS

82  
83 The hardware of a computing system was previously described as consisting of a CPU and  
... peripherals. Further refinement of that over-simplification is necessary for an  
... understanding of the peripherals markets alleged to be relevant.

84  
85 Certain control functions must be performed if peripheral gear is to function properly.  
... The access arm of a disk drive, for example, must be positioned over the proper track  
... before data can be read from, or written onto that track. These control functions can be  
... performed by the arithmetic and logical circuits of the CPU, in which case the control  
... function is said to be "integrated" into the CPU. But when the CPU is tied up with control  
... functions, it is not free to perform more sophisticated tasks, {983} and so an alternative  
... design was incorporated into the architecture of System/360. Most of the peripherals  
... attachable to System/360 CPUs were not integrated. The control functions were performed by  
... two independent "boxes" or machines with arithmetic and logical circuits: channels and  
... control units.

86  
87 A limited number of channels could be attached to most System/360 CPUs. Channels funnel  
... data into the CPUs' main electronic memory, and take from the memory data that is to be  
... written onto any of the peripheral devices that may attach to the channel, and send it to  
... its destination. Channels perform control functions common to a variety of peripheral  
... gear.

88  
89 [...]

90  
91 PCMs typically supplied a combined package of disks and disk control units attachable to,  
... or "plug-compatible" with, IBM channels. This meant that the user could remove the IBM  
... control unit and disk combination (known as a "subsystem"), plug in the PCMs' replacements  
... and the computing system would continue to function with very little inconvenience. That  
... was so because the PCMs had duplicated the "interface" between the IBM channel and the IBM  
... disk control units. An interface has both physical aspects (in terms of the number of  
... wires involved and their arrangement in a connector), and protocol aspects (what a given  
... pulse sequence on a particular wire is understood to indicate by the machine receiving the  
... pulse).

92

93 [...]
94
95 IBM's mere 53.8 percent of the tape market suggests monopoly power is not present. The
... 77.1 percent figure in the disk market would support a monopoly finding, but the
... significance of this market share is diminished by the realization that IBM had 100
... percent of the market only a few years before, and the failure of the market definition to
... account for systems competition means these numbers must be viewed circumspectly. These
... share figures are also inflated by Transamerica's inclusion into the market of products
... which the PCMs never duplicated, and areas of the country where PCMs chose not to compete.
... {986}

96
97 Entry barriers around these markets are extraordinarily low. [...] Firms already producing
... peripherals have the production facilities, the trained staffs, and the research and
... development expertise needed; all that remains for them is to study the IBM interface and
... duplicate it. [...]

98
99 The entry barriers faced by completely new entrants into the peripherals market have
... already been discussed in relation to the systems market. Those barriers are low, as is
... demonstrated by the history of entry into peripherals manufacture. PCMs, attracted by
... IBM's high profits on its peripherals, stormed these markets and flooded them with cheaper
... copies of the IBM gear. IBM, unable to maintain its relatively high price, was forced to
... react with lower prices and improved products. This picture is consistent with the
... dynamics of an effectively competitive market, not a monopolized one.

100
101 [...]
102
103 Accurate share figures cannot be determined from this record, but the data which can be
... rescued indicates that IBM did not have market control, and that its share was not
... dominant. Entry barriers are low, and entry has been easy, frequent, and successful. Even
... if a systems monopoly were not a prerequisite to peripheral market control, or even if IBM
... had a systems monopoly, this Court would find, as it does here, that Transamerica has
... failed to prove that IBM had monopoly power in either the tape or the disk market.

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105 IV.

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107 PRICING CONDUCT

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109 [...]
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111 This Court finds that all the prices at issue here exceeded average cost, were reasonable,
... and were legal.

112
113 V.

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115 DESIGN CONDUCT

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117 It is not difficult to imagine situations where a monopolist could utilize the design of
... its own product to maintain market control or to gain a competitive advantage. For
... instance, the PCMs were only able to offer IBM's customers an alternative because they had
... duplicated the interface, the electrical connection between the IBM System/360 CPU and the
... IBM peripheral (or peripheral subsystem). Had IBM responded to the PCMs' inroads on its
... assumed monopoly by changing the System/360 interfaces with such frequency that PCMs would
... have been unable to attach and unable to economically adapt their peripherals to the
... ever-changing interface designs, and, if those interface changes had no purpose and effect

117... other than the preclusion {1003} of PCM competition, this Court would not hesitate to find  
... that such conduct was predatory. Or, if a monopolist frequently changed the teleprocessing  
... interface by which its computers communicate with remote terminals in such a way that its  
... terminals would continue to function while others would fail, and, if the only purpose and  
... effect of the change was to gain a competitive advantage in the terminal market (where the  
... monopolist lacked monopoly power), that use of monopoly power would be condemned. {1003}

118  
119 It is more difficult to formulate a legal standard for design conduct than it is to  
... imagine clearly illegal situations. Any such standard must properly balance a concern for  
... the preservation of desirable incentives with the need to prevent monopolization by  
... technology. Like pricing, equipment design can have pro-competitive as well as  
... anti-competitive aspects. Truly new and innovative products are to be encouraged, and are  
... an important part of the competitive process. For this reason, the acquisition or  
... maintenance of monopoly power as a result of a superior product does not violate the  
... Sherman Act. One court has even suggested that where there is a valid engineering dispute  
... over a product's superiority the inquiry should end; the product is innovative and the  
... design is legal.[103] That view, probably the result of a concern for the creativity that  
... has characterized the history of computers, is overprotective. It ignores the possibility  
... that a superior product might be used as a vehicle for tying sales of other products, and  
... would pronounce products superior even where the predominant evidence indicated they were  
... not. {1003}

120  
121 Another approach would be to examine the designers' intent. If a technological design were  
... chosen for an illegal purpose (such as to effectuate a tie) and if that purpose was  
... fulfilled, it would be illegal.[104] If that standard were to apply only where the intent  
... was solely an illegal one, creativity would not be stifled. But usually many results are  
... intended, and if only one, even the predominating, intent is illegal, and thus punished,  
... legitimate incentives will be imperiled. Discerning corporate intent is seldom easy, and,  
... in any event, the law against monopolization is much more concerned with the effect of  
... conduct rather than with its purpose. {1003}

122  
123 A more generalized standard, one applicable to all types of otherwise legal conduct by a  
... monopolist, and one recently adopted by the Ninth Circuit, must be applied to the  
... technological design activity at issue here. If the design choice is unreasonably  
... restrictive of competition, the monopolist's conduct violates the Sherman Act.[105] This  
... standard will allow the fact-finder to consider the effects of the design on competitors;  
... the effects of the design on consumers; the degree to which the design was the product of  
... desirable technological creativity; and the monopolist's intent, since a contemporaneous  
... evaluation by the actor should be helpful to the factfinder in determining the effects of  
... a technological change. {1003}

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125 A. INTERFACE CHANGES.

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129 B. Price Differences Justified by Design Changes.

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133 C. Design Changes on the System/370 Models 115 and 125.

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135 The 115 and 125 were the smallest of IBM's fourth generation System/370 CPUs. Initially it  
... was planned that an improved product, the 3340 disk drive, would attach natively to these  
... machines through an IFA-type device. When it became apparent that the 3340 would not be

135... ready at the time of the announcement of the 115 and 125, IBM planned to natively attach  
... third generation disk drives (2314 types) as an interim disk solution. That plan did not  
... last long. IBM realized that permitting third generation IBM equipment also meant  
... permitting third generation PCM equipment, and that once users had third generation disk  
... equipment installed, they would resist efforts to persuade them to migrate to IBM's fourth  
... generation disks. The plans to natively attach third generation disk equipment on these  
... machines were dropped in favor of fourth generation equipment.

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137 [...]

138

139 The 115 and 125 also included a byte multiplexor channel for attaching slower speed  
... devices. A byte multiplexor channel can operate in either byte mode or burst mode. If a  
... multiplexor can operate in burst mode at the same speed at which a tape or disk peripheral  
... can operate, it is possible to attach some relatively slow devices to it.

140

141 The byte multiplexor on the 115 and the 125 was initially planned to be able to transfer  
... data at a rate of 50,000 characters per second (50KB). That would have permitted  
... attachment of PCM copies of IBM's 2401 Model 1 and 2415 Model 6 tape drives which operated  
... at 30,000 characters per second (30KB). When the head of the IBM's Computer Division  
... called upon the engineer in charge of the 115 and 125 project to investigate the  
... possibility of removing the selector channel, he also inquired about removing the  
... multiplexor. The engineer's response was that while selector channel removal was feasible,  
... multiplexor channel removal was not, but he would like "to investigate further the  
... possibility of reducing the speed of the multiplexor channel and eliminating the  
... possibility of attaching higher speed devices, e. g., 30KB magnetic tape."

142

143 When they were announced, the byte multiplexor on the 115 and the 125 were capable of  
... operating at 29 thousand characters per second (29KB), just short of the speed that would  
... have enabled the PCMs to attach. IBM's explanation is that an engineering problem caused  
... by virtual storage operation caused the degradation. But there is no contemporaneous  
... evidence of any such problem.

144

145 IBM degraded system performance, making its product less attractive to users. The only  
... purpose served and the only effect of the degradation was the preclusion of competition.  
... The law tolerates the perpetuation of a monopoly only where necessary to preserve  
... competitive incentives {1008}

146 and to avoid being unfair to the innocent monopolist.[108] The law need not tolerate  
... deliberate acts where the only purpose and effect is to use monopoly power to gain a  
... competitive advantage. Slowing down the multiplexor on the 115 and 125 was unreasonably  
... restrictive of competition and would have violated Section 2 of the Sherman Act if IBM had  
... monopoly power. [109]

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148 VI.

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150 OTHER CONDUCT

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154 VII.

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156 ATTEMPT LIABILITY

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158 [...]

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160 VIII.

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162 DAMAGES

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166 This Court finds that Transamerica's evidence fails to afford it a basis on which it might  
... justly and reasonably, have estimated damages that might have flowed from IBM's acts.

167

168 IX.

169

170 CONCLUSION

171

172 Transamerica, charged with proving that IBM had monopoly power, that IBM's conduct  
... violated the Sherman Act, and that such conduct caused injury to Transamerica, has failed  
... to carry its burden of persuasion on each of those critical elements.

173

174 [...]

175

176 It is an unwise policy for the law to coddle competitors, especially if the protection  
... comes at the expense of destroying a larger firm's incentive to compete. Even companies  
... that choose to enter dominated markets must be prepared to face competition on the merits.  
... Where a monopolist chooses an alternative that does not unreasonably restrict competition,  
... the law is not offended. It is the choice of an unreasonable alternative, not the failure  
... to choose the least restrictive alternative, that leads to liability.

177

178 IBM did not lie dead in the water when faced with competition. It took action. And the  
... action it took may have caused some competitors to suffer more than other actions would  
... have. But the action IBM took, under the circumstances in which it acted, did not  
... unreasonably restrict competition, and thus, did not violate the law.

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