FEDERAL TRADE COMMISSION

A ROUNDTABLE SPONSORED BY THE BUREAU OF ECONOMICS
UNDERSTANDING MERGERS:
STRATEGY & PLANNING, IMPLEMENTATION AND OUTCOMES

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FEDERAL TRADE COMMISSION
I N D E X

(PANEL 1 EXCERPT)

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Introductory Remarks

So, we look forward to a very interesting day and a half of discussions on aspects of mergers and acquisitions.

MR. PAUTLER: We'll move on to Panel 1 now, please. For the members of Panel 1, please come on up.

PANEL 1
RESEARCH ON MERGER OUTCOMES

MR. PAUTLER: Before we get into the substance of Panel 1, I just wanted to go over a few ground rules. When you came into the room, you must have noticed all the stuff we have outside on the tables. There are a lot of handouts that give you the PowerPoint presentations that the presenters are going to use today. Also, there are copies of various books and articles by some of the people that will be presenting. And as Dave mentioned, there are copies of a couple of papers that I put together. I think there are also copies of the agendas and biographies of all the people that will be speaking so you know who's talking to you.

For this first panel, each speaker will have about 15 minutes to make his or her presentation. Following the presentations, there will probably be an opportunity for the panel members to discuss among themselves differences of opinion. Then there will be some questions from the moderator. Finally, there will be an opportunity, I hope, for questions from the audience.

When we get around to having questions from the audience, in order to make the transcript work, we would like to have each of the audience questioners wait until we get a microphone to you so you can give your name and affiliation clearly and then you can ask your question. That will allow us to get a cleaner transcript.

So, to begin, we're going to hear from researchers who have examined merger outcomes using several different empirical techniques, and over very different time periods. I think these presentations are going to serve as a background for some of the more specific discussion that will happen later in the day and they'll also help us understand whether mergers have changed over time and whether there's a consensus regarding how effective they've actually been.

So, in order to get started, I'd like to give you some background on each member of the panel first and then we'll get started with Professor Scherer.

Our first presenter will be Professor Mike Scherer who is Professor Emeritus at Harvard's Kennedy School of Government. He's taught at several leading universities and published numerous books on industrial organization and technological change over the years. Perhaps his most notable work, for our purposes today, is work that he did with Dave Ravenscraft, Mergers, Sell-Offs and Economic Efficiency.

Professor Scherer also happened to be the Director

of the FTC's Bureau of Economics from 1974 to 1976, and I'm glad he could be here today.

The second speaker is going to be Robert McGuckin. Bob is the Director of Economic Research at the Conference Board. Prior to taking on that post, he was the Chief of the Center for Economic Studies at the Census Bureau and prior to that, he had a distinguished tenure at DOJ's Antitrust Division for the Economic Analysis Group.

Our third speaker will be Susanne Trimbath who is a researcher at the Milken Institute. Susanne has taught at major universities and has been associated with several private and public economic institutions that are involved in capital development. Susanne recently published several books. One of her most recent books involved mergers and is entitled, Merger and Efficiency Changes Across Time. She'll be discussing some of that work today.

Batting clean-up for us will be Steve Kaplan. He is the Neubauer Professor of Entrepreneurship and Finance at the University of Chicago. His research focuses on private equity markets, corporate governments, mergers and acquisitions, and corporate finance. He also is a Research Associate at the National Bureau of Economic Research, and I know that he did a book for them a couple of years ago on case studies of mergers and acquisitions. That's part of what we'll hear about today.

So, without further ado, I'd like to get started with Mike Scherer.

MR. SCHERER: Thank you very much, Paul. Just a prefatory note. It was interesting that Tim Muris set 1974 as the cut-off date for viewing efficiencies as something that went against a merger. That's just when I happened to join the Federal Trade Commission, and indeed, there may be a slight connection, although the official change came only 10 years later.

We had a merger between two ball bearing manufacturers, and because of my previous research, I knew that this was an industry in which one could realize very substantial efficiencies by combining operations. I had studied a U.K. merger in ball bearings that led to productivity growth of about 30 percent or so. I therefore took a position as Director of the Bureau of Economics that we will not support the complaint unless the respondents are offered the opportunity to present an efficiencies defense. That was 1975 or '76, I think. I left the Commission shortly thereafter. I was told the defense went nowhere. What happened, I don't know exactly.

In any event, I thank the FTC for an invitation that provided the opportunity to visit an old friend. That old friend is my book with David Ravenscraft, Mergers, Sell-Offs and Economic Efficiency. As I reread it this past week, I realized it's the best book I've written.

Why is it the best book I've written? Two reasons -- well, maybe three reasons. Interesting subject. That's minor. Very good co-author, David Ravenscraft. And very

importantly, we had access to the most magnificent database that one would ever want to have on this subject, the Federal Trade Commission's line of business database, to which we linked 6,000 individual mergers and acquisitions.

Time is short, so let me briefly review our findings. First, our study focused on mergers of the 1960s and early 1970s. This was a period, because of antitrust law, of mostly conglomerate merger activity. To be sure, 41 percent of the acquisitions in our sample were horizontal acquisitions - but they were typically tiny, too small to attract the attention of the antitrust authorities. So the mergers were preponderantly conglomerate.

We found that on average mergers didn't work out very well. One major reason for disappointment was that the acquirer paid too much for its acquisition. And under purchase accounting, this showed up strongly in our database by very big negative coefficients on the profit measure for mergers which were consummated under purchase accounting.

But, second, this was a period when pooling of interest accounting was also used -- a method no longer allowed. Under purchase accounting, you write up the value of the assets you've acquired to reflect any premium you have paid over the book value of the assets. That inflates the assets denominator of most profit measures, and also, by increasing depreciation charges, it reduces the indicated numerator of profit measures. Neither of these two effects happens under pooling of interests accounting, and so, we

had to do a different kind of analysis to deal with the pooling mergers. What we found was that there was, in fact, a small positive profitability coefficient, a couple of percentage points relative to all other non-acquired lines, for the pooling of interest mergers.

However, the pooling of interest acquisition targets were extraordinarily profitable before they were acquired. This is seen in Figure 7-1 on page 196 of my book with David Ravenscraft. The adjusted line for the pooling acquisitions adjusts for differences in macro-economic conditions. What you see is that the smallest acquired entities had returns on assets before merger on the order of 20 percent. After merger, on average, those lines had returns on assets of about 12 or 13 percent.

So, what one sees is that there was an extraordinarily sharp drop in profitability from pre-merger versus post-merger. The smallest drop in profitability was achieved for what we called mergers of equals. These were for firms that differed from one another by no more than a factor of two. They were almost always consummated through an exchange of shares and, therefore, were accounted for under pooling of interest. That was the only class of merger which we found did not lead to a drop in profitability relative to pre-merger conditions.

We found that the worst decreases in profitability were for the pure conglomerate mergers, although we found a decline in profitability also for related business mergers

and for horizontal mergers. Our sample of verticals was too small to draw any conclusion.

The other striking thing about the merger wave of the 1960s and 1970s was the very large number of divestitures. Large numbers of mergers were undone subsequently. Now I'm going to use some slides.

I believe this is the most striking finding of our entire study. We were able to track the profitability of these lines that were either fully or partially divested over a fair number of years. We found that as the time of full divestiture approached, one had descending profitability relative to the average for companies in the same general industrial line. As seen in table 6-3 on page 168 of our book, four years before sell-off, profits as a percentage of assets are below industry benchmarks (averaging 13.93 percent) by 6.4 percent; three years before, they are 9.92 percent below; two years before, 10.6 percent below. The year before sell-off profits were negative in absolute terms and below undivested line norms by 13.5 percent. Divested lines had a negative return on assets the year before merger.

So, obviously, things were going wrong that led to these divestitures. We did a large number of historical qualitative case studies. They are in our book for the reading, so I won't go into them in detail. But you can see what kinds of things went wrong. Mainly three things -- corporate culture clashes, the departure of highly qualified

people, and inevitable regression of profitability from earlier peaks.

I'm not going to try to use my other slides. To save time, let me just summarize my results. There was a large variance in these findings. On average, mergers led to reductions in profitability after taking into account the method of accounting used. But there were large variations about the central tendencies. The T-ratios reflecting the standard deviations on our merger coefficients typically were on the order of two to three, indicating statistical significance, but revealing that there was a wide variation about the central tendency, indicating that some mergers did quite well. Indeed, we found that certain companies that had engaged in extensive conglomerate merger activity did very, very well.

If there were a little more time, I would talk about a subsequent study. I tracked 100 high technology initial public offering firms for a period of about 15 years, and of those, about 35 disappeared by merger. Of those that disappeared by merger, on average, they had been under-performing the NASDAQ index, but there were a couple of exceptions.

Something that I never studied and I've never seen anybody study is quality of service. Business Week reported about a survey of various service type industries, telecommunications and the like, that surveyed customers about quality of services. They split the responses between

those which had just had acquisitions and those which had not had acquisitions. What you find is that service quality deteriorated substantially after acquisition. I personally have lived through about seven corporate control transactions with my checking account bank, and I can tell you, these statistics don't lie. Service deteriorates after the typical service industry merger. That ought to be looked into.

But, again, the key finding by Ravenscraft and myself was that there's a lot of variability. Mergers fail for financial reasons. They fail for managerial reasons. But some succeed.

Now, how do you find the ones that succeed? I have had a fair amount of experience trying to sustain efficiency defenses. I did so in the Archer Daniels Midland - Clinton Corn Products case. That's written up in the hand-out that's available in your packages. There are ways that one can do this. I used company census filings and census industry benchmark data, among other things, to estimate comparative productivity between the merger partners on the one hand and the rest of the industry on the other hand. I found astounding productivity growth performance in the merged entities.

Ex ante, how do you find it out? I think a key thing is the quality of the planning, as Tim Muris said, and also the quality of the staff. But it's very difficult to do this ex ante. Let me just talk about one other case in

which I was involved. In the late 1970s Ling-Temco-Vought owned the Jones & Laughlin Steel Company. When Jones & Laughlin sought to acquire Youngstown Steel, I was asked by Attorney General Griffin Bell to write a report on that merger. The parties claimed that efficiencies would be realized.

I went back a few years later and looked at what actually happened. What I found was that very substantial efficiencies had been achieved, but they looked nothing at all like the efficiencies that had been claimed in advance.

You can find my two analyses of the LTV - J&L experience. One, the pre-merger analysis, is in my book, Competition Policy: Domestic and International. The post-merger analysis is in my book with Ravenscraft.

On one other merger I was the government's witness in the attempted merger by Lockheed Martin with Northrop Grumman. Their documents outlined an efficiencies defense. The case never came to trial. But I did an analysis of their efficiencies defense and found a quite remarkable thing. The big efficiencies were to come from closure of R&D labs and from shut-down of production lines. So, I traced lab by lab, hundreds of them, and production line by production line. I found that in 85 to 90 percent of the cases, the lab that was to be shut down had a counterpart lab doing exactly the same thing in the same pre-merger corporation. Similarly for production lines.

So, almost all of those efficiencies could have

been achieved without merger. If they had two labs in a particular field, they proposed to shut down one. They could have done that without the merger. So, it's very important, I think, to take that into account. The reason for this strange behavior is Public Law 103-337, which creates perverse incentives to claim that any efficiency measures occur because of merger rather than for self-initiated reasons.

My time is up. Thank you very much.

MR. PAUTLER: Thank you very much. Our next speaker will be Bob McGuckin of The Conference Board, who will discuss the importance of industrial restructuring and his own empirical research on productivity increases associated with plant transfers.

MR. McGUCKIN: I must tell you, I actually searched for efficiencies one time in a steel merger when I was at the Justice Department and I had the same problem of matching up the plants to see where the efficiencies were.

I've been doing a lot of work at The Conference Board on international productivity comparisons, and we've been focused on trying to explain things like gaps in productivity between Europe and the U.S., for example. We have argued that a lot of that has to do with the new information and communications technologies, the implementation and diffusion of that, and we've tied the difference in the diffusion rates in Europe and the U.S. to differences in such things as merger policy.

It's harder to do mergers in Europe. Regulatory boundaries are also a factor. Things like restricted store opening hours, for example, prevent Wal-Mart from taking account of all their marketing expertise in countries like Germany.

The point I want to bring this morning is that in talking about these issues, I typically go through a deregulation story about governments. But my basic lecture to businesses highlighted in the slide on the bottom of p.1 of my handout, is usually that structural reform is not just about governments, it's about business as well. So, I go through a story -- and I won't have time to do the whole kit-and-caboodle this morning – about new technologies, government deregulation, changes in law, transition economics, and banking reform. Whether in China, Japan, or Europe, structural reform causes changes in the economic environment and business must adjust to them. They mean changes in the organizational structure of business.

So, what I talk to business audiences about is how you meet the needs for organizational change. It's not just about building plants. It's not just about closing your own plants. It's about buying and selling plants. And Mike earlier said something about following up these purchases with divestitures and that's surely a big part of it.

The argument from a business standpoint is not about a static price fixing versus efficiency, it’s about dynamics and changing the portfolio of activities that the

firm manages. Business makes changes through portfolio adjustments. So, mergers and acquisitions are a big part of business restructuring and reform.

Now, in my work, I took the next best step, perhaps, to working with the line of business data. In some respects it's better and in some respects it wasn't as good. After I left the Justice Department, I ended up at the Census Bureau, and there we developed something called the Longitudinal Research Database, which is now called the Longitudinal Business Database. It essentially follows individual plants. It starts in 1963 and it reports information on each plant in five-year swatches with some in-between information on most plants. My work was primarily in manufacturing.

It is now possible to do such with non-manufacturing. The data has just recently become available. I don't think anyone has replicated the work I did but somebody sure should for non-manufacturing.

So, I examined the portfolio of plants owned by the firm. I worried about what was the right counter-factual for a business that's facing changing demand, changing regulations, changing competition. If you think about the '70s and '80s, most of my work went from '73 to '92 or '87, and you start to think about that period, we had a major energy crisis. We had major adjustments in what business had to deal with, including changes in the production techniques. We had enormous increases in foreign

competition for example in steel and autos. Japan and Germany were sitting there with new steel plants. (At one time, we actually brought consultants in from Europe and tried to build a steel plant, and I did the same with oil refineries in California.) There were major changes going on and businesses had to adjust to those. They had to reorganize their operations, and we were seeing a lot of mergers.

Now, how did I pick all this up in the empirical work? Well, the bottom line is we started with 300,000 plants. We looked at about 140,000. That's every plant in manufacturing. And we followed them through the years. As an aside, this work started out focused on drivers of productivity growth. It followed up Frank Lichtenberg's work. There was much other work, including work by David Ravenscraft and Bill Long, looking at leveraged buyouts.

The study followed each individual plant and asked the questions: How productive was the plant before it merged and what happened after? It looked at the question with a statistical regression model.

The regression model included controls that took account of things like industry, prices, and region. It had firm fixed effects. There were lots of variables included. We controlled for the productivity of the plant before the merger.

When you do these exercises you find that, by and large, mergers produce efficiencies. Now, that doesn't say

anything about profits. It doesn't say anything about who gets the profits or whether you paid too much or not. I can't really talk about that. But I can talk about the efficiencies.

So, I want to make a couple of points. First, mergers are pervasive. (Let me see if I can actually pull together a couple of overheads that would fill in. As I indicated, I talk to business about the need to reorganize. But, there is also a Conference Board report you can find on our website, which is entitled, "Why All the Uncertainty, Few and Doubt? Are Mergers and Acquisitions Bad for Workers?" It focuses on the impacts around labor, because, after all, mergers just aren't about antitrust, they're also about labor unions and press, local plants being shut down and so forth.)

The figure that I want to point to is this 66.7 percent figure in the first slide on p. 2 of my handout. Over the period, '77 to '87, 66.7 percent of workers were affected by a merger in manufacturing. That's either they belonged to a firm that had acquisitions or they were in a firm that was acquired. So, that's a big proportion of the manufacturing workforce affected by mergers.

Mergers are very pervasive. They involve all industries and most big firms. When you start to look at the firms with no acquisitions, it's only 33 percent. That's the main message of that slide.

The next slide, on the top of page 3 of my

handout, shows the productivity impacts. You'll notice I broke the acquired plants into kept and sold. The merger took place; the firm kept the plant as part of its portfolio or sold it. And, by the way, again, while all these mergers where going on, the firm wasn't just sitting there; they were building plants at the same time they were buying them. They were building plants and they were closing them, closing some of the plants they bought and some of the plants that they already owned at the time. So, the firms were undertaking major portfolio changes. But they sold off a large number, as well. And you get a productivity impact on the merged plants.

The slide records percentage points. It's a log regression, so those are the regression coefficients. They are the coefficient that you get on the ownership variable after controlling for other things. You can do this in a lot of ways, but the productivity gain is the bottom line.

I found it interesting and suggestive, and I broke the chart before and after Hart-Scott-Rodino, although I don't want to argue that this is proof of the positive impact of the changes in the merger guidelines. After Hart-Scott-Rodino, we got a bigger productivity bang. In some other work, I looked at mergers that wouldn't have passed the '68 Guidelines and looked at them after the merger. I think I had a series of about 20 or 30 in a paper in the Antitrust Bulletin in 1990. Basically, there didn't appear to be, with one exception, anticompetitive effects associated with

any of them.

So, you're getting a big productivity impact from mergers. And, by the way, the story here is of two kinds of impacts. I want to tell you a story about mergers and corporate discipline and the market for corporate control. The Rand Paper we did took-off from Lichtenberg and Segal's work that looked at large plant mergers. If you look at the large mergers, and I think this fits with some other work, you see that there's a lot of corporate discipline arguments, downsizing, things of that sort evident in the data.

We broke the mergers into large and small. I don't think I have the slide that was in my presentation. Basically, the acquired plants are much bigger than non-acquired plants and the firms buying them are much bigger than the selling firms. But if you look at the results, you find the following: We called roughly 80 percent of the mergers synergistic. These mergers showed some gains even though they involved buying a high productivity performer. I think that fits very well with what Mike said earlier about most acquisitions involving the purchase of good performers. But then the acquiring firm improved the productivity of good performer.

Acquirers also bought low productivity performers and improved them. But the gains were much less. We found that these plants were usually the largest plants. They were old. Think of Bethlehem Steel in Buffalo, New York and

Lackawanna, circa the '80s. Those are the kinds of plants where you have to get rid of the excess capacity.

So, there are two main motivations for mergers. Most of the mergers involve smaller plants and most of them are about synergies, even the cross border ones. For example, a large European company just bought in Silicon Valley so it could get some U.S. expertise on computers. Those are the kinds of mergers we're talking about with regard to synergies.

A good chunk of mergers are for corporate control, where you're getting a relatively poor performer and improving it. That doesn't mean you're bringing it back, necessarily, to state-of-the-art, but you're improving it, and that's the story we find in our studies.

The other point I'll make is that we also find that wages generally go up, except in these large plants where the wages initially are high. We find that mergers are good for employees in the sense that if you start to look at firms that didn't merge, they downsize, too. If you sort them out by size, you find that, in fact, mergers are just a way to do the thing that people do otherwise in some cases. That doesn't mean you have to merge to downsize, but it’s often the best way. So, even when you are talking about mergers for control, you find that generally they are good for employees.

Unfortunately, most employees don't feel that way because they work in those big, old plants. The size

distribution is very skewed and they also are plants that are big parts of local communities. So, you get the press and you get a lot of negatives, and that was clearly the case when we had the state takeover legislation that was pushed in the '70s and '80s, that was all a reaction to downsizing acquisitions and plant closings

So -- just to close this up -- mergers really seem to be more an element of dynamic competition, and a tool of firm restructuring. They are good for the economy. That doesn't mean there's never an anticompetitive merger. I even testified in a couple of cases. But most mergers are generally okay.

The slide on page 4 of my handout shows mergers taking off in Europe, and one of the reasons is the Euro, and Europe is undergoing a lot of deregulation. For the U.S. it really started, I guess with the 1968 Carter Phone case. That is where I date the beginning. You can pick it up in the '60s, '70s and '80s. And the ICT, Information and Communications Technology, revolution is a major factor in mergers moving forward. That's happening in Europe and we're actually starting to see it happen in Japan.

So, bottom line again, we're talking about success in shifting resources to account for new conditions when we are talking about mergers and acquisitions. Thus, the fix-it-first approach to an antitrust analysis of acquisition makes sense. The reason is, if I think about these conceptual and statistical experiments that we ran, breaking

down the merger into its component parts, looking at the firm's structure, what its buying and what its selling piece-by-piece, that's what fix-it-first does. It usually breaks the firm down and that was an innovation of Hart-Scott-Rodino. You get the information in first and you can start to deal with it. And that's exactly the way to go about it.

That said, ex ante, it is very difficult to decide on the mergers. I'll plug our Conference Board research here for a second. (Most of the reports have an academic paper behind them.) You can find the academic work, but the report is written for business.) There's a list of six or seven papers that discuss how to make a merger successful referenced in my report. So, there's a big business practice in this. This is not an easy game. When you reorganize you have employee issues, you have other issues, and a lot of business research focuses on that. Thank you.

MR. PAUTLER: Thank you, Bob. It's clear we've got minor, if not major, differences of opinion about how well mergers generally work, and we may come back to that at the end of the presentations.

Our next presenter is Susanne Trimbath of the Milken Institute. She'll provide us with some insights on her recent merger work and she'll be focusing on the ways in which accounting-based results change over time.

Susanne?

MS. TRIMBATH: Good morning. First of all, I'll

clarify that when I say "takeovers," I mean "mergers." When you get into the academic literature, there's a distinction between one and the other. What I'm looking at is a complete change in ownership for an entire company, and that differentiates my work from what Professor Scherer did and also some of the things that Bob was talking about because my work uses whole companies.

I wanted to call my book, Mergers and Efficiencies: Temporal Distortions, but the editorial staff found that a little too scary. People were going to think of time warps or something. So, we stuck with Changes Across Time. I measure efficiency using cost per unit of revenue. Basically, cost is defined as fixed and variable cost, which is cost of goods sold, plus SG&A over revenue from the financial disclosures of public companies. I took numbers from very early in the accounting statements to minimize potential distortions from earnings management.

For all of the slides that you see today, I'm using my own database for the statistics. My database consists of the Fortune 500 and I update them every year so that I have consistency in the sample. The companies that are in there are not self-selected, as you would get using, for example, all the NYSE-listed firms. I basically have 500 companies every year, so I don't have a bias problem from a shrinking sample size, which is common in a lot of large sample studies that examine more than one year.

So, the first thing we see in the slide on the top

of page 2 of my handout is a black line that shows changes in volume. Using the Fortune 500, I find generally that the peaks lag about one year behind national statistics. I'm looking, of course, at the broad patterns, and the patterns themselves aren't different among data sources. Just the specific numbers might be a little bit different. As the volume of mergers and acquisitions changed, so did the types of research that were being done. The slide on the bottom of p. 2 of my handout shows that not only the methodology, but also the hypotheses, the reasons that researchers put forth as to why takeovers were occurring, changed the way that we measure performance has changed, also, across the decades.

As a result of that, what you also get is changes in the evidence, as shown in the slide on the top of p. 3 of my handout. With all due respect to Professor Scherer, who's sitting here with us today, Matsusaka, in 1993, purported to have repeated his research with a sample that was updated in time and found conflicting results. Another example I use is Palepu, who basically showed that the logit model and not the probit model, for those of you who are statistically inclined, was the proper model for examining the probability of takeover. Again, what I want to make clear here is that even using the same sample, the same methodology, the same measurements, when the sample was updated to a more current period, there were actually conflicting results found by Ambrose and Megginson.

The slide on the bottom of page 3 of my handout is from my own research. It shows changes in the difference between the median of the performance of all firms and the median of the performance of targets in three different periods. There are a lot of theories about why firm performance changes across time. This shows targets relative to other firms, how their performance has changed in different time periods.

One suggestion about why firm performance changes comes from studies of management turnover that show that management turnover is more closely related to performance during periods of active corporate control. So, when there are a lot of takeovers happening, all managers are disciplined not just those in the targets. This is the pressure to perform that is put on firm management by the threat of takeover.

More recent studies are looking at the relationship between stock options and firm performance. But I wouldn't be surprised, given the vagaries of the capital markets, if they also find that there are some temporal inconsistencies in that work.

Now, I'll just quickly go over some of the results from the research that I did that's in the book that Paul mentioned. Basically, I show inactive firms, firms that are buyers, and firms that are targets, in different time periods, as seen in the slide on the top of page 4 of my handout. By the way, the size figures here are in constant

dollars, and they do make these changes, even if you adjust for inflation. Not only each firm, but the firms themselves as a group have changed across these periods. In addition, their relationship to each other, their relative performance and relative size, have changed.

When we look at the factors that are common to all firms that are taken over compared to all firms that are not, the statistical results, again, show that there are distortions in size, but not in cost efficiency. The targets' lower efficiency is the reason for selection. The slide on the bottom of page 4 of my handout shows this again, in two different time periods.

The first graph on page 5 of my handout covers the 1981 to 1985 period. What I want to show you is that it's not just the magnitude of the relationship between size of firms and cost efficiency that changes, but the direction actually changes, as well. So, you go from a negative relationship to a positive relationship in the slide at the bottom of page 5, which shows 1990 to 1997.

I did want to get through some of the statistical stuff pretty quickly. At this point, I'll slow it down just a bit and move to some less technical material. The finding shown in the graph at the top of page 6 is actually the reason that the Milken Institute initially became interested in hiring me. This shows the relationship between the volume of takeovers of Fortune 500 firms and the use of high-yield securities. The first use of high-yield

securities occurred in about 1983. Then, in 1986, the Federal Reserve Bank changed the margin requirements which basically limited the use of high-yield financing for takeovers. And then in 1989, the tax code was changed to take away the interest deduction for people issuing high-yield securities. That made it very costly to use debt financing for M&A.

In a Harvard Business Review article, John Pound calls the 1980s activity of this type against financing, "broad political persecution aimed at the debt markets." Popular suspicion of financiers was not new to that decade. In the 1930s, not only the banking laws, but also the bankruptcy and reorganization laws were changed in order to slow down the merger and acquisition activity of financial firms.

Well, the consequence of the 1980's changes was that the size of targets was dramatically affected. The maximum target size shows the impact better than either the average or the median. The top line in the slide on the bottom of page 6 of my handout is the maximum target size, and the lower line is the average. Here you can see quite clearly where, again, the vertical lines show the 1983 first use of high-yield securities, the Federal Reserve Rule in 1986 and then the tax code changes in 1989.

So, what we have here is something that suggests that the size of targets of takeovers is a function of the availability of financing. There was a study done in the

U.K. that showed also that the volume of merger activity is a function of financing availability. Now, that particular study has not been duplicated in the United States, but, by and large, when the funding is available, M&A takes place; when the financing is not available, it doesn't take place. To me, this actually makes more sense than trying to figure out other reasons why merger and acquisition activity rises and falls in what some people have attempted to call "waves."

State laws have also had significant changes in different time periods, as shown in the slide on the top of page 7 of my handout. In 1982 there was a Supreme Court case for CTS vs. Dynamic that basically said that the states could not regulate mergers and acquisitions. That was reversed in 1987, at which point there was just a cavalcade of anti-takeover laws in the states, Delaware passing theirs in 1989, Pennsylvania in 1990. These actions helped choke off the volume of takeover activity. The actions in the states especially affected what we call "hostile takeovers" -- those where the target resists the takeover. Again, this was not the first time that this happened. In the 1910s and 1920s there were also broad reforms in state laws to try to prevent takeovers.

The slide on the bottom of page 7 of my handout shows these changes in takeover moods across time. I've actually used three different definitions here for "hostile." The resistance to the first bid is what actually

comes from Vishny's work, which is probably one of the best known studies done on the mood of takeovers. I also looked at resistance to the buyer's bid and to management changes as ways to define "hostile."

In 1990, there was a case decided in the Delaware courts that virtually requires the managers of the target firm to get a second bid. In other words, if they don't reject the first offer they receive, they can be sued by the shareholders for not getting the best offer for the firm. As usual, there are unintended consequences to this type of regulatory change. In this case, it was to significantly drop the share prices of all the companies incorporated in the State of Pennsylvania.

The states weren't alone in their antitrust activity. The slide on the top of page 8 of my handout shows, across time, how many bills introduced into Congress mentioned "takeover." As you see, during the 1980s there was a lot of activity in Congress. A lot of it had to do with political pressure put on by that 66.7 percent of employees that Bob mentioned who were affected one way or another after the merger. This also had unintended consequences. The slide on the bottom of page 8 of my handout shows the types of buyers, either domestic corporations, foreign firms, financial buyers or employees in this corporate control activity. You can see there are significant differences before and after the anti-takeover laws.

For instance, the buyers were foreign corporations in 12 percent of the takeovers before 1990. After 1990, after those types of anti-takeover activities were going through Congress and the states, 31 percent of these takeovers were performed by foreign corporations. There's some speculation that foreign corporations are able to take advantage of distortions created by regulatory activity.

So, what happens across time is we have these regulatory interruptions, we have disruptions in the financial markets, et cetera, that affect who can be taken over, when and for how much. As seen in the slide on the top of page 9 of my handout, in the pre-regulatory period, per year, per merger, in the sample that I used, $46 million were saved annually through cost reductions. Afterwards, $15 million. And this is the unintended consequence of regulatory interference in these markets.

Now, what are the good reasons why mergers occur? Why is it that we want to encourage them? The slides on the bottom of page 9 and the top of page 10 of my handout show some of the structural reasons. This is based on work by Fred Weston and also John Pound. Large technological changes impact the way that we do business. In the 1900s and 1920s, between the transcontinental railroad and the advances in automobile transportation, we developed true national markets in the United States. Firms were able to grow beyond their region by being able to take advantage of broader markets.

I'd suggest that we probably achieved some sort of fulcrum point in the 1970s, sufficient globalization to begin to generate an impact on a world economy from strong change forces. The cost of transportation and communication fell sufficiently by that point to create real international markets. I think that you can draw a parallel to the forces in the 1970s that created international markets with those of the early 1900s that produced national markets.

In my own sample, I see significant changes in the different time periods as to the sectors that the firms were taken from. This is certainly true before and after 1990, as shown in the slide on the bottom of page 10 of my handout. This shows the percent taken over before and after 1990 of the targets taken from individual sectors. Now, certainly before 1990 there just generally was more activity overall. What's interesting to note is that the technology sector is about half and half, whereas the overall split is about 60/40. And so, although the energy industry, for instance, had more targets in the earlier period than in the later period, technology was more spread around.

So, for those of you who have to look at mergers and acquisitions and decide which ones are good and which ones aren't, what I would like to suggest to you is that you try to identify where the industrial restructuring changes are coming from. In the slide on the top of page 11 of my handout, I suggest four ideas that will lead you to look at the right industries at the right time.

The first is, some industries are dependent upon population growth -- food, for instance. Population grows at less than 1 percent. What company can survive if they grow at 1 percent a year? All the capital markets and all of the investors are going to require a higher growth rate and so that industry is going to require mergers to be able to get that type of growth.

Another idea to watch is product life cycles – in the technology sector, in particular. Products turn over so quickly that if firms can't build new products themselves, they are going to have to purchase other firms to be able to keep up with the technological changes.

Customer preferences is next. You need to be looking at demographic shifts and also changes in environmental and ecological impacts where people will be attuned to buying certain types of products because they are good for the environment.

And then the last, of course, is the post-exuberance excess capacity, which can occur in virtually any industry. Mergers are a way to reallocate resources to more efficient uses.

Thank you.

MR. PAUTLER: Thanks, Susanne. We'll now hear from Steve Kaplan from the University of Chicago Graduate School of Business, and he'll discuss the finance literature and the results that have appeared there.

MR. KAPLAN: Great. Thanks, Paul.

As shown in the slide on the bottom of p.1 of my handout, I'm going to begin by presenting some simple criteria and theory about how one can evaluate merger success. Then I'm going to go through the empirical evidence in the finance literature. This begins with stock returns which we haven't heard anything about yet. Then I will discuss some of the accounting-based literature that Susanne, Bob and Mike talked about. Next, I'll talk a little bit about clinical studies, one of which I have done. Finally, I'll talk about what the sources of gains and losses are and a little bit about micro-factors that drive merger success.

So, how can you evaluate merger success? There are several different ways. These are shown in the slides on page 2 of my handout. The first way -- the finance one -- is the stock price change at the announcement. This attempts to measure the market's expectations of the change in value from the merger.

One key point that is often lost when business people and consultants talk about merger gains is that the appropriate measure of merge success for shareholders and the economy is the combined or total change in value of the bidder and the target.

It is not whether the buyer got a good deal. A lot is written about mergers failing because the bidders overpay. Bidder overpayment is arguably irrelevant for economic policy and for shareholders as a whole. What shareholders

as a group and policy analysts should care about is whether the total value goes up.

To see this, take two companies, B and T, that are worth $10 billion each. If B buys T, B will be able to get $2 billion in synergies. B indeed decides to buy T, but agrees to pay $15 billion. Upon announcement, T's value will increase by $5 billion (or 50%) from $10 billion to $15 billion. Upon announcement, B's value will decline by $3 billion from $10 billion to $7 billion. Why the $3 billion decline? B is paying $15 billion for assets that will be worth $12 billion ($10 billion + $2 billion in synergies).

From the perspective of B's shareholders, B's executives, and B's consultants, B has made a bad acquisition, destroying $3 billion. However, from the perspective of all shareholders, this is a very good acquisition. The combined value of A and B has increased from $20 billion ($10 + $10) to $22 billion ($7 + $15).

The implicit assumptions in looking at the stock price changes at the acquisition announcement are that (1) the market is well-informed on average and (2) the only information released is information about the merger.

Other finance studies look at the stock price change over the longer run. The implicit assumptions in these studies are that (1) the merger is important enough to drive the stock price, and, again, (2) no other information is released.

The accounting-based studies look at changes in

accounting-based performance at the company level over the longer run. This involves looking at changes in some measure of earnings or margins. The implicit assumptions here, again, are that the merger is important enough to drive what you're seeing and that no other factors are important on average.

Some other accounting-based studies consider changes in productivity at the plant level over the longer run. This is what Bob talked about. These studies measures the outcome of the merger at the plant level so the implicit assumption is that the total productivity change of the merger is largely determined by productivity changes at the plant level. That may or may not be true.

There are some studies that consider whether the acquisition was subsequently divested. Mike did that, I've done that. This is interesting, but it is hard to evaluate the non-divestitures.

The last way to evaluate mergers and acquisitions is to measure the actual or expected present value, depending on whether you're looking at the merger from an ex ante or ex post perspective, by looking at the actual or expected changes in cash flows.

Looking ex ante, you're looking at all the expected changes in cash flows due to the merger, discounting them in some way, and coming up with a value. If you're looking after the fact, you would go three or five years after the merger and look at all the changes in cash flows that

actually happened and attempt to come up with a value that way. The implicit assumptions here are that expected equals actual, if you're doing it ex ante. And if you're doing it ex post, the assumption that you can actually measure actual -- which is easier said than done.

There's one additional implicit assumption - the merger effects are exogenous and they don't have an effect on non-merging companies. This was probably particularly relevant in the '80s where mergers and hostile takeovers of particular companies arguably had large impacts on the behavior of companies that weren't taken over.

So, what can we take away from all these different methodologies? As seen in the slide on the top of p. 3 of my handout, all of these measures are problematic in some way. They all rely on assumptions. All, however, are potentially informative, which is why we look at them. I have a preference for announcement returns as the most informative about expected values. I'd prefer measures of actual cash flow changes from mergers as an ex post measure of success (with the caveat those changes are very hard to calculate).

Now, a little bit more theory, and then I'll get to the results. When you measure the change in stock value at the announcement, what you actually measure is the change in the value of the acquirer, (which, as seen in the slide on the bottom of page 3 of my handout is) A^A minus A^O, plus the change in the value of the target, T^A minus T^O. (All of

these are market values.)

Now, this can be decomposed into A^A minus A^N (the value of the acquirer afterward minus the value of the acquirer once you have new information about the acquirer that comes with the bid) plus T^A minus T^N (the value of the target after the acquisition minus the value of the target once you have the information in the bid about the target) plus A^N minus A^O (the value of the new information about the acquirer) and T^N minus T^O (the value of the new information about the target).

Change in Value = $(A^A - A^O) + (T^A - T^O)$

$= [(A^A - A^N) + (T^A - T^N)] + [(A^N - A^O) + (T^N - T^O)]$

= [Total synergies] + [New information]

The short description of this equation is that the announcement returns contain an estimate of the total synergies and any new information revealed by the bid about the acquirer and the target. As a result, any particular merger announcement does not necessarily just pick up the synergies.

With this in mind, let's go to the empirical work. First, let's look at a summary of the finance literature, as shown in the slide on the top of page 4 of my handout. The best paper of which I am aware is by Andrade, Mitchell and Stafford in the Spring 2001 Journal of Economic Perspectives. They look at all acquirers and targets that were in the merger database of the University of Chicago Research and Security Prices database over a 25-year period.

As shown in the slide on the bottom of page 4 of my handout, they first look at a three-day period around the announcement. They find that the combined returns over that period are economically and statistically significant and positive. The combined values of the acquirer and target increase by 2% of the total initial value of the acquirer and target. This is equivalent to an increase that is 10% of the initial value of the target alone. This result is consistent across all three decades, the '70s, the '80s and the '90s.

The returns to the targets are clearly positive. The returns to acquirers are slightly negative, but not statistically different from zero. The combined returns are positive. If one were to judge merger success only by the acquirer return, one would conclude mistakenly that mergers did not create value on average.

If you use a period that's a little longer - 20 days before the announcement until the merger closes - the combined returns are positive, but no longer statistically significant. Again, they are roughly 2 percent of the combined value, but because of the extra time, you get more noise. And again, the returns to targets are positive; the returns to acquirers, slightly negative, but not significant. The table from their paper appears in the slide on the top of page 5 of my handout.

Now, turning to the slide on the bottom of page 5 of my

handout, recall that acquisitions reveal information about the acquirer and the target that may change expectations. This is, as I said before, clearly relevant for stock performance studies. It's also potentially relevant for the accounting-based studies.

When or how is information about the acquirer likely to be in an acquisition? Theoretically and commonsensically, an acquirer is more likely to use its stock to pay for an acquisition when the acquirer believes its stock is overvalued or fully valued. In practice, one might interpret an acquirer as believing its stock is overvalued when it says that it plans to use its stock as currency. Conversely, the acquirer is less likely to use equity when it believes its stock is undervalued.

The point of this discussion is that the revision in the underlying value of the acquirer – A^N minus A^O – is probably negative when an acquirer uses equity to finance an acquisition. The measured combined returns in equity-financed acquisitions include $A^N - A^O$, and, therefore, likely underestimate the value of the acquisition. Because there is likely to be less new information in cash-financed acquisitions, the combined returns to those acquisitions are arguably a better measure of the average value of acquisition synergies.

To account for the informational differences in cash- and equity-financed acquisitions, most studies look at those two types of acquisitions separately. The slide on the top

of page 6 of my handout (again taken from Andrade et al.) shows that acquisitions funded by at least some stock have combined returns that are essentially zero. Acquisitions funded without stock have positive combined returns.

I'm sure some people – including some on this panel – will question whether announcement returns are meaningful. It is true that there is noise or measurement error in the announcement returns. Going back to my earlier point, the information released by the acquisition announcement is not solely about the value of acquisition itself.

It is important to stress, however, that if you look at the correlation of announcement returns with what actually happens in a large sample of acquisitions (see Kaplan and Weisbach (1992) or Mitchell and Lehn (1990)), you actually find a positive and significant correlation. It's not perfect. The R-squared is not anywhere near one. But there is a positive and significant correlation suggesting that announcement returns are providing useful information about merger success.

To summarize, as shown in the slide on the top of p. 7 of my handout, the bottom line of event studies is that stockholders view acquisitions as creating value on average. The combined returns are positive, particularly for non-stock mergers. Announcement returns are predictive of subsequent outcomes. The event studies are not very helpful regarding the source of value change and the determinants of success.

Longer run returns are shown in the slide on the bottom of page 7 of my handout. These measure the returns to acquirers for several years after the acquisition. The bottom line from these results is that the value-weighted post-acquisition returns to acquirers are indistinguishable from zero. These represent the returns to those acquisitions that are most likely to receive regulatory scrutiny. Longer run returns to smaller acquirers – which drive the equal-weighted return results – appear to be negative. As with the short-term event studies, there is some difference between stock and non-stock acquisitions. Post-acquisition returns are greater for acquisitions that do not use common stock. Also like the short-term event studies, these analyses are not very helpful regarding the source of gains or the determinants of success.

Next, we come to accounting-based studies. These studies use accounting-based measures of performance, such as operating margins – as Susanne and Mike did – and total factor productivity – as Bob did. As shown in the slide on the bottom of page 8 of my handout, the results from accounting-based studies are all over the map.

Andrade, Mitchell, Stafford (2001) and Healy, Palepu, Ruback (1990) claim to find positive increases in operating margins or operating performance after an acquisition. However, when one looks closely at the results, they are of very modest economic significance. I would interpret their results as not being powerful enough to find any meaningful

change on average. Maksimovic and Phillips (2001) and Schoar (2002) use the LRD, Longitudinal Research Database, data. The conclusions in the first paper are neutral to positive while the conclusions in the second paper are neutral to negative. As is well known, Ravenscraft and Scherer (1987) find negative results although they largely study mergers of the 1960s and 1970s.

So, the bottom line of the accounting studies is that there is no clear overall relation between acquisitions and subsequent accounting or productivity performance. It is something of a puzzle in relation to the event study results. The likely explanation is that the accounting data are too noisy to isolate the effects of the acquisition.

Clinical studies are referenced in the slide on the top of page 9 of my handout. In my paper with Mitchell and Wruck, we calculate the annual cash flows and the value at divestiture of an acquisition. We then compare the discounted value of the cash flows and divestiture to the pre-merger value. This provides a blueprint for doing this type of calculation. The analysis for that particular case also comes up with a different answer than the accounting study analysis consistent with a great deal of noise in the accounting study approach.

Determinants of gains and losses are shown in the slide on the bottom of page 9 of my handout. The best paper along these lines is the one by Houston, James and Ryngaert (2001). They study 41 large bank mergers. They compare the

announcement returns of the mergers to the cost savings and revenue increases projected by the banks -- the acquirers -- at the announcement of the acquisition. They find that the announcement returns are significantly related to the projected cost savings, but not related to the projected revenue increases. (The revenue result suggests no evidence of market power.) In other papers, there's some evidence that related acquisitions do better than unrelated mergers, although that is, again, somewhat mixed.

The last thing I'll talk about is the micro-determinants of success, shown in the slide on the top of page 10 of my handout. The large sample papers are not so relevant here.

As Paul mentioned, I edited a book where the individual chapters consist of clinical studies by different authors. The results are sympathetic to what you've heard earlier. Mergers seem to be driven by technological and regulatory change. In successful mergers, the acquirer has a deep understanding of the target, the organizational design and structure is appropriate to the business, and the acquirer introduces appropriate compensation and incentives.

Let me conclude by referring to the slide on the top of page 11 of my handout. Do mergers create value on average? My conclusion is yes. I rely on the announcement returns as the critical evidence. They have been reliably positive over the last 30 years.

The accounting-based studies are more mixed, but are

subject to more noise. The accounting-based studies also would be less likely to pick up performance changes in mergers driven by technological and regulatory change. Mitchell and Mulherin (1996) find that a large fraction of merger activity is driven by such change.

Who gains, who loses? Target shareholders gain, acquirer shareholders neutral.

How do you evaluate merger success? As shown in the slide on the bottom of page 11 of my handout, the best way, if you can do it, is to use the discounted present value of the changes in cash flows from the merger. Ex ante, announcement period returns provide some help there. It would be better to find the changes in expected cash flows, which is what many of you in the room end up trying to do.

Finally, what drives success? Cost cutting rather than top line growth is our best estimate of that. A deep understanding of the business, appropriate organizational design and structures, and appropriate compensation system and incentives improve the likelihood of success.

Thank you very much.

MR. PAUTLER: Thank you very much, Steve. We've heard four different views about the rates of return or gains from mergers from the various members of the panel. I wanted to give them an opportunity to do a little bit of rebuttal if they want. I've heard differences of opinion, and I thought other people might want to comment. We could go in our original order, I suppose.

Professor Scherer, would you be interested in commenting?

MR. SCHERER: I'll comment disinterestedly.

(LAUGHTER)

MR. SCHERER: I guess I'll take them in the order presented. Bob McGuckin emphasized the steel and petroleum industries, which indeed were subject to all sorts of international and technological and regulatory forces. From that I don't think follows the necessity of merger to cure the problem. In many cases, the necessary responses to these changes could have been made equally well within the firm. It takes an additional stretch of logic to show that because one is impacted by some forces implies that the only way to react efficiently to those forces is to merge. I just don't think that's true, having studied the petroleum and steel industries at great length.

On the studies that were done at the Census Bureau with the longitudinal database, I didn't hear the full story here, and frankly, I haven't followed it, but my recollection, as of about 10 years ago, when I last looked at these studies, was that there was a difference, yes. Yes, there were productivity increases following merger. But when you then broke down the sample between merger and re-merger -- that is to say, you take a line that's already been acquired, and then it gets sold off to somebody else. For such acquired and resold lines, Ravenscraft and I found productivity increases, and we found profitability

increases. My recollection is that either the people using LRD couldn't make that distinction, or when they tried to do so, they found that the first-time mergers didn't have that same effect.

I question whether Hart-Scott-Rodino made all that much difference in the regulatory environment, because the FTC's Pre-Merger Notification Program existed from 1967 or 1968 on, and except for the mandatory delay, the Hart-Scott-Rodino didn't add much at first.

Now, with Susanne, I think there's a kind of a fallacy of composition. The assumption is, you've got a problem and then the further assumption is you need a merger to solve it. Well, that doesn't necessarily follow.

An anecdote. I was at a cocktail party a few years ago, and I met a guy and we got talking. What do you do? That's what you always talk about at cocktail parties. He said, well, my little start-up firm has invented a net router switch that is 100 times more efficient than anything Cisco has. Oh, great. Are you going to develop it? You're damn right we're going to develop it and we're going to make a lot of money with it. Well, a couple of years later, I read that Cisco has paid him a billion dollars to acquire this switch.

This guy would have put that switch on the market with or without the merger. And so, how can you say that merger facilitated the technology that this guy had already developed?

Steve said something to the effect that some of the problems were that mergers need to be important enough to affect the results, and that nothing else is changing. Well, the methodology used by Ravenscraft and me made the merger important in every case because we looked at the individual line of business data, where for the lines that had acquisitions, half of the sales, on average, were associated with acquired activities, so we could control for other industrial and even firm-level events.

About reliance on event studies, maybe I should just read the Pope on this. What is an efficient market? Let me quote the late Fisher Black in his presidential address to the American Finance Association.

"We might define an efficient market as one in which price is within a factor of two of value; that is, the price is more than half of value or less than twice value. The factor of two is arbitrary, of course. Intuitively, though, it seems reasonable to me, in the light of sources of uncertainty about value and the strength of the forces tending to cause price to return to value. By this definition, I think almost all markets are efficient almost all the time. Almost all means at least 90 percent."

Now I quote myself rather than Black. If Black's estimate represents the 90 percent confidence bounds about a log normal distribution, for example, then 16 percent of corporate stocks would be undervalued or overvalued by 34 percent or more by any time. That's a lot of noise.

MR. PAUTLER: Thank you. Bob?

MR. McGUCKIN: I guess I want to deal with the question of necessity. I mean, I don't think it's necessary to merge to achieve growth or downsizing. I think the issue is what is the most efficient way to do things. Unless there are competitive problems, one would think -- and indeed, if there is competition, one would expect business to take the most efficient way to achieve changes brought on by regulation and new technologies. And so, I don't ask the question necessary. I think there are substitute ways of doing things.

We did examine situations where people were able to do downsizing, for example, without a merger, and that happens and that's one of the controls in the model. But that is not necessarily the relevant issue.

The other thing that I just want to be clear on is that this is not just about cost inefficiency and managerial discipline, it's about synergies. The vast bulk of the mergers we examined -- and 10 years ago, Frank Lichtenberg's research was finishing up and we were just getting started were synergistic. As I indicated on my slide, you can follow the divested firms. You can make those issues. But synergies come from buying the good performers and making them better. Those are the most numerous and typically the smaller acquisitions in the database. And so, while we don't cover the entire economy -- I covered manufacturing, and manufacturing is a substantial and important part of the

economy.

Now, the last comment I'll make will, as Steve suggested, push my own stuff. I have a paper that I did about 10 years ago, "The Use of Stock Market Returns in Antitrust Analysis of Mergers." It's, unfortunately, not well cited -- it's in the Review of Industrial Organization. It's work that I did when I was with Rick Warren-Boulton at the Department of Justice and another, unfortunately deceased gentleman, Pete Walstein, and when we left, we never really finished the work. Although there is a lot of noise, the results that Steve mentioned in terms of a big bang for the acquiring and target firms were observed.

But we went and tried to look at the rivals. And the way we did it was to estimate the probability of the merger taking place during the event window time period after the merger was announced. The technique worked pretty well, at least in seven of the eight cases. In one merger we had another event intervene. And we got reasonable results. They compared favorably with what you might get from a regular antitrust analysis. But they were very difficult to implement. So, it's not a tool that you could use in all mergers. We had to go to over-the-counter stocks. You have to get a competitor, a real rival, and it's only that piece of the firm which is anti-competitive that is relevant.

So, I think there is information in the stock market, but I don't think it is practical to use it alone.

Indeed, I think all the approaches we have been discussing have information content. Taken together, they give a presumption that most mergers are pretty successful in the sense of moving resources from lower to higher valued uses. But, they are not necessarily successful for shareholders of the acquiring firms, even though they generate a lot of profits.

MR. PAUTLER: Thank you. Susanne?

MS. TRIMBATH: Well, Mike threw down the gauntlet, so I guess I have to pick it up and run with it here.

I think the important thing to remember about that example, Mike, (that the product could have been made without a merger) is that even though the merger may not have facilitated the production of the product, I guarantee that the merger facilitated getting that product to the marketplace. That's what the bigger firms can do that the smaller firms can't.

Certainly, as Bob pointed out, I don't think anyone is saying that mergers are the only way to get some of these things done. What we are saying is that some of these things get done with the merger in place.

There are a lot of things about mergers that we don't know yet. For instance, the productivity gains that Bob talked about, I'm wondering if he had controlled for the fact that there was an overall increase in the rate at which productivity in the United States grew during the same period. So, how much of it was from mergers? I think a

lot. But individually, at the micro level, can we control for that differentiation? That's hard to say.

By the way, Bob, I did read your paper. I didn't cite it because I'm allergic to stock price studies. I include stock prices as one of the potential measures of both the characteristics of the targets and as a result of the merger. Basically, what I found was that stock prices are more reactive than predictive. In particular, if you look at Pennsylvania after the passage of their anti-takeover laws, which were absurdly strict, all companies incorporated in the State of Pennsylvania had their stock prices drop on that news. So, the prices were reacting to the passage of the law and not to whether or not the takeovers were efficient or inefficient or profitable or anything else. So, I think that's an important point to keep in mind.

Another thing that has not really been studied is the characteristics of the buyers, and I think that before we can say that we know why takeovers occur and whether or not certain products will get to market with or without a merger, I think we have to know a whole lot more about who the buyers are and what their characteristics are.

We've spent way too much time looking at the targets, and I think, generally, a lot had to do with the stock price studies, because people were looking for stock price bets. If you could identify the targets, you could buy the portfolio, you could make a lot of money, because

target stock prices go up by 25 percent, et cetera. And I think that that was very misleading.

I think it misled us as economists, as financial analysts. It pointed us in the wrong direction. I think it may also have misled management towards focusing far too much on stock prices. I'm concerned about this. I think we need to consider whether or not some of the most recent problems that we had associated with stock prices and corporate performance may have been the result of what economists, in general, did by pushing stock prices as the only way to measure firm performance.

And I'll stop there because I would definitely like to take some questions from the audience.

MR. PAUTLER: Thank you. Steve?

MR. KAPLAN: A few comments.

I want to agree with what Bob and Susanne said about mergers being better than the alternative.

Take the Cisco example. I teach a case on a switch company that is trying to decide whether to do an IPO or sell to Cisco. They decide to sell to Cisco. Two years later, instead of having the $200 million in revenues they forecast they would have if they had done the IPO, the division of Cisco that they have become has something closer to $1 billion in revenues. The point Susanne made that an acquirer may have assets the target doesn't have was certainly true in that particular example.

Of course, it's only an example and that's why you try

to look at the larger sample studies to find out what happens on average. The event study evidence on acquisition announcements isn't perfect, but it is positive on average over many different time periods. There is no reason to believe that the market has gotten it wrong for thirty years and continues to get it wrong.

One last point concerns the LRD data. The most recent studies that use that data (and use it comprehensively) find mixed results. The paper by Schoar (2002) finds that target plants in diversifying acquisitions become more productive. However, existing plants of the acquirer become less productive and the net effect is negative. The interpretation of these results depends on what the acquirer and target plants were expected to do before the acquisition. On the one hand you could say the results are positive because the target plants became more productive. On the other hand, overall productivity went down.

MR. PAUTLER: Thank you, Steve. There are just a couple of questions I'd like to ask and then I'm going to throw it open to questions from the floor, which I hope we'll have a little time for.

In hearing everyone discuss the returns to mergers, we've got some differences of opinion there. But I think, perhaps, everyone believes that the distribution of returns is sufficiently wide. The FTC largely looks at horizontal mergers, and we tend to only look in detail at anywhere from 2 to 4 percent of those mergers - those are

the ones where we issue second requests for information.

Does the evidence from the large-scale studies really help us analyze those individual cases or are we going to have to think about the individual cases we're looking at a little more like case studies? Because we're looking at a very small piece of the merger activity that's out there in the world when we sit in front of our 500 boxes of documents, and our ability to go talk to darn near everybody in the industry if we want to. We're really doing case studies in a sense. I happen to find the large-scale studies very interesting. I think they provide essential background on mergers. But will they really help us a lot in figuring out what we need to do on cases or do we have to go to the case study work to really figure out the answers we're looking for?

MS. TRIMBATH: I'll start on that for you, Paul, because I think that the first thing you have to recognize is that managers make mistakes. I always say, if managers didn't make mistakes, we wouldn't need bankruptcy laws. But they do and we do and that's why they're there because sometimes managers make mistakes.

What the large-sample studies show you is that the potential is there for these types of savings. My study, and I think also Lichtenberg and some of the other work, show that a lot of the savings is coming out of overhead. I call it “cost-cutting for dummies” because almost any two companies that get together can find cost savings just

basically from the overhead, without reducing output, without reducing employment or anything else. But, do they actually get there? That's where you're going to have to look at the specific companies involved, as to whether or not they have the capability.

In this case you almost become like venture capital investment bankers having to evaluate the management of the two companies as to whether or not that individual firm has the capability of recognizing the savings potential. But I think the large-sample studies show you, by and large, where these types of efficiency gains can be had, and then in the case level study, it's a question of whether or not that specific company is capable of finding it.

MR. PAUTLER: Anyone else care to take a shot at that?

MR. SCHERER: Yeah. There's a tremendous spread of outcomes. What you referred to as large-scale studies means statistical studies, and what they reflect is the average tendency. There's a lot of disagreement among us as to what that average tendency is. I'm obviously, at one extreme of the spectrum, not only from my own work, but from the work of Dennis Mueller and many others, Len Weiss and so forth. These are, to be sure, older mergers. I don't know what's happened in the last 10 years. But at the time I was looking at the situation, it seemed to me that the spread was such that on average, mergers didn't yield much in the

way of superior efficiency.

Now, to deal with a merger in an antitrust context, yes, indeed, you are doing a case study and the evidence is very difficult to analyze, to get together and to analyze. I've been involved in several of these myself. The Youngstown Steel/Jones & Laughlin Steel one is interesting because I've documented it both before and after, and again, the efficiencies that were predicted before turned out to be very, very different from the efficiencies that I found in my follow-up case study actually to have happened.

Where the so-called broad ranging or statistical studies come in, I think, is in devising tiebreaker rules. A company makes an efficiencies defense, the evidence is ambiguous, you don't know. Is it going to lead to efficiencies or not? That's where the tiebreaker rule comes in. If, on average, you think that mergers yield efficiencies, then the tiebreaker ought to say, allow the merger, all else equal. If, on the other hand, on average, mergers neither yield efficiency nor make things worse, then the tiebreaker would say, let's let our skepticism overrule the ambiguous evidence.

MR. McGUCKIN: The reason I brought up fix-it-first is I think it is important that you look at specific mergers and they are case studies. You're not going to get those from the broad studies, and I agree with Mike on that. But I guess I would argue that, given my read of the

evidence, that the presumption is that mergers move resources in useful ways and they're efficient.

We're never completely sure when we decide whether a merger is anti-competitive. We're making guesses about entry barriers and foreign competition and whether there's power to raise price. So, that ought to at least look a little bit toward the burden of proof and I think that coincides with what Mike just said, except I would come at the burden a little differently.

MR. PAUTLER: I'd like to get some questions from the audience. Anyone? Alden?

MR. ABBOTT: Yes, one general question. Isn't the relevant question really not on average are mergers efficient, but would regulatory and legal changes that make it more or less difficult to merge affect productivity or efficiency in positive or negative ways?

Because even if one found, on average, there's no real effect, that doesn't tell you the effect of the existing ability to merge on the incentives of firms that aren't merging to maintain productivity. It doesn't tell you what would happen if merging somehow were made more difficult because of, say, going to 1960s antitrust standards or securities laws that made it more difficult to merge. Isn't that a relevant set of questions to examine?

My name is Alden Abbott. I'm in the Bureau of Competition at the FTC.

MR. KAPLAN: That's a very relevant and important

point. The best example of this is probably the hostile takeovers in the '80s. The raiders, buyout firms, and hostile bidders arguably had a large effect on corporate management at companies that were not attacked. In many cases, companies attempted to pre-empt hostile takeover bids by implementing the same changes that raiders or hostile acquirers would have brought.

MR. PAUTLER: Anyone else?

MS. TRIMBATH: I'll just make one comment. There have been studies done that show that management performance is more closely related to turnover during active corporate control markets. So, it is important that we not limit the ability of firms to take part in M&A.

What affects the level of activity is the financing being available; a lot of that is controlled by regulation; also as I shared earlier, the state anti-takeover activity has an impact. But, clearly, the link between management retention and firm performance breaks down during periods when the potential for M&A activity is reduced by some type of regulatory interference.

MR. PAUTLER: Anyone else? Dave?

MR. SCHEFFMAN: Yeah, there was certainly some disagreement here amongst the researchers, but I suspect there may not be as much disagreement on what we do. So, I'll ask Steve the following question. I think you have a different view than Mike about the overall average effect of mergers. But let me tell you where we live. We're looking

at a typical merger which is, say, four-to-three in a concentrated industry protected by entry barriers. As the Chairman said, that's not enough for us to believe that we have a problem. But, suppose we have some basis of concern, customer complaints, documents and other sorts of things. Yet the case is not a slam dunk -- not a clear case, as efficiencies are not going to overcome a very strong case, but one in which we have reason to believe there's a problem.

Based in your assessment, is it your view that we put our thumb on the scale for that case if we have an efficiency story that's not very well documented or proved? Or should we go the way Mike said, and err on the other side assuming that in this situation the merger might actually be anti-competitive?

MR. KAPLAN: Let me begin by saying that without more details, it is really impossible to answer that question. How large are the potential efficiencies? How large are the potential anti-competitive effects?

That said, other things equal, the empirical evidence with which I am familiar tends to favor the efficiency effects rather than the anti-competitive effects. For example, in the paper that studies the large bank mergers, the results suggested that the market ignored the top line growth estimates (which would presumably represent anti-competitive gains), but, instead, focused on the cost savings. The large sample evidence as well as the case

studies I have looked at also suggest that anti-competitive effects are more difficult to find or obtain than efficiency effects.

MR. PAUTLER: I think we had one more, perhaps, mini-rebuttal from Professor Scherer.

MR. SCHERER: Well, I wanted to answer more on the last question, although maybe I'll put a footnote on what Steve said.

For the period that Ravenscraft and I studied, which ended about 1975 or so, there were very few legal barriers to merger except for the antitrust laws, which were interpreted in a very tough way, much tougher than today, against horizontal mergers and also against vertical mergers. Now, that definitely had an impact on merger activity. It biased merger activity in the direction of conglomerate type mergers. And what Ravenscraft and I found was that these were the mergers that most likely led to loss of managerial control and inefficiency. So, there's a nexus of causation that I think is important.

Now, what really surprised me, reading my book over again after 15 years, was that the horizontals had almost the same kind of degradation of baseline profitability and cash flow as the conglomerates. That was surprising to me. I've learned enough in 15 years that I didn't think I'd find that. I thought I'd find something else.

Why? Again, the antitrust laws had an impact

there, I think, because the antitrust laws forced any horizontal mergers we've got in our sample to be so small that they were going to be innocuous from the point of view of enforcers. And our study showed the small guys who were acquired had very high profitability. So, therefore, after the merger, there tended to be a degradation of profitability -- from superior levels to roughly normal levels. So that, I think, is how policy and merger effects interact.

Now, let me just say a thing about financial type mergers and cost savings. I don't doubt for a moment that they've yielded cost savings, but is service worse after merger? I want to refer, again , to the survey results reported by Business Week. It was on p. 10 of their August 6, 2001 issue.

Anderson Consulting conducted a survey in June, 2001 that compared customer dissatisfaction ratios involving companies that merged within the last six months to those that did merge within the last six months. And you find systematically --cable companies, Internet service providers, cellular phone companies, long distance companies, local phone companies -- you find in all cases more dissatisfaction with service for those companies that have recently had mergers.

All I can say is, yes, I've lived it experientially.

MR. PAUTLER: Thank you. We're just about out of

time. I'll take one more very quick question. Bill?

MR. KOLASKY: Bill Kolasky, Wilmer, Cutler and Pickering. That last line I felt particularly amusing, if not perhaps a little annoying. If you look at some of the detailed case studies that have been done of some of those mergers, particularly in the telco industry, you'll find exactly the opposite of that.

AARP, which was an opponent of both the Bell Atlantic/Nynex merger and the SBC/PacTel merger, did a detailed retrospective study of the results of those mergers and found, (a) that they delivered more in the way of cost savings than the companies had promised, and (b) that they resulted in significantly improved service for customers of the acquired companies. So, I think you need to be very careful before you look at a slide like that.

The second thing I question for Mike Scherer is, isn't your book really more of an indictment of conglomerate merger policy 25 years ago than it is a useful study of horizontal mergers? Wouldn't you agree that our management control systems are far more sophisticated, in part because of computer technology and information technology, than they were in the period 1965 to 1974?

And then the final question that I have is, one of the things I found interesting about the panel is that we were talking either at massive studies that were looking at merger outcomes on average or case studies of individual mergers. What I'd be interested in hearing about are

industry-wide studies. I think there was one reference to bank mergers, which would be such a study. But, for example, one area where we've seen a lot of merger activity over the last 20 years has been those industries that have been recently deregulated, and in almost every case, deregulation was followed by a massive consolidation, a real merger wave. A very good literature review by Cliff Winston in the Journal of Economic Perspective found that those industries' prices, not just costs, but prices came down on average, from 35 percent in some industries to as much as 70 percent in other industries. I'd be curious if you're aware of any studies that try to disaggregate the effects of deregulation to show how much of those cost savings and consumer-benefiting price reductions resulted from consolidations and mergers? Thank you.

MR. SCHERER: I guess that was directed towards me, and there were several sub-parts. The first thing, haven't our control systems for conglomerates become much more effective in recent years? The leading conglomerate, in view of what I've seen in the news lately, is TYCO International. I guess they had a pretty good control system. They controlled all the profits into Mr. Kozlowski's pocket.

Didn't the antitrust laws affect merger activity? Yes, indeed, as I said in my previous answer, they did. They biased it away from horizontals and to the extent that there were horizontals, they involved relatively small

horizontals. The study by Ravenscraft and me and lots of other studies indicate that it's the larger horizontals that are more likely to yield efficiencies.

Now, this leads me to a point. I've been pushing for an efficiencies defense since 1975. I think it's a good thing. One of the reasons -- it's not the only reason I think it's a good thing -- but one of the reasons I think it's a good thing is that, like the prospect of hanging in a fortnight, it wonderfully concentrates the mind. I've seen an awful lot of mergers on which I've done case studies in which the managers just didn't think about how they were going to wrest efficiency from the subsequent post-merger situation.

When you go into a merger unprepared, unthinking, you're liable to have bad results. So, the very fact of a merger efficiencies defense may wonderfully concentrate the mind to get better results.

MR. KAPLAN: Let me take the industry question. There's a paper by Mitchell and Mulherin (Journal of Business 1996) that looks at how mergers concentrate in particular industries. Their results (as well as those in the Winston paper you mentioned) are strongly supportive of your observation that regulatory or technological changes affect merger activities.

MR. McGUCKIN: Just one comment. I tried to emphasize it earlier. All this work, whether you're dealing with stock markets or you're dealing with a full firm or

you're dealing with pieces of a firm, you're dealing with accounting or productivity measures, ensuring scientific validity with controls is very difficult.

One of the things that I think we have to recognize is that while you can get these correlations, getting causation is tricky and controlling appropriately to be sure you get the right effect when many things are related is very difficult. So, you just shouldn't minimize that and I think that comes through all our work. It's an attempt to control and that's what you need to do. Broad generalizations, which I made this morning, come after lots of studies and reading.

But to nail it down, in particular, with respect to Cliff Winston's work which you mention let me restate my comment from earlier. When I showed you that Hart-Scott-Rodino slide and said the increase in productivity after 1977 showed that the merger law change improved things, I was very careful, I hope, to say I can't prove this.

MR. PAUTLER: I want to thank all the speakers for Panel 1. We're going to now take a short break and I'd like to reconvene at 11:25 if we can do that. Thank you very much.

(Whereupon, at 11:15 a.m., Panel 1 was concluded.)