Appendix A: Sample Letter Sent to Selected Transport BOT Projects

Dear Corporate Communications Director:

I am researching executive remuneration (specifically, that received by the top manager) during the period leading up to your enterprise's involvement in the Build-Operate-Transfer (BOT) project. My research is focusing on international examples of successful development-related BOT transport projects. In my research I am trying to understand and contrast how the chief executive officer, and other top executives, were compensated during the process of project delivery. The specific question I want to answer in my research is, "How has the compensation or financial contract extended to your firm's top management been adjusted or challenged as a consequence of BOT?" Again, my primary interest is in the chief executive's remuneration.

I recently received the 19XX Annual Reports and Accounts in which the "Directors' Emoluments" were listed. These reports have been very helpful and do contain much of the data that I need! However, to help to clearly identify relationship between executive compensation type and the other related variables, a questionnaire is attached for your justified answers.

Thank you very much for helping me obtains these materials which are critical to my research. My research into transport BOT projects in your country has been very interesting and I look forward to further analysis of transport privatization.

Sincerely,

Risharng Chiang
Assistant Professor
Department of Political Science
National Taiwan University
rchiang@ntu.edu.tw

Research Project: **Management Agency, Product Characteristics and Incentive Contracting in Transport Infrastructure Privatization**

Research Purposes: How has the compensation or incentive contract extended to your firm's top management been adjusted or challenged as a consequence of BOT?

Funding Agency: National Science Commission, Executive Yuan, Taiwan, Republic of China

Project Principal: Risharng Chiang, Assistant Professor, Department of Political Science, National Taiwan University

Email: rchiang@ntu.edu.tw

Please identify your BOT franchise.

Project Title: _____

Franchise Name: _____

Please fill out the following questions at your best knowledge.

Project Service Density: _____(Population / Square Miles)

Project Service Hours: _____(Average Operation Hours / Day)

Level of Services: _____(Service Volume Per Year)

Does This Project Provide Residential Real Estate Development? Yes. No.

Does This Project Provide Commercial Real Estate Development? Yes. No.

Does This Project Provide Industrial Real Estate Development? Yes. No.

Does Government Regulate Fare Box? Yes. No.

Does Government Provide Revenue Subsidy? Yes. No.

How Do You Identify the Incentive Type Provided to Executives? 1 2 3 4

- Fully Insured Incentive (Type 1).
- Mixed (Fixed-and-Variable) Incentives (Type 2).
- Performance-Based Incentives (Type 3).
- Self-Insured Incentive (Type 4).

Please fill out the following personal information for data justification contact only.

Your Title: _____.

Your Service Division: _____.

Your Email Address: _____.

Your Contact Number: _____.

Appendix B: Empirical Exploration Database

This appendix presents general information on BOT concession awards during 1985-2000. The data presented in Table B-1 are taken from major journals that cover BOT news or events as well as secondary sources from BOT case studies. The news sources include various issues of *Bangkok Post Economic Review, Bangkok Post Weekly Review, Construction Weekly* (now merged with *Contract Journal, U. K.), Engineering News Record, Far Eastern Economic Review, Indonesia Business Weekly, International Railway Journal, Passenger Train Journal, Public Works Financing International, Tunnel and Tunneling,* and *World Highways, etc.*

The secondary sources include (Augenblick and Custer, 1993), (Cohen, 1991), (Gomez-Ibanez and Meyer, 1991), (Tiong, 1990) and annual reports from selected projects. The descriptive format was adopted from Hwang (1995). The concession awards are group by countries. These counties are the ones having sufficient data and information good for econometric modeling. Country group 1 is those countries listed with high-income. Country group 2 is the ones marked with either upper-middle-income or middle-income. Country group 3 with either lower-middle-income or low income. Each country heading contains three pieces of information. The first is a country group classification according to the World Development Indicators (see. e.g., World Bank 2001: Appendix; Taiwan is classified by her income per capita as upper-middle-income group). The second is number of concession in each country. The third is project cost. All cost figures are converted into U. S. dollars. The figures reported here suffer from variations in different sources. When variation occurs, a news source is chosen instead of using a secondary source, a local source is chosen instead of using an international source and a larger figure is chosen in stead of using a smaller figure. Data and information from questionnaire and interview are also used in econometric modeling. There are 62 effective sample points from private franchises and 58 from the government agencies. To make the comparison on the same basis, it gives us 58 projects good for econometric modelling and parameter estimation. Table B-2 shows the database for econometric modelling.

Table B-1 Sample of Concessions Awarded in Transport Infrastructure

Project-Name	*Description*	*Lead Concessionaire (Headquarters)*	*Financial Advisor, Lead Bank*	*Project Cost*	*Year of Concession Award*
AUSTRALIA: high-income, 3 Projects, $1,060 mil (Country Group 1)					
Sydney Harbor Tunnel	1.7-mile. 35-year BOT twin-tube concrete tunnel	Kumagai Gumi (Tokyo) and Transfield Group (Sydney)	Westpac Banking Corp Ltd	$664 mil	1986
Sydney F4 Freeway	10-km. 35-year BOT toll road	Statewide Roads Pty Ltd (Sydney)	Commonwealth Bank of Australia	$180 mil	1969
Sydney F5 Freeway	14-km. 35-year BOT toll road	Interlink Roads Pn. Ltd (Sydney)	Commonwealth Bank of Australia	$216 mil	1989
CANADA: high-income, 2 Projects, $1,370 mil (Country Group 1)					
Northumberland Strait Crossing	8-mile. 35-year BOT vehicle bridge	Morrison Knudsen Corp (US). GTM Enterprise (France), and SCI Engineers & Contractors (Canada)	Gordon Capital Corp and Wood Gundy Inc	$800 mill	1993
Pearson International Airport Terminal Renmation	57-year BOT airport terminal	Lockheed Air Terminals Canada and Ellis-Don Inc (London)	Canadian Imperial Bank of Commerce	$570 mil	1993
FRANCE: high-income, 4 Projects (Channel Tunnel not included). $6,031 mil (Country Group 1)					
Orlyval Airport-Regional Express Rail Link Project	7-km. 30-year BOT automated light rail	Matra Transports SA. AIR INTER and the RATP (France)	Credit Lyonnais and Banque Indosuez	$225 mil	1988
Toulouse Metro Project	10-km. BOT light rail	Caisse des Depots et Consignations	Credit Local de France and Transcet	$575 mil	1988
Marseilles Prado/Carenage Road Tunnel	2.4-km 2-lane. 30-year BOT toll road	Societe Marseilles du Tunnel Prado Carenge and Societe Auxiliare	Banque Indosuez	$221 mil	1989

U. K.: high-income, 7 Projects (including Channel Tunnel), $11,062 mil (Country Group 1)

Channel Tunnel	31-mile. 55 year BOT twin-bored rail link	CTG (London) and French Manche (Paris)	National Westminster Bank, Midland Bank, Banque National de Paris, Credit Lyonnais, Robert Fleming. and Morgan Grenfell	$9,200 mil	1986
Dattford Crossinglane.	2.87-km. 4-20-year (maxi.) BOT cable-stayed toll bridge	Trafalgar House (UK)	Bank of America Midland Bank, Toronto Dorninion Bank, Prudential Insurance Co	$310 mil	1986
Dublin Bridges	BOT toll bridge	National Toll Roads Plc	N. A.	$62 mil	1988
Second Severn Crossing	3-mile. 30-year (maxi.) BOT cable-stayed toll bridge	John Laing Plc (London) and GTM Entrepose Nanterre (France)	Bank of America and Barclavs de Zoete Wedd	$825 mil	1990
Skye Bridge	BOT toll bridge	Miller Construction (UK) and Diwydag (Germany)	Bank of America	$37 mil	1991
Birmingham Northern Relief Road	43-mile. 3-lane. 53-year BOT dual carrageway	Trafalgar House (London) and Italatat (Italy)	N. A.	$850 mil	1991
Midland Metro Line 1	20-mile. 23-year BOT light rail	Ansaldo Transporti (Italy) and Taylor Woodrow (London)	N. A.	$153 mil	1992

U. S.A.: high-income, 8 Projects, $9,619 mil (Country Group 1)

Toll Bridge Fargo	2-lane BOT toll bridge	The Bridge Corp and Municipal Develop Corp (US)	Piper. Jaffray Hopwood	$2 mil	1986
Orlando.Maglev Project	13.3 mile. BOT maglev rail	C. Itoh (Japan) and Transrapid International	N. A.	$622 mil	1989

		(Germany)			
Virginia Dulles Greenway	14-mile. 30-year BOT toll road	Bryant and Lochnau. Brown & Root Civil (Houston) and Autostrada International (Italy)	Prudential Power Funding, CIGNA investments, John Hancock Mutual Life Insurance Inc., Barclays Bank, and Deutsche Bank	$340 mil	1990
California Mid-state Toll Road	95-mile. 5-lane. 35-year toll road	Parsons Municipal (US)	N. A.	$1,475 mil	1990
CaLifornia SR 57 Toll Road (Santa Ana Viaduct Express)	11.2-mile. 4-lane limited access (cars-only) 35-year BTO toll road	Perot Group and Greiner Engineering Inc (Texas)	N. A-	$688 mil	1990
California SR 91 Toll Road	10-mile. 4-lane. 35-ycar BTO AVI HOV/toll road	Peter Kiewit Sons' (US) and Cofiroute (France)	Citicorp, Banque Nationale de Paris and Socicte Generale	$125 mil	1990
California SR 125 Toll Road	10-mile. 4-lane. limited access 35-year BTO toll road	Parsons Brinckerhoff' Quade & Douglas Inc, Fluor Daniel (US) and Transroute International (Spain)	N. A.	$367 mil	1990
Texas High Speed Rail	BOT high speed intercity rail	Morrison Knudsen Co (US), GEC Alsthom and Bombardier Inc (France)	N. A.	$6.000 mil	1991
CHILE: middle-income, 2 projects, $46 mil (Country Group 2)					
Camino de la Madera	BOT toll road	N. A.	N. A.	$21 mil	1993
GREECE: upper-middle-income, 2 Projects, $2,728 mil (Country Group 2)					
Rion-Andirrion Crossing	BOT toil bridge	N. A.	N. A.	$428 nul	1992
Athens' Spata	50-Year BOT	Hochtief AG.	N. A.	$2,300 mil	1993

International Airport	airport	Flughafen Frankfurt Main AG and Schaltanlagen GmbH (Germany)			

HONGKONG: upper-middle-income, 3 Projects, $1,612 mil (Country Group 2)

Eastern Harbor Crossing	8.6-km/5-km. 30-/22-year BOT road/rail tunnel	Kumagai Gumi (Japan). Paul Y Construction Co Ltd and Lilley Construcuon Co Lid (UK)	Shearson Lehman Brothers	$436 mil	1985
Tate's Cairn Tunnel	4-km. 2-lane. 30-Year BOT road tunnel	Nishimatsu (Japan). Gammon. Trafalgar House and Jardine Matheson (UK)	Bank of Tokyo, Bank of China and Fuji Bank	$276 mil	1988
Western Harbor Crossing	1.2-mile. 6-lane. 30-year BOT tunnel	Nishimatsu and Kumagai Gumi (Japan)	International Trust & Investment Corp	$900 mil	1992

MALAYSLA: middle-income, 5 Projects, $2,677 mil (Country Group 2)

North Kelang Straits Bypass	BOT highway bypass	N. A.	N. A.	$20 mil	1986
Kepong Interchange	BOT highway interchange	N. A.	N. A.	$86 mil	1986
Kuala Lumpur interchanges	BOT highway interchanges	N. A.	N. A.	$300 mil	1987
Malaysia's North-South Expressway	504-km. 30-year BOT toll road	United Eng. and Renong Group (Malaysia)	N. A.	$1,800 mil	1988
Kuala Lumpur Light Rail Project	7-mile BOT light rail	Taylor Woodrow International Ltd (UK) and AEG Wesunghouse GmbH (Germany)	N. A.	$471 mil	1992

PUERTO RICO: upper-middle-income. 2 Projects. $470.00 mil (Country Group 2)

San Jose Lagoon Toll Bridge	2.1-mile. 35-year BOT concrete toll bridge	Dragados y Construcclones (Spain) and Rexach	Paine Webber Inc	$120mil	1992

		Construction (Puerto Rico)			
San-Juan-Rio Grande Highway	14-mile. 30-year BOT toll road	Dragados v Consuucciones (Spain) and Rexach Construction (Puerto Rico)	Buckley, Lebron Associates and Corplan Inc	$350 mil	1992
TAIWAN: upper-middle-income, 2 projects, $15,794 mil (Country Group 2)					
Airport Link MRP	27-mile. 30-year BOT mass rapid transit	Archilife Int. Group (Taiwan)	Chiao-Tung Commercial Bank	$1,050 mil	1999
West Corridor HSR	260-mile. 30-year BOT high speed rail	Taiwan HSR Consortium (Taiwan)	ICBC & domestic banking group	$9,824 mil	1998
Kao-Hsiung Metro MRP	35-year mass rapid transit system	China Steel Co. (Taiwan)	ICBC & domestic banking group	$4,920 mil	2000
THAILAND: middle-income, 3 Proiects, $6,020 mil (Country Group 2)					
Second Stage Expressway	20-mile. 30-year BTO toll road	Kumagai Gumi Co Ltd (Japan)	N. A.	$1,000 mil	1988
Bangkok's Blue Line (Sky Train)	23-mile. 30-year BOT elevated light rail	SNC-Lavaline International (Montreal)	N. *A.*	$1,820 mil	1988
Bangkok Red Line Light Rail/Toll Road Project	38-mile. 30-year BOT elevated light rail (2-lanes)/ toll road (6-lancs)	Hopewell Holdings Ltd (Hong Kong)	N. A.	$3,200 mil	1990
Bangkok's Green Line	9-mile. 2-lane. 30-year BOT light rail	Tanayong Co (Hong Kong) Parsons Brinckerhoff Ltd (US) and Acer	M. A.	$880 mil	1992
CHINA: low-income, 2 Projects, $1,763 mil (Country Group 3)					
Guangzhou-Shenzhen-Zhuhai Superhighway	75-mile. 4-lane. 30-year BOT toll road	Hopewell Holding Ltd (Hong Kong)	Bank of Hong Kong and Bank of China	$1,500 mil	1987

Guangzhou Ring Road	14-mile. 33-year BOT bellway	New World Development (Hong Kong)	Bank of China	$363 mil	1992

INDONESIA: lower-income, 1 Project, $360.00 mil (Country Group 3)

Cikampek-Padalarang Expressway	29-mile. 4-lane. 25-year BOT toll road	Trafalgar House (UK) and PT Citia Lamtoro Gung Persada (Indonesia)	N. A	$360 mil	1988

MEXICO: low-income, 12 Projects, $4,732 mil (Country Group 3)

Guadalajara-Colima Highway	148-mile BOT toll road	BANOBRAS (Mexico)	BANOBRAS and Jalisco State	$125 mil	1989
Cuernavaca-Acapulco Toll Road	262-km. 14-year 8-month BOT toll road	Grupo ICA. Grupo Mexicano Desarrollo and Tribasa (Mexico)	Serfin, CAPUFE, and Guerrero State	$900 mil	1990
Monterrey-Nuevo Lareda Toll Road	171-km. 8-year BOT toll road	Viaductos de Peaje	Banco Serfin	$127 mil	1991
Zapotlanejo-Lagos Toll Road	152-km. 13.5-year BOT toll road	Constructoray Promotora Affa-Omega (Mr-xico)	Jalisco State and Banamex	$250 mil	1991
Cordoba-Veracruz Toll Road	98-km. 7-year 10-month BOT toll road	Grupo Mexicano Desarrollo (Mexico)	Comermex	$180 mil	1991
Merida-Cancun Toll Road	150-km. 17-year 8-month BOT toll road	Consorcio de Mayab (Mexico)	Bancomer	$180 mil	1991
Mazatlan-Culiacan Toll Road	292-mile. 175-year BOT toll road	ICA Group (Maxico)	Grupo Bursatil Mexicano	$377 mil	1992
Leon-Lagos-Aguascalientes Toll Road	112-km. 18.5-year BOT toll road	IASA (Mexico)	Comermex	$231 mil	1992
Tecatc-Mexicali Toll Road	151 -km. 19 6-year BOT toll road	M. H. Constructores (Mexico)	Somex	$277 mil	1992
La Tinaja-Cosoleacaque Toll Road	235-km. I5-year 11-month BOT toll road	Grupo Mexicano Desarrollo (Mexico)	Bancomer	$615 mil	1992

Cadereyta-Reynosa Toll Road	175-km. 12-year BOT toll road	Coutacminos	CBI Casa de Bolsa	$270 mil	1993
Mexico City-Guadalajara Toll Road	200-mile. 18-year 3 month BOT toll road	ICA Grupo. Grupo Mexicano Desarollo and Tribasa Freeman Fox (UK)	Lehman Brothers and Interacciones	$1,200 mil	1993

Table B-2 Database for Empirical Exploration

Project	Country Group	DENST (Thou. Pop. Per Mile^2)	HOURS Average (per day)	Average VOL (10^6 per year)	RREAL (0 = No, 1 = Yes)	CREAL (0 = No, 1 = Yes)	IREAL (0 = No, 1 = Yes)	REGU (0 = No, 1 = Yes)	RESUB (0 = No, 1 = Yes)	Contract TYPE Board's View	Contract TYPE GOV's View
Sydney Harbor Tunnel	1	4.9	24	24.3	0	0	0	0	0	2	2
Sydney F4 Freeway	1	4.5	24	26.7	0	0	0	1	0	2	3
Sydney F5 Freeway	1	4.3	24	25.4	0	0	0	1	0	2	3
Northumberland Strait Crossing	1	3.8	24	20.1	0	0	0	1	1	3	2
Pearson International Airport Terminal	1	4.2	18	32.3	0	1	1	0	0	2	3
Orlyval Airport-Regional Express Rail Link	1	5.9	18	30.1	0	1	0	1	1	2	3
Toulouse Metro Project	1	6.1	18	34.2	1	1	0	0	0	3	3
Marseilles Prado/Carenage Road Tunnel	1	5.7	24	24.7	0	0	0	0	0	2	3
Channel Tunnel	1	5.9	24	35.4	0	1	0	0	0	2	3
Dattford Crossing	1	6.3	24	31.2	0	0	0	1	0	3	2
Dublin Bridges	1	6.1	24	24.9	0	0	0	1	0	2	3
Second Severn Crossing	1	6.1	24	27.2	0	0	0	1	0	2	3
Skye Bridge	1	6.4	24	29.8	0	0	0	0	0	3	3
Birmingham Northern Relief Road	1	6.3	24	29.9	1	1	0	0	0	2	3
Midland Metro Line 1	1	5.8	24	33.4	0	1	0	1	1	2	2
Toll Bridge Fargo	1	5.9	24	31.1	0	0	0	0	0	2	3
Orlando Maglev Project	1	5.7	18	31.1	1	1	0	1	1	3	3
Virginia Dulles Greenway	1	5.8	20	27.2	1	1	0	1	0	2	2
California Mid-state Toll Road	1	5.4	24	34.5	0	0	0	1	0	2	3
CaLifornia SR 57 Toll Road	1	5.5	24	29.2	0	0	0	1	0	2	3
California SR 91 Toll Road	1	5.9	24	34.9	0	0	0	1	0	3	3
California SR 125 Toll Road	1	5.8	24	33.2	0	0	0	1	0	3	2
Texas High Speed Rail	1	5.3	18	24.2	1	1	0	1	1	2	3
Camino de la Madera	2	5.2	24	22.1	0	0	0	0	0	2	2
Rion-Andirrion Crossing	2	5.5	24	23.6	0	0	0	1	0	3	2
Athens' Spata International Airport	2	4.8	20	22.2	0	1	1	0	0	3	3
Eastern Harbor Crossing	2	6.1	24	32.4	0	0	0	1	0	3	3
Tate's Cairn Tunnel	2	5.7	24	33.2	0	0	0	1	0	3	3
Western Harbor Crossing	2	5.8	24	34.1	0	0	0	1	0	3	3
North Kelang Straits Bypass	2	4.2	24	27.2	0	0	0	0	0	2	2
Kepong Interchange	2	4.4	24	29.2	0	0	1	1	0	2	2
Kuala Lumpur interchanges	2	5.1	24	29.9	0	0	1	1	0	2	2
Malaysia's North-South Expressway	2	4.1	24	20.2	0	0	0	0	0	2	2
Kuala Lumpur Light Rail Project	2	5.5	19	29.4	1	1	0	1	0	2	2
San Jose Lagoon Toll Bridge	2	4.9	24	32.2	0	0	0	0	0	1	2
San-Juan-Rio Grande Highway	2	4.8	24	25.4	0	0	0	0	0	3	2
Airport Link MRP	2	4.9	20	22.1	1	1	0	0	0	4	3
West Corridor HSR	2	4.7	18	30.7	0	1	0	1	1	4	3
Kao-Hsiung Metro MRP	2	5.7	18	28.2	1	1	0	1	1	2	3
Second Stage Expressway	2	5.1	24	26.8	0	0	0	0	0	2	2
Bangkok's Blue Line (Sky Train)	2	5.6	24	32.9	0	0	0	1	0	2	2
Bangkok Red Line Light Rail/Toll Road	2	5.4	24	30.2	0	1	0	1	0	2	2
Bangkok's Green Line	2	5.4	24	32.2	0	0	0	1	0	2	2
Guangzhou-Shenzhen-Zhuhai Superhwy.	3	4.7	22	19.8	0	1	1	0	0	2	3
Guangzhou Ring Road	3	5.8	22	25.3	1	1	0	0	0	2	3
Cikampek-Padalarang Expressway	3	4.1	22	16.8	0	1	1	0	0	4	2
Guadalajara-Colima Highway	3	3.8	22	22.9	1	0	0	0	0	2	2
Cuernavaca-Acapulco Toll Road	3	4.2	22	20.3	0	0	0	1	0	2	2
Monterrey-Nuevo Lareda Toll Road	3	4.6	24	24.7	0	1	0	1	1	3	2
Zapotlanejo-Lagos Toll Road	3	4.5	24	16.8	0	0	0	1	0	3	2
Cordoba-Veracruz Toll Road	3	4.3	24	18.4	0	0	0	1	0	1	2
Merida-Cancun Toll Road	3	4.1	24	23.6	0	1	0	1	0	3	2
Mazatlan-Culiacan Toll Road	3	5.2	24	20.8	0	1	0	1	0	2	2
Leon-Lagos-Aguascalientes Toll Road	3	4.8	24	22.6	1	0	0	1	0	3	2
Tecatc-Mexicali Toll Road	3	5.2	24	19.4	1	1	0	1	1	1	2
La Tinaja-Cosoleacaque Toll Road	3	4.9	24	20.8	0	0	0	1	0	1	2
Cadereyta-Reynosa Toll Road	3	5.4	24	21.6	0	0	0	1	0	3	2
Mexico City-Guadalajara Toll Road	3	5.5	24	28.4	1	1	0	1	1	1	2

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