



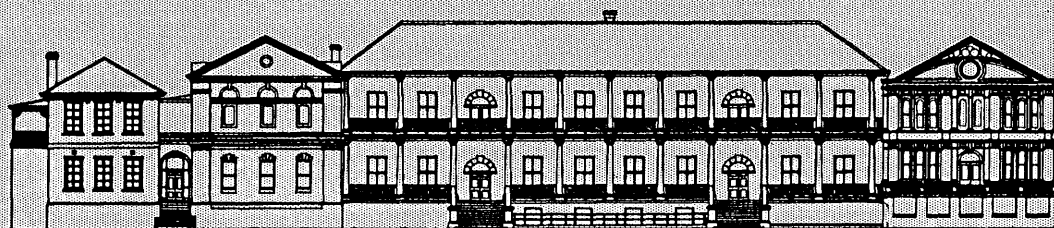
# **PUBLIC ACCOUNTS COMMITTEE**

PARLIAMENT OF NEW SOUTH WALES

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## **Inquiry into Financing of Urban Infrastructure — Report on United States Study Tour**

**28 August – 5 September 1993**



Report No. 74

October 1993

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## **CHAIRMAN'S FOREWORD**

## GLOSSARY

**bonds** Bonds are statements of debts commonly issued by governments, authorities and companies. Typically they extend over a medium to long term period. Most commonly, lenders buy bonds for cash against promises by the bond issuer to pay interest. Bonds may be sold on the open market. One kind of bond is the zero coupon bond, where interest is not paid during the life of the bond, but accumulates to the end of the life of the bond and is taken out in the form of a capital gain; another kind is the fixed-interest bond, where the interest rate remains the same during the life of the bond. For the purposes of the Committee's inquiry, bonds are debt funds, rather than equity funds.

**basis point** One-hundredth of 1 per cent. 100 basis points = 1 percent.

**brownfields project** An existing project

**collateralisation** A term used in the United States synonymously with securitisation.

**concession**

**greenfields project** A brand new project

**mezzanine debt** Debt that is half-way between equity and debt.????????????????????????????????/

**municipal bonds** Bonds sold by local authorities in America to finance infrastructure projects. The income they earn for the bondholder is exempt from taxes. Thus they are attractive to taxpayers who are being taxed at a high rate, particularly individuals. They are much less attractive to taxpayers who are already tax-exempt, like pension funds.

**non-recourse debt** Non-recourse debt is debt that may be repaid *only* from the proceeds of the project. In other words, the other (non-project) assets of the project's owners cannot be drawn on to pay back non-recourse debt. The lenders do not have "recourse" to the other assets of the owner. In the case of infrastructure, this means that the assets of the consortium owning the facility cannot be drawn on to pay back non-recourse debt if the facility fails to generate adequate revenue. As Edna Carew correctly says<sup>1</sup>, "non-recourse lenders are usually confident that something will come up".

**paper** Another word for securities.

**securities** Securities are written promises to repay money. Shares and bonds are both securities. The money lent may be unsecured by an asset; in other words, it may simply be a debt obligation.

**securitisation** Securitisation, a trend which became popular in the 1980s, turns income streams into marketable securities. In the case of infrastructure, the future income stream

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<sup>1</sup> Edna Carew, 1988. *The Language of Money*, Allen & Unwin, pp. 267.

generated by a project can be packaged and turned into securities, which can then be sold in the ordinary way.

**subordinate debt, subordinated loan** This is debt that is repaid after other debts have been paid. Lenders making subordinated loans do so in the knowledge that other creditors will be repaid first. Often the interest rate payable on subordinated loans is higher than for ordinary loans. Bodies issuing subordinated loans may be the parent company of an affiliate, a major shareholder, or the government. All these bodies have a special interest in ensuring the success of the venture financed by loans.

**shadow toll** A notional toll, set by agreement between the government and the private sector operator of an infrastructure facility. The government agrees to pay the operator the shadow toll for every vehicle that uses the facility. In other words, it is the government which pays the toll to the operator, not the users of the facility.

**sovereign guarantee** A guarantee by the state that in case of default or partial or total failure of the project, the state will pay for the shortfall.



## **CHAPTER 1: PURPOSE OF THE TRIP**

In July 1993, the Committee tabled Volume 1 of its report into the management and financing of infrastructure. Volume 1 dealt with the management aspects of the provision of infrastructure in this State: the progress of an infrastructure project through the required administrative stages from its emergence as a concept to the signing of the contract. The report concentrated on BOOT-type projects: those where the private sector builds and operates the project, and those where the private sector, in addition, owns it for a long period, after which it transfers the project to the government.

In Volume 1, the financing for infrastructure projects was not discussed. When deciding to split the reporting of the inquiry into two volumes, the Committee considered that the most appropriate way to divide the subject was into management aspects on the one hand, and financial aspects on the other. It believed that the complex, highly technical and sometimes controversial question of how infrastructure projects may be financed was best dealt with in a separate volume. This will be Volume 2 of the inquiry, which will appear in early 1994.

During the course of the inquiry, the Committee held numerous hearings and other meetings on the question of financing. Over recent months, the inquiry began to focus on innovative methods in the financing of infrastructure projects. Up till then, the Committee had been concentrating on existing and proven forms of infrastructure financing, such as the purely private forms developed in the United Kingdom, the unique forms of government-private co-operation developed in France, and the government guarantees developed in Denmark, as well of course as the various forms already evolved in Australia.

What the Committee now needed to learn about was the development of innovative mechanisms for ensuring co-operation between government and private sector in the financing of infrastructure, which might realistically be applied in the Australian context.

It was at this stage of its inquiry that the Committee was informed about a major conference taking place in the United States, entitled, with remarkable aptness to the inquiry, "Innovative Financing of Infrastructure Projects". The programme for this conference, which was to take place on 17-18 May 1993 in New York, appeared to strike at the heart of the Committee's concerns. Speakers were drawn from government and international agencies and from the private sector, and subjects included: "The Role of Multilateral and Development Agencies", "Conceptual Framework of International Infrastructure Project Finance", "Tapping the Capital Market for International Infrastructure Projects", "Structured Infrastructure Finance: Securitizing Project Debt", "Use of Political Risk Insurance", and "The Role of the Ratings Agencies in Infrastructure Finance". Here there appeared to be an exploration of new ways of securing private sector equity and debt for infrastructure projects: for example, the use of ratings agencies, the use of securitization of project debt, and the use of insurance. These were close to the questions which the Committee had been moving towards on its own, and the existence and proceedings of the conference were naturally of great interest.

At the same time, through the offices of its (former) Deputy Chairman, the Committee was informed about an important report on infrastructure financing commissioned by President George Bush and presented in March 1993 to President Clinton. This report, entitled *Financing the Future*, was prepared by The Commission to Promote Investment in America's Infrastructure. This Commission was composed of:

**Chairman**

Daniel V. Flanagan, Jr.  
The Flanagan Group, Inc.  
*Appointed by the Speaker of the House*

**Secretary**

Ralph L. Stanley  
Bechtel Enterprises, Inc.  
*Appointed by the Senate Minority Leader*

The Honorable Neil Goldschmidt  
Goldschmidt, Inc.  
*Appointed by the Speaker of the House*

Frank Hanley  
International Union of Operating Engineers  
*Appointed by the Senate Majority Leader*

The Honorable Kay Bailey Hutchinson  
Treasurer, State of Texas  
*Appointed by the President*

F. Woodman Jones  
Atlantic Capital Corporation  
*Appointed by the Senate Majority Leader*

Francis X. Lilly  
Bear Stearns Fiduciary Services, Inc.  
*Appointed by the House Minority Leader*

**Counsel**

Robert E. Spring  
Milbank, Tweed, Hadley & McCloy

**Editor**

J. Douglas Koelemay  
Agenda Communications, Inc.

The Commission's report contained three major new recommendations:

**Recommendation 1:** Create a national infrastructure corporation to leverage federal dollars and boost investment in infrastructure projects with a capacity to become self-sustaining through user fees or dedicated revenues.

**Recommendation 2:** Create a new range of investment options to attract institutional investors, including pension funds, as new sources of infrastructure capital.

**Recommendation 3:** Strengthen existing infrastructure financing tools and programs by making federal incentives more consistent and by providing uniform treatment for investment in infrastructure projects

The Report of the Commission (hereinafter called the "Clinton Report"), and the subjects at the Conference discussed a whole new set of arrangements whereby the private sector and the government could co-operate. While mindful of the risks of such co-operation, the Committee felt that these proposals were very germane to its inquiry, particularly to the stage the inquiry had reached after the trip to Europe.

On top of the May 1993 conference and the publication of the Clinton Report, a third factor emerged which made an American trip highly relevant to the Committee's inquiry. In March 1993, the (American) *Journal of the Council of State Governments* published an article which discussed the new infrastructure financing initiatives being pioneered in California. In Caltrans (the California State Department of Transportation), it appeared that a new unit entitled Public-Private Partnerships had been set up, and new legislation drafted which would set up a revolving Infrastructure Development Fund with both government and private financing. It appeared that California was the first state in America to propose this kind of structure. This article interested the Committee a great deal, given the stage it had reached with its inquiry.

In May 1993, the Committee had been unable to attend the New York conference due to pressure of other work, notably the preparation of Volume 1. However, once Volume 1 was issued in July, the Committee felt it was urgent to obtain for Volume 2 the benefit of the variety of new American initiatives proposed at the Conference, in the Clinton Report, and in California. It was felt that America could teach us a great deal about fresh and innovative methods of infrastructure financing.

Thus the main reasons for going to America were to find out about the new American proposals, to start to evaluate them and to judge their suitability for the Australian context.

## CHAPTER 2: MEETINGS HELD DURING THE TRIP

### MONDAY 30 AUGUST, NEW YORK

**10.00 a.m.: Robert E. Spring (Partner) and Jamie Welch (Associate), Milbank, Tweed, Hadley and McCloy, New York**

Milbank, Tweed is one of the oldest and largest law firms in the United States. Robert Spring, a partner at Milbank, Tweed, was the “moving force” behind the Commission to Promote Investment in America’s Infrastructure. Most of the ideas in *Financing the Future*, the report produced by the Commission in March 1993 and presented to President Clinton, were his, although Mr Doug Koelemay, whom the Committee met in Washington,<sup>2</sup> was the actual author.

Mr Spring began by outlining the background to *Financing the Future*. Public sector spending on infrastructure in America amounts to more than \$140 billion annually. Projections of the difference between actual and required spending (the “shortfall”) range from \$40 to \$80 billion annually. Traditional sources of infrastructure finance—government grant programs, tax-exempt bonds and private capital—all face serious impediments in filling the gap. As federal monies for grant programs become increasingly inadequate, states and localities would require self-renewing sources of finance built on access to large pools of capital, such as the six trillion dollars offered by institutional investors, including pension funds. For many projects, however, particularly projects with the potential to be self-sustaining, but which fall into lower credit categories in the early years, access to these large pools of capital will require application of new financing techniques. The Commission was established by President Bush was charged with the conduct of “a study on the feasibility and desirability of creating a type of infrastructure security to permit the investment of pension funds in funds used to design, plan, and construct infrastructure facilities in the United States. Such a study may also include an examination of other methods of encouraging public and private investment in infrastructure facilities”.

One purpose of the Commission was to identify ways of tapping into the pension funds and attracting them into infrastructure projects. Tax-exempt municipal bonds are not attractive to pension funds, because they are already tax-exempt.

Stand-alone projects are also not attractive to pension funds. The problem here is that pension funds do not have staff which are experienced in evaluating the risks of particular projects. The risk profile of such stand-alone projects would be too unfamiliar to pension funds for them to risk investing in a single project, as opposed to investing in a generalised fund.

For a similar reason, start-up projects are not attractive. These are referred to as “greenfields projects”, as opposed to “brownfields projects”, which are existing projects, with a track record of revenue. Greenfields projects by definition have no track record

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<sup>2</sup> See p. 23.

which a pension fund can evaluate and base an investment decision on. So pension funds, which of course need to be highly risk-averse, would tend to steer clear of greenfields projects, particularly if they are “stand-alone”.

In any case, the tax exemption of municipal bonds is restricted—if more than 10% of revenue flows to private interests, rather than to the public municipality issuing the bonds, they are no longer tax-exempt.

Mr Spring stressed that the Commission was opposed to mandatory investments by state pension funds in infrastructure projects. He said it was “dangerous to get into mandatory investments”, a factor which interested the Committee because before leaving for America it had already heard strong opposition voiced in Australia to such a possibility.

The result of all this is that there is pressure to go to user-fees financing. Shortage of government funds requires that the original financing for many projects whose cost is repaid by user fees should come from the private sector. This was the reason for the ISTEA Act. Private sector funds are seen as a much more attractive alternative to raising taxes, whether income taxes or hypothecated taxes such as the gasoline tax.

Mr Spring said there was a new trend in the United States, where governments and agencies tended to put up a quantifiable contribution (e.g. loans, grants, subsidies) to projects rather than provide open guarantees (e.g. traffic count guarantees).

This point interested the Committee in that it appeared that quantifiable contributions were much more transparent than open-ended guarantees. Volume 1 had repeatedly stressed the need for transparency in infrastructure dealings, and one of the principles already decided on for Volume 2 was transparency.

Other issues raised during the meeting included:

- the “capture” by the government, in the form of higher property taxes, for example, of any increases in land value brought about by an infrastructure project. Mr Spring discussed the use of special assessments made to neighbouring properties so as obtain this so-called “land value capture”. This could be used to justify government subsidies and support.
- whether it is better to sell off established projects with known usage patterns rather than privately fund new start-up projects. The sales of such established projects would generate the “seed money” for the Infrastructure Development Fund proposed in the Clinton Report.
- the relative roles of state versus federal governments. The difference between Australia, where the federal government is preventing the states from borrowing, and the US, where the federal government is encouraging the states to borrow, was raised.

**3.00 p.m.: Roger K. Taylor (Managing Director and Chief Operating Officer), Bryan Townsend (Vice President) and Adam Cohen (Assistant Vice President), Financial Security Assurance, New York**

Financial Security Assurance (FSA) provides AAA-rated financial guaranty insurance for privately-financed infrastructure projects. In other words, it provides, for a fee, insurance that guarantees a triple A rating for the project. It takes over risks that would otherwise have been borne by equity-holders or lenders to the project. If, for example, the traffic on a toll road does not turn out to meet expectations, the FSA guarantees to make the payments of principal and interest which were due to be made out of project revenue.

Since the 1970s, financial guaranty insurance has played a role in the dramatic expansion of the municipal bond market in the United States, which has been an important source of financing for state and local government units. Over 30% of that US\$150–200 billion annual market consists of bonds guaranteed by FSA and the other Triple-A financial guaranty insurance companies. FSA was the first of these companies to extend its guaranty to private-sector obligations—primarily asset-backed and mortgage-backed securities. It guarantees both tax-based and revenue-based financings involving co-operation between the public and private sectors.

Any obligation insured by FSA will automatically be rated Aaa by Moody's Investors Service, AAA by Standard and Poor's Corporation, AAA by Nippon Investors Service, and AAA by S&P – Australian Ratings. The results of this include reduced cost of debt service, the availability of long-term debt, the availability of non-recourse debt, and a broader investor base than could be reached by uninsured issues. The savings in debt service to the issuing entity are then shared with FSA as a premium.

To qualify for an FSA guaranty, an obligation must be of investment-grade quality, that is, B or above. Typically, securities rely on the credit quality of the underlying income stream of a project.<sup>3</sup>

Mr Taylor began by expressing support for pooled funds, where the failure of one project would be cushioned by the successes of the others, so attracting extra borrowers. The fund he described received a “kick start” from government funds to ensure “over-collateralisation”, that is, an excess of asset value over loans. For example, for one hundred dollars worth of bonds, there may be \$110 of assets, perhaps \$10 in reserve bonds that were contributed by the government, and \$100 of loans made with the proceeds of the bonds. Thus under such a system, one-tenth of the loans could go bad, and the fund would still be covered.

He said that 50% of FSA's business is municipal, where the firm guarantees bonds of municipal insurers like the states and municipal governments, and the other 50% is the asset-backed side, where the firm makes sure it is covered by the underlying value of the asset. It does not handle unsecured loans.

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<sup>3</sup> The above three paragraphs are drawn from a booklet *Financial Guaranty Products for Infrastructure Finance*, issued by Financial Security Assurance.

There have been no sizeable municipal defaults on the infrastructure side in the US, said the FSA representatives. As a result, the firm is playing “a fairly safe game”—by enabling the project to be rated triple-A, it saves the issuer considerable debt service burdens, which the issuer then shares with FSA for a premium, but it does not incur major risks itself in issuing the guarantee. The difference between debt service for a single-A-rated entity and a triple-A rated entity is about 5–10 basis points, and even with this fairly narrow spread, FSA can earn a fair premium.

In Australia, so far the firm has only issued asset-backed guarantees. It is also looking at projects where the government involved might have provided a guarantee, but is looking to “unload” that guarantee, with the help of insurance. The firm then assesses and insures the various risks assumed by the government.

To assess these risks, the firm uses both inhouse and outside expertise in various technical fields. In traditional fields like traffic analysis, it has its own inhouse expertise; for something entirely new, it would probably go outside.

The FSA representatives said they recommended project structures where the government paid a “shadow toll” or else guaranteed revenue for the important early years of a project, but structured its payments so that they would reduce over time. This would provide early but diminishing government support. This is desirable because the early years are the ones when revenue is generally lowest.

The meeting touched on the difference between US and Australian federal–state relations— whereas the Australian Federal Government discourages borrowings by States, the federal government in the USA encourages them to borrow.

Pension funds are reluctant to participate in project-specific issues because there is a lot of analysis work involved per dollar invested. They don’t like paper which “has a story behind it”, which in other words, needs to be explained and analysed. Insurance might make it more interesting for a pension fund to invest in infrastructure projects.

There are only around five or six companies like FSA. They would not normally be keen to see a Triple-A rated homogenised fund with an implicit or explicit government guarantee because that government guarantee would make insurance redundant and would therefore take away business from them.

There is a lot of money available for municipal bonds, however—last year the market was \$US250 billion, this year it will be bigger. It is liquid, interest rates easily clear the market. The real issue in infrastructure development is a credit issue. Funding is easily available, without pension funds’ participation, for creditworthy well-structured projects. For projects where there is a major risk to be taken, e.g. a traffic risk, there is no reason why pension funds should invest in the absence of insurance.

Governments could usefully intervene in the early years of a project to flatten out the risk profile, that is, to reduce the higher risks characteristic of a project’s early years by providing a variety of guarantees, capital contributions or subsidies. In many projects, for example, in Mr Taylors’ estimation, the water treatment projects, it is probably not practical to have a third party come in and take that risk—the government has to

participate in such a way that in the event of failure by the private sector, it steps in to find another operator or to finish the construction.

There are certain projects where it is appropriate for the government to take a “discrete obligation”, and the Loan Council, in Mr Taylor’s view, ought not obstruct the process and create a situation where an inordinate amount of effort is devoted to devising ways around its strictures.



## **TUESDAY 31 AUGUST, NEW YORK**

### **8.00 a.m.: Tamara Adler, Goldman Saks, Investment Bankers, New York**

Ms Adler commented that FSA's misgivings concerning Government enhanced bonds were probably self-motivated. She believes that FSA fears that the Government can invade their market. In other words, the FSA would view the government as a competitor in the credit enhancement field.

She said that she saw infrastructure facilities as an excellent investment for pension funds because :

- They offer long life and a steady cash flow.
- They have a safe market, often monopolistic.
- They are not subject to the whims of the consumer.
- They will not be made obsolete by a new wave of technology.
- Many of them meet the "social needs" criteria set by some pension funds.

She did not see that liquidity was necessarily an issue for pension funds. Most pension funds in the US were happy to have part of their portfolios locked in.

However, despite the advantages of infrastructure as an investment destination, pension funds were still not putting their money into it. She saw a number of reasons for that:

- The potential for high profits was limited.
- The risks were considerable in the early, start-up phase.
- There is always a political risk e.g. that the government will change the rules.
- They are often controversial, with concomitantly higher risk.
- Taxfree or low tax bonds were not attractive to pension funds, which pay low or no tax anyway.
- There is a perception that the lack of a marketplace was a tremendous disadvantage. pension funds have typically no expertise in assessing the risks of infrastructure projects.

However, she thought that the advantages could outweigh the disadvantages if the government were prepared to play a role. She saw the government's role as providing subordinate or mezzanine debt with private equity and senior debt. In other words, the government should be prepared to be paid back last, after private equity and debt providers, at least for the first five years. After five years, the government could examine the possibility of making its debt a senior debt. The government also needed to provide some protection against political risk.

If the government reallocates funds to mezzanine level debt, for every \$1 of that debt, \$4 or \$5 can be raised in private sector equity and senior level debt. Thus the government's involvement would attract considerable funds from the private sector.

Ms Adler said she believed strongly that government grants were not the way to go. The committee asked her what should be done about the benefits that cannot be captured in purely financial terms, like safety and lower pollution. She answered that there should

always be the discipline of a return on investments. The committee amplified its earlier point, asking what should be done about CSOs, e.g. for remote telephone services, and Ms Adler stressed that she was not against government subsidies, only against government grants—“Free money is dangerous”. If equity holders will make money, then the government should buy its own share. In the US, this was an unfamiliar concept with governments. All they had experience of was spending taxpayers’ money, rather than investing it for a return. She said she believed that co-financing was desirable, and that the government should get used to seeing a return on an investment it makes.

She also believed that a spread of projects would minimise risks, and make the government’s involvement in the earlier years of a project less risky and more acceptable to taxpayers and other investors than any one-off involvement in a stand- alone project.

Two final points from the meeting with Ms Adler:

- Government authorities do not pay dividends or taxes in the United States.
- She believed that nothing much would come from the Clinton Report, because of the limited support at federal level; there might possibly eventuate another report focussed on state-level issues.

*Public Accounts Committee*

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**10.00 a.m.: Martin D. Jacobson and Marissa C. Wesley (Partners), Simpson Thacher & Bartlett, New York**

**2.00 p.m.: William H. Chew (Managing Director, Municipal Finance), Standard & Poor's Ratings Group, New York**

Standard and Poor's, in common with other ratings agencies, carries out independent credit risk evaluation by employing a range of technical criteria. In the US infrastructure area, it rates municipal debt issues sold publicly to finance infrastructure projects, and provides surveillance on rated issues, credit reports detailing the basis for the rating, and dissemination of the rating. Its ratings do not constitute recommendations to buy, sell or hold particular securities, because there are other elements in the decision whether to buy, sell or hold than simply the credit rating of an issue. It uses letter symbols to indicate credit-worthiness: AAA means that the debt so rated has the highest rating assigned by Standard and Poor's. Capacity to pay interest and repay principal is extremely strong; Debt rated AA differs from the highest rated issues only in small degree; debt rated A has a strong capacity to pay interest and repay principal although it is somewhat more susceptible to adverse circumstances; debt rated BBB is regarded as having an adequate capacity to pay interest and repay principal. Adverse circumstances are more likely to lead to a weakened capacity to pay interest and repay principal. All the above are termed "investment grade"; issues rated BB, B, CCC, CC and C are regarded as "speculative grade".

Mr Chew is in charge of all municipal ratings in Standard & Poor's.

The firm rates over 20,000 municipal issues in the United States.

All governments, even the most solvent, are under pressure to find the most efficient way of raising funds for infrastructure needs, more efficient than the traditional way of financing projects from central government sources. Institutional investors, on their side, are increasingly interested in long-term fixed-income investments as an efficient way to fund annuities.

Standard & Poor's has over recent years been stressing that apart from senior debt of corporations and senior debt of governments, there is another asset class of debt—that is true municipal debt which is not backed by a sovereign guarantee but supported only by user fees. They are not asset-backed bonds, but revenue-backed bonds. Mr Chew provided the Committee with an article he had written on revenue bonds (see appendix 1). These are be limited-recourse obligations, and are supported by both the sell and buy sides of the capital market. They get away from all the questions of government guarantees and backing, and look at projects on a "stand-alone" basis. At present, revenue bonds constitute over 60% of the US municipal market. They are tax-exempt.

Mr Chew said that this type of bond has yet to be introduced in a significant way outside the US, and he considers there would be considerable potential for it internationally.

Relevant criteria (as outlined on page 62 of the S&P book *Municipal Finance Criteria*), are competition for the service, geographic service area for the item of infrastructure, revenue-raising flexibility, legal structure, debt structure, institutional characteristics and market structure, among others. Mr Chew stressed that S&P does not think that credit analysis of this type of bond is going to be strictly a series of ratios, as is the case with

corporate bonds. There are other factors which need to be taken into account, and each project has its own profile.

The Committee asked Mr Chew whether it was feasible to enlist S&P's services to get an opinion as to how a specific project would affect the credit rating of NSW. Mr Chew said that would be possible. He said that apart from revenue bonds, another source of project finance is capital markets funding of true project debt. This is true non-recourse debt, framed by, for example, an offtake contract or concession agreement incorporating a fixed price for the service. Those can also be rated, and S & P carries out such ratings.

Mr Chew was asked whether such ratings of individual projects could provide a possible tool to defuse the arguments in favour of Loan Council. (The point here is that if it can be shown by a rating that a particular project has an excellent chance of repaying debt, the Loan Council's argument that any debt incurred for the project ought to be restricted loses its force. The end result would be that more projects could be built than at present.). He said that made a lot of sense. He said that while rating agencies cannot replace public bodies, they can provide services to complement and supplement government involvement, to "intermediate" between the government and the capital markets.

This type of credit enhancement was common.

Mr Chew also discussed the growth outside America of revenue bonds to fund infrastructure. These are bonds backed not by assets but by the revenue generated by the infrastructure facility. In the United States, municipal revenue bonds are already common, and there is increasing interest in similar instruments in Europe, Asia and Latin America. The advantage of these bonds is the stability of the revenue. Repayments are covered by covenants, and while covenants alone cannot of course create revenue, experience in the US municipal bond market has demonstrated that they create a strong incentive for issuers to maintain financial viability regardless of unforeseen expenses or revenue losses.

Standard and Poor's currently rates 30 utilities systems, which represent most of the world's largest utilities. While these do not compare precisely to revenue bonds, since many of them are private-owned or are being privatised, and rate-making and regulations are generally controlled by government regulation, they can be considered prototypes of the stand-alone revenue bond. They are infrastructure systems financed largely or entirely through stand-alone revenues generated by delivering an essential service for a fee. To date these credits have performed well. For the stronger systems, average S&P ratings have been at the high-investment-grade level, and rating changes have been minimal despite economic pressures in Europe and Asia.

**4.00 p.m.: James T. Taylor II (Vice President, Public Finance) and James F. Henn, Lehman Brothers, New York**

Lehman Brothers are investment bankers. They have recently been involved in the E470 in Denver, a \$US700m tollway, and a private bridge from Texas to Mexico.

They have been successful in educating investors in analysing traffic numbers and forecasts.

Financing techniques have to and can be used to mitigate early “ramp-up” year risks. However, cash flows in later years are very strong and stable; indeed, the later-year returns on infrastructure are better than for blue-chip corporations.

Bankers do not have a monopoly on the debt market. For infrastructure, they are not suitable debt providers because they typically have a 10–15 year horizon. The long-term debt in the latest tollroads have been provided by long-term investors, mainly insurance companies, which have long-term liabilities.

The E470 right of way has provision for future optical fibre and mass transit light rail.

There are three private firms whose reputation is high in traffic forecasts and whose opinion is accepted by investors. The traffic consultant alone, however, is not enough. Normally that expertise needs to be supplemented by experts in evaluating land, demographics, property values. Thus an expert in say demographics would feed information into the traffic model. In Denver, for example, an airport traffic consultant was also hired because the new airport would feed the E470. For the bridge from Texas to Mexico, an expert in vacation travel was hired, because vacation travel was a major purpose of the road.

The Texas-Mexico road was built and financed by a consortium of five large construction companies which are usually competitors. The initial concession is for 15 years, which is automatically extended if the agreed-upon rate of return has not been achieved.

Mr Taylor was asked what the typical level of buffer equity or subordinated debt that protects the senior debt was in such projects. Mr Taylor said that varied. As investment bankers whose clients are the contractors, Lehman had been trying to get that level down as low as possible. In the beginning, the commercial banks would not look at a project unless there were 40% equity in it. In certain cases, banks are now willing to accept 10% or 20% equity. On the other hand, the insurance company long-term investors did not care so much about equity as coverage by projected revenues, that is, whether projected revenues will cover debt. If the project promises to have a very strong revenue stream, it may even be possible to do the project on 100% debt financing, and indeed that is what Lehman has tried to do with the Texas toll road. But foreign debt providers e.g. French and Swedish banks still wanted some equity in the project from the contractors. With 100% debt, the lenders simply get their returns, and there are no equity partners to get capital gains or take any losses. With the Texas toll roads, however, the situation was complicated because the contractors own large tracts of land around the road, and so were able to obtain capital gains from the rise in value of that land. That is where the

contractors expect to make money from. A similar situation prevailed in the Dulles toll road.

Insurance companies often take a large amount of risk that investors would not take. With the Texas road, for example, insurance companies paid about \$3m to assume the earthquake risk. In some of the Mexico tollroads, what is being contemplated is that insurance companies e.g. Lloyds of London, take some of the traffic risk as well, so that if traffic does not meet projections, the insurance company is obliged to pay. Lloyds will insure anything.

The deals that are getting done today are allocating risk to the appropriate party. In E470 in Denver, for example, there was a public authority that had the right of way and the authority to build the road, and the lead contractor, Morrison Knudsen. The question was who should take the risk of force majeure—should the government take that risk, or should Morrison Knudsen receive another \$10m or \$15m to take that risk? Rather than blindly putting it all on one party or another, the negotiators went through all the risks systematically, and tried to work out who the appropriate party was who should bear the risk. For some risk, it was the insurance company, for others it was the government.

**WEDNESDAY 1 SEPTEMBER, WASHINGTON DC**

**10.00 a.m.: Declan Duff (Division Manager), Krishaw Sehgal (Principal Investment Officer) and Douglas Craig, Infrastructure Finance Corporation, World Bank, Washington DC**

Infrastructure Finance Corporation (IFC) invests across borders. This adds many problems to the issue of infrastructure financing. Mr Duff asked whether Australia was seeking financing for its infrastructure only from Australian sources or whether it was considering looking abroad. The committee answered that since there were insufficient government funds for infrastructure in Australia, private sector sources had to be tapped, and this of necessity meant that non-Australian sources would be involved, in a global market for funds. Already many foreign sources are involved e.g. in water treatment plants, various private hospitals and so on.

Mr Duff thought that it would be useful for a ratings agency such as Standard and Poor's to rate individual projects.

The infrastructure group in IFC was set up only two years ago because a sharp increase in demand from member countries for infrastructure finance was observed. The demand is almost overwhelming, because of privatisation, and because of the "wailing list" for new projects e.g. in Argentina, which is going through a very radical programme, Mexico, Thailand, Malaysia and Indonesia. Added to that are regions like Eastern Europe, where there is a need for rapid and radical improvement. All these projects are seeking financing. There is a demand for financing for electric power, telecommunications systems, roads, water, airports, rail systems. All of these are competing for funds.

On the supply side, there are quite strong signs that certain commercial banks are moving in a strategic direction and focussing on this sector. A number of insurance companies are making significant commitments. IFC has recently helped float a fund for electric power in Latin America, and is examining other, also sizeable, funds in other regions.

There are "quite sizeable" funds available for equity. It is "early days". In Latin America, the floats have not necessarily been supported by detailed research and prospectuses, but have occurred following privatisations, and successes in the United States in power projects, which were strongly supported by banks. Thus many projects consist of refinancing existing facilities (e.g. power stations) which are suffering from identifiable and soluble management problems. The advantage of basing these refinancings on privatisation of existing projects is that these have a track record. This makes it easier to get a market assessment and a rating.

In Eastern Europe, it is very difficult to make a market assessment for new facilities, because many factors e.g. political risk, vehicle ownership, are in flux. Investors are hard to find for these projects.

In most IFC deals, there is a heavy foreign investment component. Currency risks are typically either left open or hedged with currency-indexed revenue streams.



IFC directly invests its own money in worthwhile projects in the private sector. It does its own due diligence and research, and spends a great deal of time and money inducing other investors to follow. IFC provides both debt and equity. It is rated triple-A. When it goes into a project, it does so on a purely commercial basis. It is barred from taking government guarantees. It has no recourse to government, in other words. It goes project-by-project, and does not have any pooled fund.

Most of the projects are concession projects, 15 to 20 years long. There has been no open-ended project at all.

They act as a catalyst, to get projects off the ground. But they are competing with Australia only in a limited sense, because there are ample funds for good infrastructure projects. The more successful infrastructure investments there are, the more funds are going to become available. However, competition for funds is particularly high in the Asian region. Malaysia has been particularly attractive, because it has stable government, a consistent exchange rate, consistency in the details of the concession.

The IFC looks for three criteria in a deal:

- fairness and transparency (it is involved in the contract negotiations);
- political and currency stability;
- the inclusion in the contract of the right of transfer to another operator, and transfer at the end of the concession.

Most infrastructure was financed from private sources until the early years of this century. The last 60 or 70 years have been atypical from that point of view.

It is the IFC's experience that private sector involvement brings about a dramatic increase in efficiency.

**[Time: ]**Francis X. Lilley (President, Bear Stearns Fiduciary Services Inc., Washington DC), Tim James (Co-ordinator of Special Projects, International Union of Operating Engineers, Washington DC), J. Douglas Koelemay (Managing Director, Agenda Communications Inc., Arlington, Virginia)

Mr Lilley, Mr James and Mr Koelemay were closely involved in the preparation of *Financing the Future*, the Report of The Commission to Promote Investment in America's Infrastructure, which was described briefly in Chapter 1 of this report. In this section, *Financing the Future* is referred to as the Clinton Report. One of the aims of the report was to identify ways of inducing pension funds to invest in infrastructure.

Mr Lilley explained how the Fund proposed in the Clinton Report could work. One option is that an investor would invest in the bonds of the National Infrastructure Corporation proposed in the Clinton Report. The Corporation then "hands out the money". Another option is to buy a bond insured by a subsidiary of the corporation. Even with insurance, the trustees of a pension fund need to look at a proposed infrastructure investment to see how it fits in with the rest of their portfolio.

Some of the Commissioners wanted to attract pension funds by proposing government guarantees. There was a suspicion among pension funds that the government would require a quid pro quo from the pension funds, that in other words, it would oblige pension funds to invest in infrastructure in return for providing the guarantee. This was considered highly undesirable by the pension fund managers. This was not proposed in the Clinton Report.

Most pension funds will not either do their own due diligence or pay for it to be done. Their position is that there are plenty of investments which do not require that kind of effort. Thus the kinds of projects that would attract pension funds are the "plain vanilla" ones, the ones where there is no "story", no particularities, no special problems. There are a few of these in infrastructure.

Despite this, there is a general feeling in pension funds that they need to diversify their portfolios more. The pension fund of the state of Colorado took a \$500m chunk of a co-generation plant, which they took because they realised they were not actually buying the plant, they were buying the revenue, the contract to supply electricity. Their view was that this was very difficult—they spent \$125,000 on hiring an expert to do the due diligence for them on that project. They said they would have welcomed a bridge like the Corporation as proposed in the Clinton Report.

Mr Lilley stressed that what had always been envisaged was that pension funds would provide debt. Almost no pension funds were going to take an equity position, with the exception of the most adventurous. Most of it would be fixed-income type of investment, perhaps fixed income with an equity "kicker". Even a tiny portion of these very large sums going into infrastructure would provide a start and would diversify portfolios.

The sums involved are enormous. For example, the assets of the two major pension funds in California, the California Teachers Fund and the California Public Employees Fund, total over \$100 billion; the New York City Public Employees Fund is over \$50 billion.

Funds like these are looking for this sort of investment. as long as they are not risky and are structured in a way which makes sense.

However, in many ways, the way pension fund capital works in the United States is often against its own long-term interest. It focusses on short-term targets, rather than long-term growth-oriented investments. The jobs created by infrastructure projects cannot be taken into account on the balance sheet, although common sense says they are obviously desirable.

The Committee asked how the Clinton report was being "sold". Mr Lilley said that the Commissioners had thought the report would have been approved almost immediately President Clinton assumed office, but that did not happen. Partly this was because there had been delays in the confirmation of the government positions of its supporters, like Olena Berg, Assistant Secretary of Labour, partly because the responsibility for carrying it through the Administration was given to people who were new to their jobs; partly it may have been because the municipal bonds suppliers felt that their territory was being invaded by the proposed funds. There is, however, an interagency task force which is looking at it.

The difficulties of "selling" the report have highlighted one common political problem with infrastructure: the benefits tend to be long-term, the difficulties short-term. However, one attraction is that infrastructure creates jobs. This is how it should be "sold".

## **THURSDAY 2 SEPTEMBER, SACRAMENTO**

**10.00 a.m.:** Carl Williams (Assistant Director) and Philip C. Warriner (Office for Public-Private Partnerships), State of California Department of Transportation, Sacramento

The Californian Department of Transportation (Caltrans), with 20,000 employees, owns and operates the state highway system. It is the closest equivalent in California to the RTA. The highway transportation system is the most important transportation system in California. It also owns rail vehicles and pays for the operation of certain portions of the mass transport rail system in California. The private sector builds the rails and Caltrans pays the private sector a fee to use the rails.

In the beginning of 1989, the state decided to do something about financing infrastructure. Governors had been reluctant to raise traditional sources of infrastructure funding, i.e. gas taxes. These had not been raised for many years, and inflation had eaten its value away. Costs would overtake revenues. Gov. Deukmejian put together a high-level group of people to figure out a solution to the transportation funding problem. In 1989, summer, series of bills passed by legislature in California, which did three things designed to solve funding problem: *[something missing]*

- Doubling of gas tax over a period of time;
- Authorisation to sell \$1b of state general obligation bonds to support rail projects. This was a new initiative for the state;
- Innovative demonstration programme to develop public-private partnership solutions for four demonstration projects.

The legislation authorisation for these last four projects was Assembly Bill 680, known as AB680, which was passed in 1989. The four projects eventually chosen were:

### **Project 1**

*Proposer:* The Perot Group

*Project Concept:* A 4-lane, 11.2 mile toll road extension of Route 57 in Orange County from Interstate 5 near Anaheim Stadium to Interstate 405 utilising the Santa Ana river Channel and connecting the State Route 73 in the vicinity of John Wayne Airport. The median area is reserved for a future transitway.

*Estimated Cost:* \$700,000,000

*Estimated Completion Date:* April 1997

### **Project 2**

*Proposer:* California Transportation Ventures, Inc (CTV)

*Project Concept:* This project is a 10-mile limited-access toll road (Route 125) in San Diego County extending from State Route 905 (Otay Mesa Road) near the Mexican border northerly to State Route 54. Initial construction will be 4 lanes. Ultimate construction will be 10 lanes, including 2 HOV lanes, with the potential to be converted to a fixed-rail system.

*Estimated Cost:* \$400,000,000

*Estimated Completion Date:* December 1995

### **Project 3**

*Proposer:* California Private Transportation Consortium (CPTC)

*Project Concept:* A 10-mile, 4-lane toll road completely within the existing right of way on Route 91 in Orange County extending from the Riverside County line to State Route 55.

*Estimated Cost:* \$88,300,000

*Estimated Completion Date:* Initial operations: 1993, full operations: 1994

### **Prospect 4**

*Proposer:* California Toll Road Development Group

*Project Concept:* An 85-mile, 4-lane (6-lane ultimate) toll road from I-680 at Sunol to I-80 near Vacaville. Phase 1 is a 40-mile section from I-680 to State Route 4 near Antioch. Phase 2 is a 34-mile segment from State Route 4 to I-80. It also includes possible future extensions to I-505 in the north and to I-205 and I-580 via State Route 239 in the south.

*Estimated Cost:* \$1.2 billion

*Estimated Completion Date:* January 1997 (Phase 1)

In response to AB680, Carl Williams, Assistant Director of Caltrans, recognised that a new unit had to be established. In 1989, he therefore brought in Phil Warriner, and Roy Nagy, from State Government, two longtime Caltrans state employees at senior level, to form a new "Office of Public-Private Partnerships". It has only three staff. Mr Warriner came from the engineering side of Caltrans, and Mr Nagy from the Right-of-Way programme in Caltrans. Mr Williams heads the office.

During the discussion Mr Williams said the factor which differentiated the office was its attitude: the government considered itself as just another partner in a business. It provided land and other services to this business. "We changed our attitude, we changed our behaviour. When the private sector needed something we got it done."

The first thing the new office did was begin a major new advertising international advertising campaign to let the world know of the existence of the new office and requesting expressions of interest for the new projects. A huge response was generated, with a mailing list of over 500.

In very short order, they put out thousands of copies of a brochure outlining the legislation and setting out the schedule for implementation, with a flowchart.

They received thirteen statements of bidders' qualifications, of which three were rejected. These ten included consortia composed of huge firms like Bechtel.

They then put together a draft of the final document, entitled the "Guidelines for Conceptual Project Proposals" for Toll Revenue Transportation Projects. It was essentially a request for proposals, but it did not specify projects. It told the proposers from the private sector that after examining all possibilities in the state, they should propose the project that seemed to them to make the best business sense and the best transportation sense. The private sector was not used to doing things this way, and had to spend more money and time than they were used to. However, of the four projects that were ultimately selected, three had not even figured in Caltrans' own longterm planning, or at least had been slated as due only very much later. Mr Williams said that this suggested that the state was not as well informed about possible tollroad projects as the private sector, and that the private sector maybe had some entrepreneurial insight that the state ought to tap into.

This one feature was the single greatest contributor to the eventual success of the project.

The criteria the government used to select successful proponents were varied:

- how much transportation service would be provided;
- how reasonable the proposal was in terms of environmental impact;
- how profitable the project was;
- the degree of local support.

The government did not seek to generate price competition among proposals. In effect, by seeking the private sector's own ideas, and then deliberately not going out to market with those ideas (which would have constituted a theft of intellectual property), the government was declaring that it was prepared to compare "apples with oranges". According to Mr Williams, that process was educational, interesting and worthwhile.

The identity of the assessment team was kept secret until all proposals were in. It was also made clear that any political pressure would earn demerits. The process was conducted with transparency. Included in the team were chairmen of the legislature's transportation and other relevant committees, and an outside public person, and the district engineers from the districts where the projects were likely to occur.

There is no recourse to government in these four projects. They are 100% funded by the private sector. If the projects fail, the investors lose their money. There are no bail-outs by government.

Of course, the state continues to build highways in the old way, through public financing. There are also public tollroads like the San Joaquin Highway, where the government issues bonds to cover the construction of the road and simply pays the bonds off with the revenue from the tollroad.

Mr Williams said there was a tremendous, a “dramatic” difference, however, between a public tollroad and a privately-built and -operated tollroad. He gave an example: State Route 91, which has just broken ground (September 1993) and brought to the state \$US125m of private capital, would have taken 36–38 months to build if it were a publicly-funded road. The private sector, however, wished to open the route as quickly as possible, for obvious reasons. They worked out that if they invested \$1m to build a temporary ramp (something the public sector could never have done), they could start reduce the construction time to 29 months. They did that, with the approval of Caltrans, which wanted to have that facility open sooner to the public. In all this process, Caltrans had to walk a tightrope between protecting government interests, and not squelching the entrepreneurial instincts.

In the case of SR91, it is not likely that the private sector would run out of money halfway through construction, because five banks are in the consortium, and because the contractor, having put his own equity into the project, is likely to be very careful about cost overruns.

Apart from the care the contractor is likely to take with cost overruns if he has equity in the project, there is another advantage to BOT-type projects, which was seen in the case of SR91. This is that the contractor for these projects must maintain them during their life, so he is likelier to choose construction designs and materials that are easier to maintain over the life of the project. The government does not have these direct incentives. In the case of the SR91, the company used a thicker than required pavement in order to reduce the subsequent cost of maintenance. The government, on the other hand, would normally put in the minimum size of pavement and disregard the subsequent cost of maintenance.

Ownership of SR91 is vested in the government immediately upon completion. The reason for this is that in California, the private sector’s liability is not limited in the case of death or injury on a road, whereas the government’s is. Operating rights are vested in the government at the end of the lease period, and then the government has the authority to continue tolls.

When authorising a BOT-type project, the government should therefore bear in mind that the money it is saving is not just limited to construction costs. It is also saving enormous maintenance and policing costs over time. In the case of SR91, these costs almost equalled the cost of the construction itself, \$US120m v. \$US 125m. This is a considerable burden the government does not have to carry. Mr Williams put it graphically, “So we didn’t save \$125m, we saved \$245m on this deal!”

The law in California says that the franchisee is entitled to a “reasonable return on his investment”. No private sector company would invest money unless it saw the prospect of a reasonable rate of return in the project. This simple fact was recognised by Caltrans,

which negotiated the “reasonable rate of return” on the basis of the perceived risk of each project.

How was the “reasonable rate of return” to be determined? Caltrans adopted two criteria:

- The rate should be a blend of the rate of return on equity, which should be high to compensate for the high risk, and on debt, which is lower, since the risk is lower. The reason for adopting a blend was that Caltrans felt that legislators would not understand the need of equity investors for a high rate of return.
- The rate should reflect historical experience on what the usual rate of return was on high-risk projects of a similar kind over the last 100 years. The result was between 17% and 21% after-tax return, according to risk.

The rate of return is of course not a guaranteed rate of return, because there was no government guarantee of any sort on this project. All it was a ceiling, a cap, a so-called “base rate” on the rate of return. In other words, the company could not make more than this ceiling.

The private sector was not used to having a cap imposed on its profits. They reasoning was that if they had risked their investment, they were entitled to the maximum possible rate of return. They maintained that if they government was imposing a ceiling it ought to provide a floor, a net, in other words, it ought to limit the private sector’s possible losses.

Mr Williams explained to the private sector that a ceiling was necessary in order to avoid political accusations that the government was “giving away the shop”. However, the private sector could make more than the base rate if it agreed to fulfil certain conditions: first, that it would operate the road with fewer fatalities than was typical for roadways of that type in that region, that it would reduce personal injury accidents, and that it would increase the average ridership per vehicle (to be ascertained by survey). The government would gain these social benefits and then the government would share any profits in excess of the base rate. The main benefit of this last point is that the government has an incentive to let the company reach its base rate quickly, so that it can share in any profits over and above that base rate. This reduces the incentive for any subsequent government to alter the agreement. It turns the agreement into a “porcupine”—if the government “messes with” the deal, it will get hurt—first, it will lose revenue, and second, it will lay itself open to arbitration. The agreement also clearly says that if the government changes the rules to the detriment of the operator, the government must pay for any profits lost thereby.

The company can fix the toll and can vary it according to time of day, number of people in car and other criteria. The point is that Caltrans decided not to control the tolls, but only to limit the rate of return on investment. This is saleable, because it can easily be argued that the toll company is not likely to “gouge” people who can choose an alternative. People will resist an overly high toll if there is an alternative, which is why it is a requirement in the legislation that there be an alternative.

Thus there are two protections in the legislation:



- a cap on the consortium's rate of return;
- the availability of an existing alternative free or otherwise.

The investors did many studies to determine the value of time to travellers, and came up with the result that one minute of time was worth 23 cents. This implies that the toll charged to save half an hour could be quite high, around \$13. In the case of the SR91, these savings were very vividly illustrated because the tolled road runs down the middle of a free existing alternative, and backed-up riders on the free alternative can see right beside them the free-flowing traffic on the tollroad.

Another advantage of the company's being able to vary the toll is that this can be used as a device to control the press of traffic. If too many vehicles are clogging up the free alternative, the operator can reduce the toll; if too many vehicles are using the toll road, the company can increase the toll. The level of the toll is advertised several miles before the entry point into the toll road. The company has developed sophisticated electronic means of monitoring traffic. All toll booths are electronic. Only cars with transponders are allowed to enter the tollroads.

When asked if these projects had succeeded because there was a champion, Mr Williams said it could be done anywhere with an honest, ethical and hardworking person, whose position is sufficiently high to ensure action; in any case, the process developed its own momentum as it went on. One element also was the involvement of the legislature on the Advisory Panel.

Mr Williams said that he was very careful to have everybody understand at every stage of the proceedings what was going on. He said the transparency and ethical dealings were critical to the success of the process.

He drew the following diagram:

All infrastructure projects fall into this box. A few projects exist which are entirely financed by the private sector (e.g. SR91), where no government money or guarantees are involved, and which the private sector can build and make a profit on. There are very few of those. At the other extreme, there are a very few infrastructure projects which are

entirely financed and built only by the public sector, without any private capital being able to be attracted. An example of that might be a bridge over to an island where only 14 people lived. As one moves in either direction, one gets into “mixes” of public and private capital, so that at point a, one would have a project that required ab of public capital, to leverage ca of private capital. This is not a bad deal.

This did not mean offering the private sector guarantees. Mr Williams was against that. The virtues of the government’s involvement were different.

Mr Williams then described the proposed Revolving Fund. He explained why he thought it was a good idea. His experience with infrastructure projects in California and abroad, is that even for the most viable projects, bankers and financiers demand standby equity or equity before they agree to come in. This is not typically a large proportion of the value of the project, maybe 10% to 15%. The bankers’ demands typically delay the project for too long, in Mr Williams’ view.

This is one argument for the government to get involved.

Another argument is that even though contracts may be structured so that the government only hurts its own interests if it alters the contract, the perception among banks is that if the government has no money at risk in a project, it can with impunity alter the rules that govern that project.

To deal with these issues, Caltrans has proposed a Revolving Fund that would work essentially as an investment banking operation. It would initially be financed by a one-time injection of capital which could come from many sources—the government (as a loan, at a reasonable rate of interest), banks selling stock, grants or loans from local entities, international firms (e.g. construction firms).

Once the money is in the Fund, this can be leveraged against guarantees in the proportion of approximately 10 to 1. That is, this initial equity would attract 10 times its own amount in the form of debt. Thus \$100m would leverage \$1 billion.

This would have worked perfectly with the SR91. This project went out for financing, to the amount of \$125m, which would have covered, roughly, the construction costs, the technology costs, and the lawyers’ fees. The banks (BNP, Societe Generale and Citicorp) examined the project carefully, and said that there was a credit gap. That is, there was not enough equity. The project itself was very sound, and promised to be highly profitable, but there was a credit gap. Mr Williams believes that in this case, that the credit gap was about \$19m out of a total project cost of \$125. The banks demanded standby equity to cover that credit gap.

This demand slowed down the project. If a government Revolving Fund had existed, and if Caltrans had been satisfied that the “credit gap” was reasonable, Caltrans might have said, “The banks should put up all the money. We, the government, will guarantee that \$19m as a subordinated guarantee, for a commercial fee. The government will step in with the \$19m if the project fails.”

Caltrans has very little fear that SR91 would fail. That fee for offering the guarantee would then go back into the Revolving Fund. Now the government is in a position to guarantee another project. The government controls the fund. If the project fails during construction, the banks will take the proceeds from the performance bonds and try to get the project finished. If the project fails during operation, again the bankers step into the shoes of the operators and see if they can straighten things out. If they can't, the government simply takes over a new facility for nothing. Thus the government's risk is very minimal. In addition, it has charged 2% for its guarantee.

It clearly says in the legislation that if the project fails, there is no recourse to government beyond the amount the government has in the Revolving Fund.

That essentially puts the private sector on notice that the government will not bail them out. That is why the private sector is getting a substantial rate of return on these projects.

Mr Williams said he preferred to merely guarantee the "credit gap" rather than make an actual loan, because the government's initial stake would very quickly be eaten up if actual loans were made. The guarantee comes from the funds the government has in the Fund. Guarantees were cheap; in fact, they generated upfront income in the form of the fee. Many more projects could be guaranteed than could receive actual loans. The problem was really an actuarial one. The government subordinates its guarantee, that is, if the project fails, the government is at the end of the line when assets are being sold to pay creditors. If the project fails, the government is not likely to be paid the amount it has guaranteed, and will lose it. However, if the bank cannot solve the problem, the government takes possession of the asset. The biggest advantage of the government's involvement is psychological. It offers comfort to potential investors.

With the Fund, the lower the guarantee the proponent asks for, the higher will be the number of points he gets for his financial proposal. Two other disincentives against asking for a high guarantee are, first, that a commensurately high fee will have to be paid to the government and second, that a lower rate of return will be allowed by the government the higher the government guarantee has to be. All of these will mean that the private sector will not simply ask for all it can get from the government.

The Fund would act as an investment bank. It could sell stock in itself.

**1.30 p.m.: DeWitt F. Bowman (Chief Investment Officer), and D. E. Maxwell, California Public Employees Retirement System, Sacramento**

The California Public Employees Retirement System (Calpers) has never yet become involved in infrastructure. The closest they have come is participation in government housing development projects. They have also looked at one fund that was being set up to bring pension fund money into infrastructure projects. The equity was an equity-type investment, in which Calpers would be a limited partner. The fund was directed mainly to power projects. Mr Bowman said that to the best of his knowledge there were no other similar funds in America.

(The Committee has subsequently learned that this is not true, although the others appear on the East Coast and are directed towards water and waste treatment).

That fund did not get off the ground.

The pension funds have no general experience in infrastructure funding because the municipal bond markets have always funded infrastructure in the US. Munis are tax-exempt, so that infrastructure has never been an appropriate investment for pension funds.

One model for getting pension fund into infrastructure could be the housing market, where the federal government has set up agencies which securitize mortgages and provided a backstop guarantee, which gave the investor in the paper a confidence that it would be paid. This has been enormously successful in getting private money into the housing market. This is why some of the recommendations for getting pension fund money into infrastructure are for the establishment of a federal infrastructure Bank or Agency that could provide similar securitisation and federal guarantees. Unless this happens, or unless some opportunity is provided for pension funds to earn equity-type returns, it will be difficult to get pension funds to invest in infrastructure.

On a debt basis, pension funds would be happier if revenues can be dedicated to the repayment of the debt, but if debt service were the responsibility of some political entity, pension funds would be hesitant about getting involved.

They would look at rated debt, which would simply have to compete with other instruments.

There are almost no skills within pension funds to evaluate infrastructure.

There is a need for "equity type" instruments. Calpers would consider investing in suitable opportunities.

**3.00 p.m.: Annette Porini (Assistant State Treasurer), California State Treasury,  
Sacramento**

*[commentary to be provided]*

*[Time?:] Dr Rudolph Penner [position???], KPMG Peat Marwick, [Sacramento?]*

Dr Penner was sceptical about the Clinton report. He does not believe there is a huge infrastructure problem, nor does he believe it is especially a Federal problem.

As the former Director of the Congressional Budget Office, he was familiar with the arguments that the United States needed more new infrastructure. He felt that these arguments had little force, for several reasons:

- money needed to spent on maintenance of existing infrastructure rather than on building new facilities;
- Federal grants to states for new infrastructure and new taxes (e.g. gasoline tax) for new infrastructure were already in place and were providing sufficient funds;
- the ISTEA legislation was in place to provide for private financing for infrastructure (although not many projects had eventuated as a result).
- care needs to be taken that infrastructure built is not "pork barrel" spending, as so much of it is: wasteful and politically motivated.

The only way to determine whether a project is really needed is project-by-project, on the basis of a cost-benefit analysis. It is impossible to generalise in infrastructure.

He was asked how government liabilities and risks incurred in infrastructure projects should best be covered. He said that he was instrumental in designing legislation which forced departments to make actuarial estimates of the liabilities they would incur with infrastructure projects, and then to include those estimates in their budgets. The Committee asked him whether, as a substitute for that approach, he would consider it appropriate for a ratings agency such as Standard and Poor's to rate an individual project. He said that was a useful technique, because it provides a useful discipline on governments, more even than legislative requirements on states to balance their budgets, which are so easily evaded. Revenue bonds afforded another useful discipline on state governments, because they forced them to find ways of meeting their obligations under these bonds. Another useful technique was insurance as provided by e.g. FSA or Municipal Bond Insurance Association. They have never paid a claim, to Dr Penner's knowledge. They would claim they were not really in the insurance business - they were rather in the "comfort" business. They analyse projects at length, and choose projects which essentially have no risk. When they decide to insure these project, it is essentially signalling that this is a virtually risk-free investment.

If governments take risks, these should essentially be transparent to the taxpayer.

Dr Penner said he believed that the federal grant system for the interstate road network is too generous to the states. Although it is a complicated system, there are occasions where states are paying only 10% of the costs, while the federal government pays 90%. The benefit to the states is much greater than 10%. This problem may be endemic in a federal system, but when the states know that the federal government will cover 90 cents of every dollar, inefficiencies result. There is no discipline on the states forcing them into greater efficiency.

There might be national arguments in favour of this system in the cases of interstate highways and airports, but in other cases, e.g. waterways and water treatment, the argument is much weaker. Some of these projects were “the most wasteful known to man”, said Dr Penner. Why should a taxpayer in Montana be paying to fix up New York City’s water system, for example?

Dr Penner was asked whether it was true that in America the reverse situation with federal-state spending applied to that in Australia: where in Australia, it was the federal government that was attempting to impose borrowing and spending constraints on the states, in America, it was the federal government that was prodigally borrowing and spending and the states that were attempting to impose discipline and were fiscally responsible.

Dr Penner concluded by reiterating the need for scepticism when considering arguments that infrastructure is needed and justified because it has a marked effect on productivity. These arguments he felt were based on spurious co-relations and should be used with caution.

He commended the Committee’s Volume 1 report, saying he thought it was “really very good”.

**-6.30 p.m.: Marilyn Woods and Susanne Burton, Institute for Fiduciarly Education, Sacramento, and Julie Myer Wright [spelling????], Cabinet Minister [for what????]**

*[commentary to be provided]*



## FRIDAY 3 SEPTEMBER, SAN FRANCISCO

**10.00 a.m.: Ralph Stanley (Manager, Infrastructure Development), Bechtel, San Francisco [ and a Japanese guy??????]**

Mr Stanley said that Bechtel is keenly interested in participating in projects in NSW.

As a government official, Mr Stanley had run a major federal infrastructure agency for three years which funded all the mass transit projects in the US. He co-ordinated many of the needs studies in the early and mid 1980s. These convinced him that the 1990s was not going to be an era of large public funding of infrastructure. This was proved by the fact that the last two gas tax increases have gone to lowering the deficit rather than to building new infrastructure, which would have been sacrilegious only five years ago.

On an individual basis, he had attempted to put together the financing for the first privately-financed tollroad in the US, in Virginia. At that time, these efforts were unsuccessful. One of the main reasons was the attitude of the state government. Instead of the partnership concept so evident in California, the government in Virginia apparently viewed this tollroad as competition. The highway department put up its own competing proposal *after* Mr Stanley's company had made its own proposal. This adversarial attitude was wrong. This type of financing, Mr Stanley believed, should be viewed by governments as complementary to public financing, not in competition with it.

Mr Stanley's company did the design, and paid for the environmental assessment. Its total costs were around \$US25m. These have not been reimbursed, and at that time the project did not go ahead.

A standby guarantee by the government would have been invaluable in the Virginia tollroad. This would have been the same kind of standby guarantee that Carl Williams has proposed in California. It would have winkled out funds from the banks. But the Government of Virginia was not prepared to offer this.

Mr Stanley believed that one of the reasons for the success in California as opposed to Virginia was that Carl Williams acted as the champion of the concept. However, he said that the process had stalled in California. Legislation to add extra projects did not get passed.

There is a cultural gap between the private and the public sectors. One major problem is unrealistic expectations on both sides. The public sector needs to be shown that, just as there is not enough public money to pay for all the community's infrastructure needs, so is private capital, particularly private equity, scarce and hard to obtain. Here there could be a role for a bridging organisation. In America, there is the Infrastructure Alliance to play that role.

The scarcity of private capital was a subject of concern to the federal committee drafting a new highway bill. They asked Mr Stanley to suggest reasons why capital is scarce. He gave three. First, infrastructure was new as an investment destination. Second, there is an unrealistic tie to real estate. Third was the constantly-expressed desire of banks to know that the government was supporting the project financially, e.g. taking longterm

subordinated debt, and the dearth of governments which actually do that. The state of Washington has taken federal funds and used them as subordinated debt for infrastructure projects.

Mr Stanley said that the insurance arm of the Infrastructure Corporation proposed in the Clinton Report could provide insurance in the early years of a project, and that the ordinary insurers like MBIA and FSA could take over then.

Development capital is much easier to raise when the government pays permitting costs; or allows reimbursement of costs if the permits cannot be obtained or the project does not go ahead for one reason or another.

When the discussion turned to rail projects, Mr Stanley said that in his long experience with them one of the only ones, light or heavy, which ever made money on its own was in Hong Kong, with a large population to support it. It was not true that rail systems attract high density development. Miami, Sacramento, BART, San Diego, Detroit, San Jose, Portland, Atlanta, Washington, in all cases, the capital costs were too high, and ridership went down. When operating, maintenance and capital service costs are factored in, these rail projects are not working. Mr Stanley said there were two things not to do with rail projects: one, don't have an elected board, and two, don't get dazzled by technology. The Committee considered this experience relevant to NSW at the present time.

## **SATURDAY 4 SEPTEMBER, SAN DIEGO**

### **Visit to San Diego Light Rail system**

During the visit to Bechtel in California, the Committee learned from Ralph Stanley that in his long experience of rail projects throughout the world, none, whether light or heavy rail, had ever made a profit except the light rail system in Hong Kong. One of the major examples of poor profitability was, Mr Stanley told the Committee, the San Diego Light Rail toll system, which, in addition, had poor accounting practices which masked its unprofitability. The Committee had not been aware of this sort of problem with rail systems before undertaking the trip, and considered that in the light of this information, it would be valuable to obtain further first-hand information about how the San Diego light rail system operates. In addition, the Committee learned from Mr Stanley that the San Diego system has pioneered value capture methods. A third reason for visiting the San Diego system was that the NSW Department of Transport is currently examining light rail proposals for the northern beaches area.

In the light of this new information, the Committee and the Director felt that although such a visit had not been foreseen before the US trip was organised, it was appropriate for the Chairman and a senior Opposition member, Mr Irwin, to examine the San Diego light rail system first hand. This was arranged through the California Department of Transportation. The host was Mr \_\_\_\_\_, of San Diego Trolley, Inc.

The San Diego system used to recover 90% of its costs, but this has dropped to 70% in the last year. The authorities are still conducting surveys to determine whether this is due to a drop in patronage or to problems in toll collection. The system uses automatic ticketing machines.

The members were informed that it was easy to make light rail look spuriously profitable if outgoings like track maintenance and the amortization of the capital costs of the rolling stock are left out of the accounts. This appears to be a common but undesirable practice in light rail systems.

Private enterprise has built the stations on the San Diego light rail system. The costs of this have been recouped from the rent paid by the shops in the stations. This is essentially a form of land value capture by the private sector. The system enjoys two peaks, the normal commuter peaks plus the weekend peak created by services to the Mexican border. These peaks clearly make shops more profitable.

## **CHAPTER 3: BENEFITS OF THE TRIP**

The Committee learned a great deal about the forms of infrastructure financing which are currently being used and proposed in the United States. Issues such as the likelihood of pension funds investing in infrastructure, the value of rating of individual projects, the uses of insurance in infrastructure financing, the need to evaluate whether infrastructure is really needed or not, and, most particularly, the new proposals for revolving funds, were all covered during the trip. Perhaps the most valuable single lesson the Committee learned was in California, where it was told about the innovative unit in Caltrans, the California Department of Transport, entitled the Public-Private Partnerships Unit and about how this new co-operative approach between the public and the private sectors had led to the formation of the California State Revolving Fund for Infrastructure.

### **INVESTMENT BY PENSION FUNDS IN INFRASTRUCTURE**

The resources available to pension funds are vast. The assets of the two major Californian funds, the Teachers Fund and the State Employees Fund, total over \$100 billion and increase by several tens of millions every day. The Committee learned that there are several reasons why there might be a good fit between pension funds and infrastructure:

- Infrastructure has a long life.
- Unlike property or shares, infrastructure has a steady cash flow, with the exception of the early years, in some cases.
- The market is safe and often monopolistic, and is not usually subject to the whims of consumers or unpredictable competition.
- Infrastructure is not unexpectedly made obsolete by new technology.
- Infrastructure meets social needs, which for some pension funds is an important consideration.
- Infrastructure represents a much-needed diversification of pension funds' portfolios. For example, the pension fund of the employees of the state of Colorado took a \$500m chunk of a co-generation plant in the interests of diversification.

However, in America pension funds are not widely investing in infrastructure, despite these advantages. They are providing neither equity nor debt. The reasons include:

- The early years in some cases see erratic and low cash flows.
- There is a fear that governments will change the rules governing an infrastructure project.
- There is no familiarity with infrastructure as an investment destination and no expertise in evaluating it.
- There is no incentive to invest in tax-free municipal bonds (which finance infrastructure) because pension funds are already tax-exempt.
- Infrastructure projects are often complicated and "have a story behind them".
- Infrastructure is seen as an undesirably illiquid investment, although many US pension funds appear happy to have other parts of their portfolios locked in.

Insurance of projects might make them more attractive to invest in, thought Mr Robert Spring, and this is an avenue the Committee will be exploring further. Another thing that might make them more attractive is to pool various projects so as diversify risk. Since pension funds are not interested in stand-alone greenfields projects, one way of mobilising their funds which has been proposed in America was to securitize the income from brownfields projects through a fund and use that to attract pension fund investment. However, the Committee learned that it was not likely that pension funds would provide equity at the moment. They might provide debt, particularly fixed-interest debt, particularly if it were rated.

As in Australia, there is strong resistance from pension funds, and indeed in government, to compelling pension funds to invest in infrastructure.

## **INSURANCE**

Several companies like FSA insure infrastructure projects, but the underlying revenue stream must be strong. These companies will not touch anything less than investment grade. They will insure revenue-based financings.

In the United States, this is a profitable business. There have been no sizeable defaults from infrastructure projects requiring big payouts.

There are other insurers like Lloyds which will insure other risks, e.g. traffic risk, earthquake risk, or any other type of risk, for a premium. This was done in the bridge between Texas and Mexico. This might be explored in Australia too.

However, a government-sponsored homogenised fund would not of course be popular with existing insurers because it might reduce the need for insurance.

The Committee overall believes the question of insuring various individual risks in a project, the project as a whole, a sectoral fund covering projects in particular sectors, and a general funds, needs further examination in NSW.

## **RATING**

The Committee learned in America that it was perfectly feasible for a ratings agency to rate individual projects, thus obviating the need for Loan Council restrictions. The Committee will be proposing this course of action in its Vol. 2 report. Rating can also be carried out on instruments such as sectoral or homogenised funds. This will provide valuable reassurance for potential investors.

## **METHODS OF FINANCE**

## **REVENUE BONDS**

Revenue bonds are commonly used in the municipal bond markets in America but not, as yet, very widely abroad. They are bonds backed not by the asset itself but by the revenue stream it generates. They have several advantages. First is the fact that having to pay the interest on the bonds imposes a discipline on the owner of the infrastructure facility. This is particularly important where the government is the owner of the facility. A second advantage is their stability. They have not yet been widely used in Australia. It may be worth exploring this possibility in this country.

## **FORMS OF PUBLIC-PRIVATE PARTNERSHIP**

Many of these are based on two premises:

- Conventional private sector sources of finance still mostly require some form of equity;
- A project might not be able to obtain enough financing through conventional private sector sources and might need the government to cover that "credit gap".

## **Various types of fund**

Various types of fund are possible. One arrangement might be where the government sells existing assets, uses the proceeds to inject equity into a fund, attracts private sector equity thereby, which then attracts government and private sector debt e.g. from insurance companies, as has been done in the latest US tollroads. The fund might actually put in its own equity or just provide guarantees, as is being proposed in California.

The fund might be a homogenised or a sectorally-based one with different sub-funds. It should be managed by professional managers. It might be insured either by a subsidiary of itself or by an outside insurer. It could be controlled either by government or by the private sector through a corporate structure. It would invest in the early years of the infrastructure project. The Committee learned that pooling of projects is advisable because this spreads the risk.

Another arrangement might be where the government does not sell existing assets but securitises the revenue from those existing assets.

The government might also not put up any actual equity at all, but simply provide a guarantee of that equity. This is cheap, and is proposed in California. This idea needs to be discussed in the NSW context.

## **Co-financing**

This is essentially a joint venture. The Committee heard from Goldman Sachs that this was desirable in that it imposed a discipline on the government. Instead of simply financing a project out of tax funds with no thought for its returns, a co-financing forces the government into a position where it has to take the returns into account.

## **Use by state government of federal funds to provide subordinated debt**

Under this system, as practiced in the state of Washington, the state government takes federal funds and instead of using them to pay the entire costs of constructing, say, one road, it makes subordinated loans to private companies. These loans are supplemented by other loans, from the private sector, and the government agrees to be last in the line for repayment. The virtue of this is that the federal funds can go towards building two or three or more roads for the community instead of just one.

## **Sliding involvement by government declining as the project ages**

This type of involvement could be the provision by government of a shadow toll for the first five years of a project, or a traffic guarantee. Most private sector investors and insurers like this arrangement for obvious reasons, but there is doubt whether it is in the public interest.

## **Subsidies**

These are, or should be, the most easily understood and transparent forms of government contributions. They are increasingly popular in the United States.

## **Concessions**

The government might cap the return obtainable by the concession company. If there were any profits over and above that, the government might share them. If the rate of return was below an agreed-upon floor, on the other hand, the government might extend the term of the concession, as was agreed on in the case of the Texas–Mexico road.

## **OTHER LESSONS**

The Committee also learned a number of other lessons, not easily categorised:

- Competition is strong worldwide for funds, particularly in the Asian region. If Australia wants to attract funds, it needs to provide attractive projects and attractive vehicles.
- The more successful infrastructure investments there are, the more funds are going to become available.
- Transparency is a major criterion for private sector investors. The IFC made it an important factor in its decision whether to invest or not in a project.
- Securitisation in US has often involved pooling of similar assets, e.g. credit card receivables, telephone receivables. Eximbank guarantees loans, and the types of securitisation structures that have developed in infrastructure have taken Eximbank guaranteed loans and packaged them in a way that will allow Eximbank to continue to deal with commercial lenders and paper to be sold to institutional investors.

These loans go to a special-purposes entity, in many cases a trust, which issues paper to the public, and the rating agencies rate this as if it were a security. This paper is about 12 years for projects. Once securitisation is put in place, the future income stream is locked in to all intents and purposes. Eximbank is increasingly trying to act as a real project lender and carry out its own assessments.