STATEMENT OF PROFESSOR JERRY HAUSMAN

I. Qualifications

1 I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology ('MIT') in Cambridge, Massachusetts. MIT is the top-ranked economics department in the US. I graduated from Brown University in 1968. In 1973, I received a Doctor of Philosophy degree (D.Phil.) in economics from Oxford University where I was a Marshall Scholar at Brasenose and Nuffield Colleges. I have been a member of the faculty at MIT since completing my D.Phil. My academic and research specialties are econometrics, the application of statistical techniques to economic data, and applied microeconomics, the study of the behavior of consumers and firms. I teach a course each year to graduate students in business and economics at MIT in “Competition in Telecommunications.” I have given invited lectures on these topics throughout the world including universities in North America, Europe, Australia, China, and Hong Kong. I attach my current CV.

2 In 1985, I received the John Bates Clark Award of the American Economic Association, awarded every other year for "the most significant contributions to economics" by an economist under forty years of age. I am a fellow of the international Econometric Society, and in 1980, I was awarded the Frisch Medal of the Econometric Society. I have receive numerous other academic awards and honors.

3 I am familiar with the economic principles that underlie competition law in most Western jurisdictions, including the U.S., Australia, New Zealand, Canada, the EU and the UK. I have significant experience in antitrust disputes. I have been involved in over 200 merger reviews in the U.S. I have been involved in merger reviews in Australia, New Zealand, the UK and the EU. I have given invited seminars to the American Bar Association, the U.S. Department of Justice, and the U.S. Federal Trade Commission on topics in mergers and antitrust economics. I have also given invited seminars on mergers and antitrust topics in Australia, Canada, the UK, Germany, the EU, and Hong Kong. My most recent papers in the field of mergers and antitrust are "Market Definition Under Price Discrimination," Antitrust Law Journal, 1996; "Economic Analysis of Differentiated Products Mergers using Real World Data," George Mason Law Review, 1997; "Efficiencies from the Consumer Viewpoint," George Mason Law Review, 1999; "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks", Yale Law Journal, 1999; "Residential Demand for Broadband Telecommunications and Consumer Access to Unaffiliated Internet Content Providers," Yale Journal on Regulation, 2001; and "The Impact of Duality on Productive Efficiency and Innovation," mimeo, April 2001.

4 I have significant experience in telecommunications. I have done academic research and consulted in the industry for over 20 years. I have consulted for telecommunications operators, mobile operators and equipment suppliers

throughout the world. I have consulted on numerous merger and acquisitions in telecommunications throughout the world. I have given invited seminars and speeches in telecommunications throughout the world. I have been involved in regulatory proceedings in the U.S., Canada, Mexico, Australia, Germany, the EU, Hong Kong, and Australia. Some of my recent academic papers in telecommunications are "Valuation and the Effect of Regulation on New Services in Telecommunications," Brookings Papers on Economic Activity: Microeconomics, 1997, "Taxation By Telecommunications Regulation," Tax Policy and the Economy, 1998, "Economic Welfare and Telecommunications Welfare: The E-Rate Policy for Universal Service Subsidies," Yale Journal on Regulation , 1999, "Regulation by TSLRIC: Economic Effects on Investment and Innovation," Multimedia Und Recht, 1999, "The Effect of Sunk Costs in Telecommunication Regulation," in J. Alleman and E. Noam, eds, The New Investment Theory of Real Options and its Implications for Telecommunications Economics, 1999, "Cellular Telephone, New Products and the CPI," Journal of Business and Economics Statistics, 1999, "Competition in U.S. Telecommunications Services Four Years After the 1996 Act, in S. Peltzman and C. Winston, eds., Deregulation of Network Industries, 2000, "Cable Modems and DSL: Broadband Internet Access for Residential Customers," American Economic Review, 2001. I have also written the chapter on "Mobile Telecommunications" for the forthcoming Handbook of Telecommunications Economics.

5 I have been asked by the law firm of Arculli and Associates to comment on "Regulation of Merger and Acquisitions in the Telecommunications Market – A Consultation Paper Issued by the Office of the Telecommunications Authority" ("Consultation Paper"), to which is annexed the "Draft Guidelines on the Basis Upon Which the Telecommunications Authority Considers Proposals for Mergers and Acquisitions in the Telecommunications Market" ("Draft Guidelines").

6 My main conclusions are that industry specific review of mergers and acquisitions, particularly when undertaken on an *ex ante* or pre-clearance basis, does not work well in practice and that the analysis proposed in the Draft Guidelines is incomplete and to that extent flawed. Merger and acquisition reviews impose significant delays on the completion of merger and acquisition transactions as an inevitable consequence of the time consumed by the regulator's examination of the transaction, the preparation and consideration of interested parties' submissions and any hearings or appeals. Regulatory delays distort the competitive workings of the market. In a dynamic industry such as telecommunications where partnerships and joint ventures are essential, the ability for companies to move with great speed and flexibility is essential to competition. Regulatory review and delays reduce this flexibility, with a strongly adverse effect on the dynamic telecommunications industry. Hong Kong-based companies would be at a significant commercial and competitive disadvantage compared to companies based in other jurisdictions. Hong Kong consumers would be unlikely to receive new products and services as fast as consumers

elsewhere. Moreover, I conclude that the framework for analysis set out in the Draft Guidelines is faulty, in that it unduly emphasizes market share and concentration, to the neglect of other critical structural and behavioural characteristics. In this respect the analysis that would be required by the Draft Guidelines is incomplete and therefore not conducive to sound decision making on mergers and acquisitions. Overall, for most transactions no pre-approval is needed and appears to be a legacy of former monopoly regulation, rather than the workings of a competitive market. In competitive telecommunications markets such as the mobile market, transactions should be permitted to proceed without interference and only if problems appear subsequently should review occur and, if necessary, regulation be introduced.

II. Telecommunications, Consumer Benefits, and Regulatory Risk and Delay

7 Consumers benefit greatly from new telecommunications products and services. In my academic research, I have estimated that cellular telephony led to consumer benefits in the U.S. of about $US50 billion in 1994.[1] For 2000 this benefit exceeds $US100 billion. With the adoption of third-generation mobile telecommunications technology ("3G") likely to occur in the next few years, I expect these consumer benefits to increase significantly as consumers gain the ability to better and more conveniently connect to the Internet.

[1] See J. Hausman, "Valuation and the Effect of Regulation on New Services in Telecommunications," Brookings Papers on Economic Activity: Microeconomics, 1997, "Cellular Telephone, New Products and the CPI," Journal of Business and Economics Statistics, 1999, "Mobile Telephone," Forthcoming Handbook of Telecommunications Economics, 2001.

8 However, regulatory delay can cause the introduction to market of these new products and services to be delayed for significant periods of time, delaying the realization of consumers' benefit. The delay in the US to approve cellular telephony cost consumers over $US100 billion in benefits, as I discuss in my 1997 paper, "Valuation and the Effect of Regulation on New Services in Telecommunications."[2] Given how dynamic the telecommunications industry is, delay caused by regulatory approval leads to large losses to competition and large losses in consumer benefits. These losses arise to consumers because of the loss of consumers surplus. Consumers surplus is the amount that consumers are willing to pay for a good above its market price. Thus, a given mobile user may pay $US40 per month but be willing to pay as much as $100 per month to have mobile service. The amount $100 - $40 = $60 is the consumers surplus from the use of mobile. If the service is not available due to regulatory delay, the consumer loses the $60 per month in benefits. Delay in the introduction of new products and services leads to especially large losses in consumers surplus as my academic research has demonstrated.

9 To some extent, regulatory delay always occurs, despite the best efforts of regulators. The minimization of regulatory delay should be an objective of policymakers, however, particularly in dynamic industries such as telecommunications. Matters in telecommunications are often very complex, given rapidly changing technology and complicated network economics together

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[2] Brookings Papers on Economic Activity: Microeconomics, 1997.

with economies of scale and scope. Participants may also exploit regulatory delay for strategic purposes. Because of the importance of merger and acquisition outcomes, competing companies will typically use regulation to delay mergers and acquisitions in an attempt to gain a competitive advantage. It is in the interests of competition and consumers for regulation to be designed to minimize the opportunity for such strategic exploitation of regulatory delay.

10 The proposed analysis would also result in significant regulatory uncertainty: the Draft Guidelines do not set out an analytic framework that is sufficiently complete and detailed to enable industry participants reliably to predict the outcome of the regulator's consideration of a proposed transaction. Regulatory uncertainty is an important factor in telecommunications competition. Industry participants' decision making, including in respect of investment, is affected by the uncertainty they perceive in relation to regulators' decisions. Since much of the necessary investment in telecommunications is "sunk and irreversible" investment, the level of risk has an important effect on economic incentives to invest.[3] I have analyzed this factor in my academic research.[4] As regulatory uncertainty increases, the "cost of capital" and hurdle rates increase, and firms will reduce their investment in sunk cost infrastructure. Thus, a firm will be considerably less likely to invest in a new telecommunications venture where much of the investment is sunk if the

[3] Sunk investment is investment that cannot be recovered (or only partly recovered) if the business enterprise does not succeed.

[4] See e.g. J. Hausman "Regulation by TSLRIC: Economic Effects on Investment and Innovation," Multimedia Und Recht, 1999; also in J.G. Sidak, C. Engel, and G. Knieps eds., Competition and Regulation in Telecommunications, Boston: Kluwer Academic Publishers, 2000, "The Effect of Sunk Costs in Telecommunication Regulation," in J. Alleman and E. Noam, eds, The New Investment Theory of Real

firm knows that transfer of its ownership interest may be affected by actions of the regulator. If the regulator can adversely affect the transaction's price by withholding approval or even significantly delaying approval, the level of risk will increase. This increased risk will lead to decreased investment. This effect of increased risk is significantly larger in sunk cost industries than it is in industries with relatively lower proportions of sunk costs. Thus, excessive or uncertain regulation could have an especially large and adverse effect on investment and competition in telecommunications in Hong Kong.

11 A real world example of why industry specific regulation of mergers does not work well is the recent experience of the Federal Communications Commission ("FCC") in the US. Large mergers and acquisitions have taken on average about 12-18 months to be decided. These long periods of time have sometimes seen technology and business conditions change sufficiently so that the merger partners decide not to proceed with the merger. Other times, cost savings efficiencies of billions of dollars per year have been lost while waiting for regulatory approval. Other mergers may never even be proposed because of the regulatory uncertainty and anticipated long delays. These delays cost the economy money, diminish consumer welfare, reduce economic efficiency, and lead to decreased competition. Many influential Congress people in the US have called for an end to FCC review of mergers and acquisitions because of these problems including Congressman Tauzin who is head of the Congressional committee that oversees the FCC and

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Options and its Implications for Telecommunications Economics, 1999, and "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks," Yale Law Journal,109, 1999.

Senators Hatch and McCain.[5] The new Chairman of the FCC and former FCC commissioner, Michael Powell, has stated that he favors an end to FCC duplication of the Department of Justice (the "DOJ") regulation of mergers and acquisitions because the process is unnecessary and does not work well. For example, Mr. Powell stated, "We should constantly ask ourselves whether some other agency has roughly equivalent or even superior expertise and authority to address any given factor, either in reviewing the merger at issue or in some other context.…Simply put, we cannot command respect as an "expert agency" if our pronouncements turn on subjects in which we are not expert or which do not rely on our unique capabilities."[6] Mr. Powell went on to say that the FCC should not duplicate merger reviews undertaken by the DOJ.

12 Joint ventures and partnerships are an essential feature of telecommunications throughout the world. Given the large amounts of capital and great risks inherent in investment in telecommunications as well as the necessary combination of country participants and economies of scale, I expect these partnerships to increase. For example, Vodafone, the largest mobile provider in the world, has partnerships in the US, Spain, and Japan. NTT DoCoMo, the largest mobile provider in Japan, has partnerships and ownership interests in the US and Hong Kong. SBC, the largest fixed line provider in the US and one of the largest mobile providers, has partnerships and ownership interests in Mexico, South

[5] See e.g. "FCC Reform Likely in New Congress", http://news.cnet.com/news/0-1004-200-4360821.html; "Senators Approve Bill Limiting FCC Merger Reviews", http://news.cnet.com/news/0-1004-200-344373.html?tag=rltdnws; "FCC Chairman Powell Seeks to Overhaul Agency", http://www.nwfusion.com/news/2001/0329fccpow.html

America, France, and South Africa. PCCW-HKT, the largest fixed carrier in Hong Kong, has partnerships and ownership interests in a regional IP and regional wireless business with Telstra. Equipment providers also form partnerships, with Motorola involved in partnerships in many countries throughout the world. If regulatory review was required to approve changes in these partnerships and formations of new partnerships, the flexibility and business attraction of these partner arrangements would be greatly diminished.

13 In the US formation of and changes in partnerships almost never require regulatory review. Only in the situation when physical assets are combined to a very high level, e.g. two mobile providers merging in a given area, will regulatory review be undertaken. Ordinarily a very large company, e.g. Microsoft, can enter into new partnerships in telecommunications and can make changes in its existing partnerships with no regulatory review or delay.

III. **The Current Situation in Hong Kong and Proposed Changes**

14 The Consultation Paper describes the current regulatory situation in Hong Kong and discusses various proposed changes. The Consultation Paper describes how the licenses for public telecommunications service include a condition requiring that the TA must consent prior to transfer of the license. (¶ 4) This condition ensures that undue concentration cannot occur in Hong Kong in telecommunications. For example, if the licence transfer were proposed in order to effect a merger between two mobile operators, the Telecommunications Authority ("TA") can decide whether undue

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[6] http://www.fcc.gov/Speeches/Powell/Statements/stmkp823.html

concentration might lead to decreased competition. This situation has arisen in the past and allows the TA to protect competition and consumers. The Consultation Paper states that it has been the practice of licensees to seek the consent of the TA prior to any significant change of ownership or control. (¶ 11)

15 The Consultation Paper states that changes in the shareholding structure of the licensee may not be sufficiently regulated because the regulation is "vague and inadequate". (¶ 7) Further, the Consultation Paper states that no comprehensive requirement exists for the TA's consent for changes to the ownership or control of a licensee unless transfer of the license is involved. (¶ 8)

16 The TA proposes in the Consultation Paper that prior approval be obtained for any proposal of a transaction any person would have more than a 15% share in terms of control (¶ 14(a)), 35% ownership share (14(b)), or 50% share (14(c)). The Consultation Paper proceeds to set an even lower limit of 10% when control is exercised over a carrier license (¶ 17).

IV. **Economic and Business Analysis of the Proposed Changes**

17 The Consultation Paper proposal would lead to excessive regulation in Hong Kong and harm competition and consumers. Suppose that company A owns a 20% share in a telecommunications provider and decides to sell the share to company B. With a share this small neither company A nor company B would have control of the telecommunications provider. The transaction would be purely a change in ownership

with no change in control.

18 In this example, unless the telecommunications provider were valued in excess of $US250 million, the transaction would not even be reportable to the US authorities. In my experience if company A were not competing in the same market with the telecommunications provider no regulatory review would take place. Regardless of whether company B might be Microsoft, American Express, General Electric, General Motors, or even a Bell Operating Company buying a mobile company in an area where they did not currently compete, no regulatory review would take place. The same outcome would occur with a 35% share. With a 50% share some regulatory review might take place because of a change in control, to make certain that no competitive overlap exists, but approval would be almost automatic.

19 Thus, in the US regulatory review will take place only when a transaction takes place between firms where there is an overlap in competition. That is, regulatory review occurs only when the firms in question currently compete in the same market. When a competitive overlap exists, market concentration will often increase with a merger or acquisition. Then regulators may decide to review the transaction. The situation is similar in Hong Kong under current regulations for telecommunications according to the Consultation Paper, because a change in control of the license will take place to trigger review by the TA. In the US, however, if no competitive overlap exists, no regulatory review of the transactions will occur. Yet, the TA proposes in the Consultation Paper that such regulatory review is necessary in Hong Kong even *when*

no competitive overlap exists. The outcome would be excessive regulation. Though intended to protect competition, such over-regulation would likely inhibit competition, to the detriment of carriers and telecommunications users.

20 This excessive regulation would be a waste of resources of the Hong Kong government, Hong Kong taxpayers, and companies that will be regulated. The pre-approval requirement based on shareholding levels is totally disconnected to the possible concerns of an anti-competitive merger. If no competitive overlap exists, no change in competition will occur, so the transaction raises no concerns for competition.

21 Given the breadth of the control tests for pre-approval, it should be anticipated that pre-approval should almost always lead to approval if the regulator is doing his/her job correctly. But if approval should almost always be granted, the requirement for pre-approval is wasteful of regulatory resources. This waste of resources demonstrates excessive regulation.

22 I have discussed in this statement the situation in the US where the approach is very different to the approach proposed in the Consultation Paper. In the UK, similar voting share limits as used in the Consultation Paper trigger notification requirements, but no pre-approval is required. Thus, the transaction will not be delayed by regulatory requirements. Similarly, in Australia no pre-approval of the transaction is required. However, contrary to these other jurisdictions, the Consultation Paper

proposes that pre-approval of transactions should be mandatory in Hong Kong.

23 Thus, the pre-approval proposal of the Consultation Paper appears to be a legacy of monopoly regulation. At most, notification is needed in competitive markets, such as the mobile market. If a competitive problem arises subsequently, the regulator can take actions to improve the situation. But this outcome will be sufficiently rare that competition and consumer benefits should not be reduced by a pre-approval requirement that will slow down the progress of the dynamic telecommunications industry.

24 Competition law (antitrust) is a very complex area where legal and economic specialists are used to decide matters. In the US, the DOJ and Federal Trade Commission ("FTC") are the primary agencies that review mergers and acquisitions. They are also the primary review agencies for mergers and acquisitions in telecommunications. The DOJ and FTC face a strict calendar deadline within which they are required to decide on transactions. No such deadlines are specified in the Draft Guidelines. While the FCC has secondary authority, its performance has been judged to be deficient and unnecessarily duplicative by many people, including the Chairman of the FCC, Mr. Powell. Similarly, in the UK the specialist competition agency, the Competition Commission, reviews transactions in telecommunications, in consultation with OFTEL. In Australia, the Australian Competition and Consumer Commission ("ACCC") is the body responsible for review of telecommunications industry mergers or acquisitions.

25 The TA has not demonstrated that telecommunications warrants any different approach from the general economy where approval, pre-approval or ex post intervention, does not occur. The operation of the economic system would be distorted if each sector developed piecemeal solutions to merger issues that have commonality throughout the economy. The efficient workings of the market, especially the capital market, would be distorted if investors found that regulation of different sectors imposed different conditions and created different amounts of regulatory risk. A significant distortion of the economy would occur if investments were directed not by the working of the market, but instead by differing amounts of regulatory intervention in particular sectors. Thus, if Hong Kong decided to review merger and acquisitions, it should establish a separate, general competition commission similar to the DOJ in the US, rather than rely on an industry-specific regulator. This general competition regulatory body would develop the necessary expertise in the highly complex area of competition law. Taiwan and Korea have adopted this approach. For an industry regulator to attempt to assume such duties will almost certainly lead to undue regulatory delay, mistaken decisions, and reduced competition.

26 With respect to the mobile market where the proposed changes would be most likely to have the greatest effect, Hong Kong with a relatively small population of 7 million people has more than sufficient spectrum to ensure high levels of competition. From my academic research the Hong Kong mobile market is one of the most competitive

in the world.[7] Hong Kong also has among the highest penetration of mobile demand of any country in the world.[8] Thus, competition in Hong Kong has worked well under existing regulation. Furthermore, Regional Wireless (formerly HKT-CSL) has acquired PacLink, SmarTone has acquired P Plus, BT has acquired an interest in SmarTone and DoCoMO has acquired an interest in Hutchison Telecommunications which have created no adverse effect on competition on the mobile industry in Hong Kong. Thus, the existing rules are working satisfactorily. While some of these transactions were subject to regulatory approval, such approval was granted, indicating that they did not place competition in jeopardy.

27 The proposed rules could well decrease flexibility and diminish the economic incentives of international and local investors to participate in the Hong Kong telecommunications industry. Given the increasing importance of partnerships and joint ventures, this decreased economic incentive to invest in Hong Kong could lead to delays in new service introduction in Hong Kong and reduced competition. Also, to the extent that Hong Kong desires to be an international telecommunications hub, this loss of flexibility will inhibit that development, tending to place Hong Kong at a competitive disadvantage, relative to other centers within the region.

V. **Specific Comments on the Proposed Guidelines**

28 I comment in this section on the proposed "Analytical Framework" as set out in paragraphs 3.1 through 3.25 of the Draft Guidelines. My first major comment is that

[7] See J. Hausman, "Mobile Telephone," Forthcoming Handbook of Telecommunications Economics, 2001.

the proposed Analytical Framework does not adequately reflect the complexity of accurate merger analysis. I have written numerous academic articles on the correct framework for merger analysis.[9] I note that the proposed Analytical Framework is only 5 pages while the *DOJ and FTC Merger Guidelines* (1992) are over 50 pages and the analytical section of the Australian *ACCC Merger Guidelines (1999)* is over 60 pages. Thus, the specialist antitrust authorities guidelines demonstrate how complex judging a merger is. The OFTA Draft Guidelines, by being insufficiently specific, leave too much latitude to the regulator and do not recognize the analytical complexity of merger analysis. The excess latitude allowed to the regulator by insufficiently specific guidelines would impose a variety of costs on industry participants and telecommunications users. These costs include uncertainty (or "regulatory risk"), unnecessarily extended disputation as to the correct analysis of the relevant market(s), delay in determining reviews, and imperfect outcomes (wrong decisions).

29 My second major comment is that competition authorities have now realized that competitive analysis is the key factor in merger analysis. OFTA's Draft Guidelines and analytic approach, to the contrary, emphasize market share and concentration (¶ 3.10-3.12) instead of competitive analysis. Yet this emphasis neglects other structural

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[8] A recent report placed Hong Kong second highest, after Luxembourg. See e.g. http://technology.scmp.com/ZZZDS0SCFNC.html

[9] See e.g. J. Hausman "A Proposed Method for Analyzing Competition Among Differentiated Products," Antitrust Law Journal, 60, 1992, "Competitive Analysis with Differentiated Products," Annales, D'Economie et de Statistique, 34, 1994, "Market Definition Under Price Discrimination," Antitrust Law Journal, 64, 1996, "Economic Analysis of Differentiated Products Mergers Using Real World Data," George Mason Law Review, 5, 3, 1997, "Efficiencies from the Consumer Viewpoint, " George Mason Law Review, 7, 3, 1999.

and strategic features of the industry that are critical to a proper understanding of the competitive implications of a proposed merger or acquisition and to correct decision making in a regulatory review. As the US *DOJ and FTC Merger Guidelines* (1992) recognize: "However, market share and concentration data provide only the starting point for analyzing the competitive impact of a merger." (¶ 2.0) The US *Merger Guidelines* then discuss factors that may lessen competition such as coordinated interaction and unilateral effects in Section 2, which is the main section on competitive analysis. These two primary modes of lessening competition are not even mentioned in the OFTA Draft Guidelines. Instead, the OFTA Draft Guidelines consider certain structural factors such as barriers to entry, import competition, and vertical integration, but the OFTA Draft Guidelines completely fail to discuss the analysis of actual market competition and strategic behaviour whatsoever. Thus, by failing to discuss and analyze actual competition in the market(s) under consideration in the proposed merger, the OFTA Draft Guidelines are too vague to be useful. They do not apply modern merger analysis principles.

V. **Conclusions**

30 My overall conclusions are:

- A trigger for notification and pre-approval based on a mere change in ownership not involving competitive overlap is not economically sound.
- A process of pre-approval, especially when applied to such a wide range of transactions, will adversely affect the operation of the market, the operation of the capital market, and investment decisions.

- The proposed extension of regulation is not efficient because it over-reaches so far and will introduce significant distortions into the Hong Kong economy.

31 These problems in the proposed regulation should cause it to be rejected. However, if it is not rejected, significant problems exist in the OFTA Draft Guidelines that need to be addressed. The OFTA Draft Guidelines demonstrate why highly developed expertise is required to issue guidelines for the extremely complex task of judging the likely competitive outcome of a merger. In my view, the OFTA Draft Guidelines are deficient. The Draft Guidelines should be substantially modified to take proper account of the highly developed knowledge that economists and lawyers who specialize in merger analysis have developed over the past 20 years. Improved Guidelines will minimize the costs of regulation, avoid over-regulation and regulatory delay, ensure due regard to critical variables in the assessment of implications for competition, and ensure good decision making on mergers and acquisitions in the Hong Kong telecommunications industry.

Jerry Hausman