BASIC CHOICES IN THE ALLOCATION AND MANAGEMENT OF RISK

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My task is in two parts. I have been asked first to react, at the outset of the conference, to Mr Grove's Report and some of the issues that arise under it, especially on his philosophies of risk allocation. I do this also by seeking to bring together some of the themes in the papers which the other speakers have prepared. Then, my second contribution is to return to react to the points as they have actually arisen during the conference. Throughout I hope that I shall thereby provoke questions and further thought.

PART I

Questions from experience

The questions that I wish to provoke will partly be answered in the other papers. Here let us highlight some of the central questions. To get to those, one may start with the philosophy expressed in Mr Grove's Report and the approach he adopted to the whole question of risk allocation and risk management. I would like to suggest that one could be more radical, and we will have to consider just how radical one can be in this context. To justify some of the radical questions, I will take a look, as Mr Grove did, at some of the international trends that seem to me to be pressing on the construction industry worldwide and in Hong Kong in particular.

What I have to say is not academic. It is informed by direct experience of projects internationally over the last decade or so. It may be objected that somebody coming from England who happens to be a lawyer does not have much to tell Hong Kong, and still less tell the non-lawyer engineering, surveying, and contracting community in Hong Kong. I raise the questions not just as an English lawyer but as one who has been involved in many projects, some of which had gone badly wrong—I hasten to say, before my involvement!

The timing of the Grove review: developments since early 1998

It seems that Mr Grove was an unfortunate victim of dates. It is unfortunate in retrospect that he was asked to do this job in the middle of 1998. Let us not

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forget we are considering his Report, through no fault of his, two and a half years after he did the work. Those years have been significant. Consider, for example, that at the time he was working on his Report, FIDIC had not even published the test editions for their new forms of contract. Since then they have published not only the test editions but also the further amended first editions. FIDIC's forms, even the Red Book for traditional construction work, are now materially different from how they were when Mr Grove was conducting his review. He could not avoid that; he had a job to do. However, the Conference must note that, with FIDIC as a new standard, the Hong Kong Government forms are out of date and out of step.

Again, consider the context two and a half years ago of public works in Britain. These too have changed materially in the intervening period. The Highways Agency is a significant employer of construction works. It had previously moved to an approach of large scale transfer of risk to contractors in design and build contracts and, at the time of Mr Grove's review, the Agency had not learned the lessons of that. More than two years on, the Agency has now developed its risk philosophy very considerably towards partnering and alliancing (and I will come back to that later). Railtrack's experience seems to offer similar examples of change in this period. Railtrack is scheduled to spend enormous sums on infrastructure work over the next decade. Yet, at the time of the Grove study, Railtrack's growing experience as a construction employer was much more limited and less refined. Now Railtrack has seen projects through, and again appears to be a major promoter of alliancing and partnering models. Indeed, Private Finance Initiative (PFI) work generally in 1998 was still immature in its experience: large scale transfer of risk seemed still to be a good idea. In the intervening period, the approach to PFI work has been modified and the approach to risk allocation in relation to privatised infrastructure is now much more refined. Even the British standard forms of contract have been revised in new editions published not long after Mr Grove reported. The changes in the JCT Standard Form of Building Contract 1998 Edition, compared to the edition which he studied, are more significant than those in the ICE Form for Civil Engineering Works 7th edition, compared with the 6th on which Mr Grove reported. At the time of Mr Grove's study, the new construction legislation in Britain was only just coming into force, and there was no real experience of its operation. The Housing Grants, Construction and Regeneration Act provided for statutory controls on payment procedures, protection of sub-contractors through abolition of pay-when-paid clauses, and a statutory right in all construction contracts to adjudication as a very rapid, interim dispute resolution system.

So the fact that this Report was published as long ago as 1998 is significant. This conference must ask itself what has been learned in the intervening two years. Even so, on most of the important recommendations, there is merit in what Mr Grove has said. Indeed, on a number of key recommendations, especially ground conditions, one would readily agree with what he recommended.

Philosophies of risk allocation

The question of philosophy unfortunately does not get us very far at all. Mr Grove's approach to the philosophy of risk allocation in one sense mixes issues. Perhaps it rightly does so, because the industry tends also to mix these issues. As you read the papers prepared for this conference you will see that some assume that law and contract define what a project is. Others assume that law and contract are irrelevant to how well a project progresses. That is the dilemma in Mr Grove's approach to his philosophies for risk allocation.

Legal criteria: fault and foreseeability

Take for example what Mr Grove calls the fault standard. He treats this as obvious. But under many construction contracts to refer to fault in this way is to do so in an entirely circular sense. Who is at fault under a construction contract or sub-contract? Typically, it is whoever has been required to bear the risk of something arising. Thus, it is an entirely circular question. Let us approach the question in a different way. What sorts of things actually happen on major projects? Turbines fail after practical completion. Safety approval proves to be far more difficult to achieve than anyone could imagine. A critical principal finishing contractor becomes insolvent. The market costs of key elements increase. The question of who is at fault for those kinds of issues in a sense is a pointless question. Rather, one must first determine who has agreed under the contract to bear such a risk, or contractually undertaken that it will not occur. It is by defining where the risk has been allocated that the definition of fault arises, not the other way round.

The foreseeability standard requires less comment. As Mr Grove made clear in his introductory remarks to the conference, the foreseeability concept is in a sense just a mechanism to support contingent pricing. Indeed, it is a fundamental point for this conference that if it is assumed that the correct approach to risk allocation is normally by reference to what is foreseeable, then all that will be achieved is to encourage contingent pricing by risk-hungry contractors. In principle public value for money will be diminished. Whether in the lottery of facts it actually diminishes will depend on the gambles from project to project.

So the fault standard and foreseeability standard attract a negative reaction. Furthermore, they operate largely in the context of contract definitions.

Practical risk allocation: management and incentives

The management standard and the incentive standard, by contrast, attract a more positive reaction. However, these latter two raise quite different issues. They operate not so much at the level of contract and law. Rather, they address matters of good practice in construction.

What is striking about the papers prepared for this conference and the many conferences that have been held on the subject of construction risk is that there is a danger of oversimplifying the description of how risk is to be handled. Formulations are apt to be rather generalised, such as "who takes the risk?" or "to whom does the risk belong?" These are crude and blunt questions. In the conference papers there is by contrast an excellent sentence on risk by Denis Levett. Many operative words are often used about risk, such as "mitigation" or "avoidance". The right approach seems to be that risk is first to be managed by the person who is best able to control it or avoid it. In other words, if control or avoidance appears possible in practice, then let it be done by the people best able to do that task. But it does not follow from that that they should also bear that risk if it actually materialises. It is an entirely wrong assumption that the cost of materialisation of the risk should stay with the party just because he happened to be in a very good position to seek to control or avoid it. That consequence may, or may not, be an appropriate part of the incentivisation of the party chosen to seek to control or avoid the materialisation of risks.

So, as Denis Levett has said, the key question is: "how should we incentivise? How should we create incentives so that the person best able to control or avoid risks will do that efficiently? Then we need a separate question: what if they cannot achieve that objective of control or avoidance? Where then do we allocate the cost consequences of that? This is a pragmatic question. It is not a philosophical question at all, but it is a question which requires refined answers on each project according to the particular circumstances of the project.

This is one reason why Hong Kong government forms of contract appear to the outsider to be out of date and out of step. They appear to apply a uniform approach to questions that are not uniform. The questions are in fact project-specific and require different models (and different incentives) according to the nature, demands, constraints, and opportunities involved in the project.

Could the approach have been more radical?

Could Mr Grove have approached the task differently than he did? How can one say? One would have to know how far he was constrained by those who instructed him and, more especially, by the submissions and interviews that he conducted. But from what one has seen of the results one could have hoped that the process would be more radical. The problem with the Report—and this is not the problem of the author, but a problem of the process—is that in a sense it merely tinkers with a form of contract which in many situations is fundamentally inappropriate. There is a colloquial phrase much used in business these days—apocryphally attributed to the sinking of the *Titanic*—namely, what is the point in rearranging deckchairs, when the ship is threatened? Are we here just rearranging deckchairs?

Whose project is it anyway?

Some of the questions appropriate to the philosophy of risk allocation themselves depend upon more fundamental questions about the appropriateness of the contract structure itself. Take a fundamental question, on this radical approach: whose project is it anyway? Now you may object: it is obviously the owner's project, that is to say the public's, the people's project. The government is only doing it on behalf of the people so it is obviously the people's project. But when one reads the contract forms that are used in Hong Kong one is not struck by the impression that it is the public's project. The traditional forms of contract have become far more focused on the interactive participation of the contractor and of the consultant teams.

Is it the contractor's project? Today that would not be so strange. International trends are now moving more and more to view infrastructure procurement as contractors' projects. Leave the problem of procurement to people who are very well able to manage it. Let the public take service availabilities. Let the public interface be with facilities managers. So we see a trend in many parts of the world to make procurement projects contractors' projects, leaving public authorities to deal with more predictable, more easy to manage interfaces on service availability. So one could legitimately view a project more and more as the contractors' project. But today, especially in Hong Kong, there are other, less laudable, reasons why many contractors may believe under the current traditional contract processes that the project is their project. This is because they see it as a great opportunity for maximising profit as a result of contingent speculation on the uncertainties created by less refined risk allocation and management in the contract.

Is it somebody else's project? Many projects in Hong Kong seem really to be the consultants' projects. When one comes to ask oneself why the traditional contract forms being used in the way that they are, one possible answer is: there is plainly a continuing and strong influence of engineering, surveying and some architectural consultancies which dominate the approach to contracting.

The answer to whose project it is will flow from a further prior question: what is the object and purpose of the project?

What are more flexible payment systems?

If you were being more radical, you would consider e.g., fundamental issues of payment flexibility, which in turn will depend upon your assessments of the objectives and constraints of the project. This is because risk issues are not really philosophical questions, but rather are issues of how you choose to structure your project. Often that means first: how is it proposed to structure the payment arrangements? This is more fundamental than deciding between remeasurement or lump sum. Remeasurement is entirely

appropriate where the contract involves high levels of uncertainty, particularly in relation to ground conditions, and the owner wants to let the project early before the design can be completed, or the precise activities required can be known. Remeasurement has its place. It is wholly inappropriate where much higher levels of certainty can be achieved prior to contract, and where the risk price equation can be more effectively managed.

The lump sum or remeasurement approaches are very traditional methods. By moving straight to a discussion of them we already perpetuate risk allocation patterns that may at best be missing out on promising alternatives, and at worst be wholly inappropriate for the particular project. What today, from international experience, are more innovative approaches to payment arrangements? Target cost is increasingly found in more innovative models in other public sector works in other parts of the world. What is the experience in Hong Kong of moving to target cost payment systems?

What are risks? Challenges to be managed, or opportunities for claims?

Again, to consider a more radical point of view: how should we treat the risks themselves? Indeed, what are risks? Are they challenges? Or, are they opportunities? We talk about them as if they are undesirable but, as Mr Grove has shown, experienced contractors typically regard them as an opportunity. Why? Because they are an opportunity for claims. Imprecise addressing of risk in contracts creates fertile ground for contractors' and sub-contractors' claims.

If Hong Kong does not want to be the world's leading centre of contractors' claims and construction disputes, which it is in danger of remaining when the rest of the world has moved on, then it needs to approach the question of risk management in a very different way.

Construction risks are no longer to be regarded as matters conveniently to be transferred around. Rather, today's best practice requires that they be regarded as matters to be managed because risk and uncertainty go together. Uncertainty in construction after contract award is sometimes unavoidable. It is therefore useless to pretend that the problem can simply be transferred. On the contrary, it has to be managed during the process of the project. That is why almost every speaker at this conference appears, from the papers, to say that the transfer of ground condition risk to a contractor simply and as a matter of policy is not an efficient and effective way of managing and allocating that risk, any more than the transfer of it back to government such that it is always borne by government would necessarily be more effective. As the Hong Kong Government's response to Mr Grove's report says: if the government were always to accept such risk that might produce as many disputes as trying to transfer it to the contractor as a matter of policy in the first place.

The key point is that the imposition of ground condition risk on

contractors and sub-contractors as a policy is as unrealistic. It is as unrealistic, for example, as drafting a contract on the assumption that someone will pay you and that therefore you will not need any security for payment. If you know there is likely to be a problem in fact then you have to find a way through it, by contractual provision and by management of the project and its relationships. Otherwise, too blunt an approach by invariable transfer of ground conditions risk to the contractor merely shifts the focus onto fall-back legal devices to avoid the consequences, such as Hong Kong's now highly refined debates on the interaction of contracts and alleged "impossibility".

One could say much more about the legal arguments about issues of impossibility which are going to be discussed during the conference. A glance at the paper from Dean Lewis shows that there is obviously a problem with the opening phrase of the impossibility clause in the Hong Kong government form. If a commentator can produce those many legal questions about a few words in a contract, the contract is not well drafted! Again, the ground is made more fertile for contractors' and sub-contractors' claims.

So the question becomes: do you want to promote claims, or do you want to promote good project management? There is a real danger that claims are an essential part of the present policy.

What international trends might encourage a more radical approach?

Would a different, more radical, approach perhaps have been desirable? What would inform that more radical approach? What really are the significant international trends? That latter question is very difficult to answer finally without empirical evidence.

Many will argue that ICE style forms of contract, and hence the old style FIDIC forms, are still widely used around the world today, and that essentially the same approach is found in the Hong Kong government form. Traditional FIDIC is still in use in many developing countries. Contractors are happy to bid under it. Owner employers are happy to let works under it. That may be right. But those instances tend to be one-off projects which are bid in a highly competitive environment. The contractors regard them, for the reasons Mr Grove has given, as projects that proceed with high levels of risk and therefore with high levels of contingent profit opportunity. In such projects, the question of public interest is somewhat subjugated to competitive tendering processes. The projects typically end up with very large claims, and often undesirable large-scale dispute resolution through litigation or arbitration.

Observation and experience do however suggest that there are some better trends internationally that are worth remarking. I will share some of these

thoughts and you must judge from the conference whether you recognise them.

New models of contracting

First, most experienced leading edge public sector purchasers of construction are experimenting with new models. It is unusual to carry on using an old style employer design type form like the Hong Kong government form. New models are the chosen method, especially for repeat purchaser employers. If one takes as an example the annual spending of the Housing Department of the Hong Kong government, one would expect it to be a leading edge purchaser of construction services. Therefore one would expect to see a range of pilot projects on new forms and a policy of movement to more collaborative working on design and build bases, probably also with trials of partnering or alliancing, for reasons that I will pursue. The last thing I would expect them to be doing would be using an old style ICE or old style JCT type of contract form which is really designed for non-repeat purchasers who are not experienced in the business of buying construction and who need to use external consultants to design the works, to cost them and to manage them for them because they cannot manage the works themselves. Is there here a mismatch between the nature of the purchaser and the type of contract form that the purchaser is using?

What are the styles of new models? We hear a lot these days about old economies and new economies. The metaphor will extend to many contexts. Let us try one here: old consultancies and new consultancies! Old consultancies for employers are design and measurement based. New consultancies are project management and solution provider based: they are facilitators, and people focused on finding ways out of risk materialisation.

A second observable international trend is that design and build is becoming more and more the basis of international contracting. Why? It is because this offers more flexibility when risk does materialise. That may be bad for the claims industry (though on big projects there is much to go wrong!). But at practical working level on the project there is greater flexibility to find a solution. Most important, one has a better prospect of avoiding the ongoing battle between the employer's designer and the contractor's profit maximisers. That said, if one is successfully to move to a strategy of design and build contracting, the employer has to let go. There have been bad experiences all around the world of employers (especially in the public sector) who have moved to design and build contracts, but then still interfered with the design process. Employer interference in design and build projects is even more dangerous than on the traditional contract forms. Also, if you move to design and build, you will move away from traditional prescriptive specifications to performance-based output specifications. With output specifications, risk management should prove more effective. Risk materialisation should be able to be handled more flexibly. The construction

employer that insists on maintaining input prescriptive specifications, or interfering in design choices, whatever the contract conditions say about risk allocation, is likely to be faced with contractors' claims seeking to transfer the risk back to the employer. Output performance specifications are the way the world is going.

There is a further trend seen in the new international FIDIC forms of contract, published after Mr Grove's Report (and one sees it in the similarly new British JCT Building form). This is contractual provision for prior assessment of the impact of changes to the scope of work (variations), before their implementation. The trend is to require pricing by quotation for the time and cost impact of such changes before they are ordered. That is more bad news for the claims consultants. Whatever will happen to their nostalgic desire for rolled up claims; their attempts to shift from lump sum tender to remeasurement final account; their attempts at global claims; their arguments that when all the variations are put together, they cannot differentiate cause and effect? The growing trend for contractual provision for prior quotation of time and cost impact facilitates the management of risk as it is occurring.

Traditional forms, and the Hong Kong government form is such a form, are weak on programme management. FIDIC was weak on programme management. But FIDIC has changed its approach in the period since Mr Grove's review. The new Red Book is stronger. It is much more like the New Engineering Contract in this respect, for example introducing early warning systems. Similarly, the contract form originally used for British government works, the GC/Works form, has been published in a new edition and has increased the early warning arrangements for programme management. Hands-on, real-time risk management requires a different approach to the contractual provisions for programme arrangements, just as it does to the prior quotation of variations.

There is, however, one trend which may seem odd, as it is moving in a direction which seems less collaborative. Mr Grove's report addresses the problem: what should be done about procedural requirements (such as notification deadlines) in claims clauses? Are they to be tightened up? Should they lead to forfeiture of rights if not observed? Or, should one relax a bit and accept that it is enough to deal with the effects of non-observances by adjustments through damages? The trend internationally at the moment is to tighten up. Contract after contract now makes claims notification a condition precedent for any entitlement whatsoever. That is more typical today, especially in projects based on the more competitive style of bidding. The reason I say that it is slightly odd is because it is contrary to the final trend that I am now going to remark upon.

Collaborative styles of working

The last international trend to emphasise is partnering and alliancing. This is an interesting field, but not without its problems. You might say: well, it all

sounds very good, but does it really work? I am presently working on a project alliance worth about US$1 billion. The project participants putting a US$1 billion project together plainly intend that it will work. Railtrack in England is using alliancing on a very substantial basis. The Highways Agency in England has modified its former approach of transferring most risk to the contractor and has adopted partnering models, and in some instances project alliancing. BAA (the British Airports Authority) does a great deal of work on a partnering or alliancing basis. The terms "partnering" and "alliancing" are not synonymous, as is evident from the papers for the conference. So, for example, if you take the entire transport infrastructure in Britain, road, rail and airports, new construction works are being commissioned to a very considerable extent on new contract models for long-term relationships (partnering), or special collaborative styles for particular projects (alliancing).

Why do the partnering and alliancing models work? There is plainly a trend to these entirely new bases of contracting. The fundamental point is that they focus on the objectives of the project. What is the objective of your project? If it is to have a speculative competition between contractor and employer to see who can be the cleverest in the legal words, in hiding risks away, in manipulating the tender price breakdown, and in the end in arguing over the claims, well go on doing it that way. The trend internationally, and trends shown by the papers for this conference, is that that is not the way to do it. Rather, if the objective is to try to manage the best possible programme with flexibility as to the completion period (not date), addressing problems as they arise with alternative mechanisms, and incentivising all in the key team to seek solutions to the inevitable problems that will occur whilst reducing claims, then the right way forward seems to be the project alliance, or partnering.

Lawyers will say (and I am one of them): what do these agreements really mean? Typical lawyers may object that provisions for partnering or alliancing may in law count for nothing, being just warm and cosy aspirations with no legal force. Or, they may say more significantly, as is raised in the conference papers, e.g. by Dick Shadbolt, that the words may actually be of legal significance in a wholly unpredictable way. What does it mean to say you will act in a spirit of collaborative working, or work with mutual trust on an open book policy? The fact remains, however, that our experience in Europe is that project alliances and partnering are being put to work, and it would seem from Doug Jones' paper also to be the Australian experience, albeit that in all instances there are tough questions that remain to be addressed.

Is the real contractual objection to these more collaborative styles that the problem lies with the precision and effect of the chosen wording? Well for those objectors from the traditional school of contracting in Hong Kong, there is a simple question by way of retort. Can anyone really define what is the legal basis for an extension of time under the Hong Kong government's civil engineering form? After all, it is not worded in objective terms. It is not

like the new FIDIC form that actually uses the concept of cause and effect. The FIDIC form now requires that you actually cause a delay to completion in order legally to trigger an extension of time. What, by contrast, is the contractually defined condition in legal terms that entitles you to an extension of time under the Hong Kong government engineering form? The answer is: whatever seems fair! The operative contractual words are not defined by reference to cause and effect to completion.

So, if we have managed for so long on a traditional form with something so central as the entitlement to extension of time being based on such a vaguely worded clause, we can certainly try the new models of collaborative work styles with contracts for partnering and alliancing. Their contractual provisions may well prove just as workable in practice, and perhaps as enduring.

Why is it that we will persist with one form of imprecise contractual wording (because it is familiar), but will resist the unfamiliar even to the extent of justifying ourselves by complaining that it is imprecise? The reason of course is that construction projects depend ultimately on the humanity of people.

Management of risk is ultimately a people question

We may consider the philosophy of risk allocation, but ultimately it is not a philosophical question. It is a pragmatic question about how to allocate the management of risks which can be prevented or controlled, with a separate question being: who should bear the cost of risk materialisation?

We have seen that a more radical approach to the Hong Kong government forms would require us to look to greater flexibility in payment systems, ask ourselves what are the real objectives of a project, and recognise that risks are there to be managed, not simply to be opportunities for claims. But the international trends are taking us to new models based on design and build contracting, and stronger programme management. More recently we are even being challenged to adopt a quite different approach altogether, which is alliancing and project partnering.

Why do we not make more progress, more quickly? Because construction projects are run by people. And people find that what is familiar and known is more attractive than what is unfamiliar and unknown.

One of the strongest reasons in favour of the New Engineering Contract (which received the encouragement of Sir Michael Latham's Report) is that use of that contract form requires people to think differently. That is not so much the product of its words, as that it is a system that is unfamiliar. Use anything unfamiliar and you will be more careful. Mr Tang's keynote address to this conference encouraged us to be more attentive and careful in our project definition, in our scope definition, and in our risk allocation. Unfamiliar forms cause people to approach the problem in new ways but with care. I believe that more collaborative styles of working will create more effective risk management.

PART II

Lessons from the conference

The conference has moved a long way in two days, and a long way from Mr Grove's Report. Indeed, there are many details in his Report which in the end have been given little consideration. Perhaps part of the explanation has been that in the search for better project and risk management, it is not always the contract that is seen as the most material factor. Speaker after speaker has encouraged us away from adversarial claims mentality (as a competitive sport) to a collaborative sharing of objectives, with the metaphor of an orchestra for the whole project team as the most enduring reflection.

A key objective of this event was to see whether there could be something gained from best international practice, as it might inform the Hong Kong government's response to questions of risk management and new methods of public procurement. What we have heard is an almost universal pattern of possibility for improvement coming from many countries: Japan, Australia, Sweden, Spain, Latin America, Malaysia, the UK and other parts of Europe. Key practical ways have been shown that could be developed in Hong Kong: see, e.g., the development of the new contract form in Malaysia; the Australian lessons on the importance of managing interface risk; and the UK experience of new contracting methods, and of improved dispute resolution methods.

Much can be learned from all of that experience and there are some abiding questions that come out of those. Quite plainly we have seen in Australia that there is the possibility of a new paradigm for the delivery of public works and that it can be demonstrated to operate in a way which maintains transparency and probity. But questions remain.

Questions that remain

One unresolved question in the conference was whether partnering is a contractual matter or merely a behavioural overlay. Some have urged that it is probably best left as a behavioural overlay. Others of us have also seen it working as a contractual framework, and the conference has been given that as a strong message for project alliances. Indeed, this has raised the question as to whether lawyers really do have to be professional pessimists in fact, or whether there is not another way?

Whatever forms of contracts we use, plainly behaviour and people remain significant. Perhaps they remain the dominant issue. But we would be fooling ourselves after this conference if we did not realise that the assessment of risk, and to a degree the way it is expressed in the contract forms, is plainly central to the dynamics of the project. We have heard repeatedly that unrealistic or ill-prepared project definition and contract risk management almost inevitably leads not only to claimsmanship, but also to some of the more intractable disputes, many of which are now on-going in Hong Kong itself.

Dynamics of risk assessment

So, how do we go about the assessment of risk in the light of all this? The Swedish example has shown that a probabilistic and cautious approach, does provide benefits in the management of the project. We have also seen from France, Australia and Hong Kong the same emphasis on early clarity in the analysis and definition of project scope, especially on design issues.

Mr Grove's Report considers these risk assessment issues. In the end, if he had to prefer any, he preferred Max Abrahamson's formula. I am bound to say that the other passage from which he quoted in his Report is perhaps the more persuasive: that is, the now well-known set of principles set out by Thompson and Perry in their SERC Report *Engineering Construction Risks.*

Thompson and Perry's approach captures the key point emphasised in this conference that it is not enough simply to say that the person best able to manage a risk should bear it. Put that way it is far too simple. Rather, many contributions to the conference have really brought out what is in effect the Thompson and Perry model. It was put most clearly in the table that Hiroshi Ichikawa laid before us: there the question of management and control of risk is entirely different from the question of who pays. The Japanese model is instructive, not simply because it is about utilities, but because it is about management of risk versus ultimate payment for risk.

A further point from Thompson and Perry's report also reflects on the debate about Hong Kong's approach to risk in ground conditions and the resultant "impossibility" claims. As Thompson and Perry warn: if you transfer a risk, there is a danger of it coming back to you in some other way. If you have too unrealistic a clause at the outset, the risks do come bouncing back through a variety of technical and expensive legal arguments with high transaction costs.

Thompson and Perry's approach also resolves the apparent paradox that Humphrey LLoyd posed in discussion: how can it be that contractors are said to be hungry for risk, and yet they complain about all these risks that have been raised at this conference? The answer seems to be that when we talk about contractors being hungry for risk, they are hungry for risks as to which they have some realistic prospect of control and avoidance. They are not hungry for risks over which they have no real prospect of influencing whether or not they materialise, and/or in relation to which on a probabilistic basis they have very little scope for flexibility in terms of mitigation measures. It is not surprising, therefore, that an employer-designed traditional form that pushes ground conditions onto a contractor is unacceptable against that test. If you are dealing with a design-and-build contractor with alternative designs and other ways of managing the project, already you increase the potential flexibility both to control or avoid the risk materialising, and to mitigate its effects if it does materialise.

When unacceptable risk materialises: dispute resolution?

What has been the significance of dispute resolution in this conference? It is plainly demonstrated that, save for some new techniques, it remains expensive. It takes people away from the job if it is pursued during the works. Worse, it deprives people of their money for years (as we saw in relation to the sub-contractors) before issues can even be fought over. The old-style slogging arbitration or litigation will no longer do. If you want a new model of court practice, see the English experience. Similarly, if one wants an arbitral model then there are already ways of managing arbitrations in a much more efficient way than has been traditional in Hong Kong and in England; but things are changing for the better.

Does adjudication offer a solution? Sir Michael Latham's intention in the UK was the early resolution of problems during the project. The goal was to prevent disputes festering to the point of needing lawyered resolution. Many of the problems raised at this conference about the new British form of statutory adjudication arise because (contrary to Sir Michael's vision) it has been hijacked by claims consultants and by lawyers. Some consultancies seem now to offer standard adjudication packaged products (perhaps on contingent fees), presenting the process to sub-contractors as a quick and almost guaranteed route to money. It is not surprising, against such a background, that criticisms have been made. If adjudication had remained at the level that Sir Michael Latham envisaged—with less external involvement and more driven by project staff themselves—even negotiated settlements would have been possible for those types of problems within the 28 days allowed by the statute. The difficulty is that adjudication has become a tactical tool for manipulating final account resolution. Final account negotiations, after the works are long complete, were never intended to be the target of rapid statutory adjudication. It is remarkable how distortions can develop in the marketplace so quickly in response to new mechanisms.

Could it be that the very accessibility of rights is not a cultural problem affecting construction contracts? Consider by contrast what the conference has been told of practice in Japan, and in Hispanic countries. In Spain today court-based litigation can take years. Is it significant that in countries that have relatively inaccessible rights-based systems, there is also a culture of collaborative negotiated outcomes? It is a curious dilemma: by the very insistence on rights-based issues we end up with prolific claimsmanship and long disputes. The movement to interests-based models (as in mediation) will encourage a more collaborative method.

What can be done in Hong Kong?

What can actually be done in Hong Kong, and its cultural context? Australia has shown that public works can be carried out with collaborative contracts, but still with transparency and auditable public accountability. The Hong Kong MTRC has demonstrated very clearly the movement that it as a corporation has made away from traditional forms to many new techniques.

In Hong Kong there has been a very clear demand from the EMCA (Electrical and Mechanical Contractors' Association) and the sub-contracting community generally for more protection of the sub-contractors' position. There is already protection in other developed nations—France, England, Australia, and of a different kind in Canada. But how far and how quickly can Hong Kong really go? Cautious questions were raised as to whether all of this discussion was not too bold, too ambitious, for any real achievement in Hong Kong.

If another contractor has already offered a price for the job and is willing to take the risk, why should government go out of its way to look around for what is apparently a more expensive solution? Put that way, it is a challenge. But conversely, as was seen in relation to utilities, and to alternative designs, serious practical suggestions have been raised that could be addressed even on an incremental basis.

If there remains any doubt that new styles are worth trying, then the challenge is met by showing that value can be delivered. It is partly a question of accounting. It is partly a question of civil service tradition. But ultimately government is entitled to say: "show me the data where savings have been made and public value for money can be achieved by new procurement techniques". This conference has shown some of that data. Look at the Madrid Metro; at the Australian alliances; and at the data submitted by Peter Fenn. These are not just anecdotes. There is real empirical data available. Even on a restrictive accounting basis, if the Hong Kong government takes a broad view, as many governments now do, as to how to measure value for money on a whole life-cycle cost basis of their capital procurement, they would see that these mechanisms are potentially valuable.

There is undoubtedly scope for positive lawyering. Niels Kraunsoe gained a strong measure of support when in debate he expressed the concern that much of this is not about contracts but about personal risk in administration. But that can be managed with a variety of skill sets and a variety of consultants. Some of those consultants can of course be positive-minded lawyers, not the ones that pick over the carcasses, but the ones that have the vision of new models.

I believe that there are immediate achievable steps available to Hong Kong. The first of those is the initiation of pilot projects in government works to try some of the methods that have been explored in this conference. They have been seen to work elsewhere. When the Hong Kong government uses them it will generate an orchestra of some repute and well worth listening to!