Thank you David. I agree with Paul that these are two good and very interesting papers and I did enjoy reading them. I have great regard for the authors. Chris DeBresson in particular has been doing work in innovation systems for a long time, long before it was fashionable and the term innovation system became a buzz phrase among bureaucrats. I certainly have learned an awful lot from his work, although I'm sure most people will say I haven't learned enough. But there is a lot there still to be learned.

Let me start with my comments on Ron's paper and then I'll go back to the DeBresson and Barker paper. Ron finds that there may be an investment problem and properly asks whether low investment is under-investment. This is really a function of opportunities. You can look at ratios all you want, that really doesn't tell you how far we are from exploiting the opportunities available to us. And of course then he also mentions that, again looking at ratio analysis, that it looks as if Canadian investment in R&D is too low.

So we've got these possible problems and I think that Ron properly talks about them in terms of what are the institutional failures or distortions that lead us to be ignoring good investment opportunities, whether it's in intangibles or innovation or in more conventional types of investment. And he examines a number of possibilities. To use the well-known phrase, he rounds up the usual list of suspects, managerial myopia, market myopia, capital market regulation. There are other suspects that could be on the list. Industry Canada has addressed them in volumes of papers and in a lot of research on them. There is the question of the taxation and the cost of capital in Canada. There's the broad question of corporate governance. There are, there are a number of other areas, but I don't fault Ron for not addressed them specifically. He focuses on two, managerial myopia and, and market myopia.

With respect to the managerial myopia, Paul Davenport has already addressed the use of poor managerial techniques. Apparently some mangers are still using the payback period as a way of capital budgeting. Some are using discounted cash flow with the wrong cost of capital, the cost of debt instead of weighted average cost of capital. Very few are making use of real options theory. So what does one do? What's the public policy implication here if you have, if you have a badly performing or ill informed managers? This has been a question that's been around for a long time. I once made the mistake during the McDonald Royal Commission days of saying in front of the formidable Laurent Picard, well maybe it's the fault of the business schools. And I got a blast that knocked me almost out of the room. So I won't say that today. But if managers are poorly trained or poorly informed, again as Paul said, what's wrong with the market for corporate control? What facilitates their persistent use of techniques which may be leading to incorrect investment decisions?

On to capital market myopia. Ron summarizes the recent literature. This literature goes back a long way. A lot of event studies have been unambiguous in finding that markets do not punish long-term investments and markets do not punish investments in intangibles. One exception is that markets may punish investments in R&D by firms in non-R&D intensive industries. I think this is an indication that markets are well informed and that R&D may be an indulgence in some of the less technically oriented industries. The literature on management protection measures implies that their adoption sometimes has the effect of reducing R&D. The question is whether this is an agency problem or a market myopia problem. If it is an agency problem how do we deal with it? It's not clear exactly what we should conclude when we find that there's an association between firms adopting management protection measures and a reduction in R&D. On leverage buyouts, again Ron cites the Bronwyn Hall results that in fact LBO's and R&D are just two different worlds. Leverage buyouts typically don't occur that frequently in R&D intensive industries and they haven't had that much of an effect in any event.

So as a general matter, the findings (and it's good that Ron has updated them) are that markets do not seem to punish R&D. I'd make two general observations. First, for anybody who follows and watches CNN or whatever, the multiples on the .com companies are such that you have to wonder whether the punishing of innovation by the capital market is something we might be worried about right now. It seems to be that excessive optimism of markets with respect to these certain forms of innovation would be our problem. We have these infinite multiples in some cases, firms with no profits and, and in fact sometimes not even any revenues. The second point that I would make is that it was not long ago that industrial policy types were singing the praises of the bank-centred financial systems in Europe, Japan and in the Asian tigers. They were supposed to be so much better than the Anglo-American equities market-based financial system. They were said to allow for managerial stability are for far-sighted investment. What do these scholars and planners think of bank-centred systems now?

I just had some final comments on Ron's paper. Another issue that he might want to address is governance. He talks about it briefly. There are questions regarding the role of directors and issues in bankruptcy and those are all important things. The other issue is political economy. The problem is that the government will buy a company to just to get the head office jobs or bail out a company to keep some head office jobs. We keep talking about flexibility and adaptability but I think we're stuck in the mud institutionally most of the time. We just can't bear to see a company change ownership, change hands, change locations, change almost anything that involves people having to make an adjustment to where they live or what they do. And I think that this may have some effect on investment behaviour.

I'm sorry I haven't left as much time as I wanted for the Barker-DeBresson paper. Chris makes a very broad sweep here. I admire his ability to comment on a vast array of issues. I can't do this. I'm sure of only a couple of things and I've forgotten what they are. So I cannot comment on a lot of these things. But the paper suggests four reasonable policy goals. These are: participate in a learning based economy; building trust; improving the quality of life and repositioning Canada internationally. I don't have a quarrel with this. I guess there are two areas where I'd like to just spend a couple of minutes. One is the recommendation that we improve education, teacher training and pedagogical research. We could look at this in terms of new programs (new spending) and of course that would be the bias of the bureaucracies involved. If you look at this in terms of institutional change, in Ontario a lot of the improvements we might like to make would run headlong into Queen's Park, headlong into the teachers unions and headlong into school board bureaucracies. Past failures and current indifferent performance are not attributable, in my opinion, to a lack of money. The question you really have to ask yourself is whether we need some institutional innovation. If we had a little bit more flexibility in our educational system, letting a thousand flowers bloom, whether it's vouchers or whatever it is, I suspect we'd get a lot more of this innovation than we're seeing from the kind of centralized bureaucratic type of system that we have. The authors talk about equity and access and I'm not trying to downplay those issues, but we're so concerned with preserving an existing set of entitlements that we, we just can't make a lot of these changes even though they might be desirable.

The second issue is trust. This has become a real issue in a lot of the literature on industrial districts and organizations. Trust is necessary for exchange to occur. The authors appear to interpret it much more narrowly as trust in government. They talk about community forums and community meeting and communities being able to vote on government projects. I'm sure I'm not telling the authors anything they don't know, but I think trust is a lot broader than this. It is a whole sort of inherited commonality that involves maybe having gone to the same schools, living in the same communities, social interaction, work interactions, service clubs, family, kinship, a whole variety of things. And there are a lot of people that would argue that this type of social capital or trust capital is extremely important. I don't dispute that and I could accept that the Quebec Inc. type of approach is probably a manifestation of the existence of that social capital, which maybe isn't duplicated in other parts of Canada. But I'm not sure exactly how one sets out with public policies to create or invest in trust capital and I'm certainly not sure that this idea of community meetings does it. I think that historically that the service clubs in a lot of communities were a device in which, helped build social capital. Merchants, lawyers, managers, whatever people were in the community saw each other and saw each other in another context and were able to build and pass on that kind of trust. As a practical matter, the welfare state has really done a fair amount of damage to that kind of volunteer system in which people could see first hand where others were coming from. So I think it's an important issue, but I'm obviously not sure of the solution.

Finally, who should bear the cost of the many initiatives proposed by Barker and De Bresson? There is this concern expressed at the end of the paper about public, private partnerships and institutional experimentation. And I think a lot more discussion should be devoted to that kind of issue exactly. Chris and Stephanie have a long list of programs they'd like to see in place, but nobody should be under the illusion that they think this should all be financed by taxation and government expenditure. They have in mind somewhere in the back of their minds a number of different institutional reforms and I think more discussion should be given to that. The role of non-profit organizations, whether they're really capable of doing the things we're trying to assign to them or whether a lot of these institutional changes that we've seen in the last few years are just government trying to move some of its activities off the books. Are these new institutions or arrangements really better or is this just a sleight of hand? And I think that's going to be another interesting institutional issue.

Thank you very much.