Chapter 14

ASYMMETRIC INFORMATION: A CASE STUDY IN POTENTIAL PUBLIC PROCUREMENT PITFALLS

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INTRODUCTION

Asymmetric information between buyer and seller, leading to adverse selection and moral hazard is well discussed in the literature, with the pioneering work of Akerlof (1970) bringing informational issues to the forefront of economic analysis. Information asymmetry creates an imbalance of power resulting in poor quality products (known as "lemons"), and is one of the major causes of market failure and inefficiency. The seminal work by Greenwald and Stiglitz (1986) shows that whenever markets are incomplete and/or information is imperfect, a competitive market is not efficient, failing to allocate resources in a socially optimal way.

Two primary solutions to the problem are proposed, namely signaling (Spence, 1973), whereby otherwise unobserved quality can be transmitted to the buyer in the form of recognizable 'signals', and screening – compelling disclosure of information – in order to resolve the information asymmetry (Stiglitz and Rothschild, 1976). In public procurement, the common recommendation is to pre-qualify suppliers based on certain characteristics, track record, and history, in order to screen prospective suppliers and weed out unsuitable candidates.

However, in the case of corrupt intent, where collusion occurs among the prospective suppliers, or between the procuring agency and selected suppliers, these conspiracies add another dimension that is fraught with additional information asymmetry, namely between law enforcement or watchdog agencies that could include civil society on the one hand, and the corrupt colluders that could include the agency undertaking the procurement, on the other. The

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situation is compounded if the procurement involves complex technical aspects so that mere disclosure of details is not sufficient for action by law enforcers and other stakeholders. Asymmetric information and the agency problem (as in 'principal-agent') at the firm level is well known, where the firm can 'plunder' itself (through stealing, withholding effort, spending money on pet projects, and so on). The problem is greater in a public or government agency or organization where accountability for the organization's performance is traditionally weaker than in the business sector.

Garoupa and Jellal (2002) establish a positive correlation between crime and asymmetry of information in the enforcement process. They conclude that the probability of apprehension and punishment is usually reduced in a framework with asymmetric information, leading to more offenses being committed. Dhami and al-Nowaihi (2006) explore the interaction of corruption, bribery, and political oversight of production. They conclude that under full information, an honest politician achieves the first best solution, while a dishonest politician creates shortages and bribes. Their model identifies a tradeoff between bribery and efficiency, and helps to reconcile some conflicting results on the implications of corruption for the size of the public sector, and provides support for improvements in auditing technology.

This paper discusses the case of procurement of public buses by the Bangkok Metropolitan Transport Authority (BMTA) and the opportunities for corruption that could arise due to asymmetric information. The chronology of the case is first presented and issues and concerns raised. The information issue, the role of pre-emptive auditing, and the collaborative efforts by the anti-corruption agency, the business sector, and members of civil society are then explored. Lessons learned are summarized and conclusions drawn in the final Section.

METHODOLOGY

The case study method is used to illustrate the potential pitfalls that can occur when information asymmetry abounds. The case is the Bangkok City Bus Project.

In 2009 the BMTA proposed the leasing of 4,000 buses fueled by compressed natural gas (CNG) for 68 billion Baht (US$1 = 32 Baht). The chronology is summarized in Table 1.

TABLE 1
Chronology of Public Bus Procurement by BMTA (2009-2015)

2009	BMTA proposed leasing of 4,000 CNG (NGV) buses for 68 billion Baht; Cabinet approved (Phase One)
	Public outcry over high cost of buses; media attention
	NACC Working Committee formed; studied 11 TORs, factory site visits, engagement of professionals
17 Nov 2009	NACC Working Committee presented recommendations to Cabinet
	Project effectively withdrawn
March 2013	New Cabinet approved BMTA proposal to purchase 3,183 CNG (NGV) buses (Phase Two)
July 2013	TOR placed on BMTA website
July 2013 – August 2014	concerted efforts by NACC, citizen groups, ACT (13 TORs) to propose methods to increase transparency; mostly ignored by BMTA
Sept 2014	New Board Chairman of BMTA; all plans reviewed
March 2015	BMTA revised plan: currently purchasing 489 buses (Phase Three)

Source: Khoman et al. (2014) and public announcements by BMTA.
Notes: Further developments: May 2015, selection of bid winner; May-October 2015, anti-corruption intervention; December 2015 project suspended.

Pro-active scrutiny of procurement documents found that crucial steps were not properly undertaken, a fact known only by the procuring agency. Problems at each step of the project, right from its initiation, were detected. Proper economic feasibility studies had not been conducted, and documents contained only the financial considerations for the BMTA. There appeared to be no consideration or discussion of alternative modes of transportation, environmental and health analyses, only a crude break-even exercise for the BMTA.

The question was therefore raised regarding the project approval process, and NACC's working group was informed by the Secretary-

General of the National Economic and Social Planning Board (NESDB) that since the project involved leasing, it was not regarded as an investment, and therefore the procedures for project approval were not undertaken.[1] If this is the case, there is an enormous loophole and opportunity for impropriety to occur.

The Terms of Reference (TOR) were also problematic. The physical specifications, such as engine size, brakes, length of vehicle focused on physical characteristics, but had no mention of function or performance. Safety standards appeared to be minimal or outdated, pointing to the need to review the standards of the Ministry of Transport. Could there be a conflict of interest here, a veiled method to protect certain domestic producers, most of whom convert high-floor trucks into (sub-standard) buses that nevertheless meet Ministerial standards?

The size of procurement (4,000 buses) also appears to favor only one specific supplier. Interviews of several reputable suppliers revealed that the sheer volume could not be produced by any of the suppliers, except for one, so that there was effectively no competition.

In analyzing the procurement documents, several additional issues were stumbled upon, such as the quality of natural gas used in Thailand. How is the quality of natural gas measured? Three indicators of natural gas quality were explored.

1. Wobbe Index: used to measure the combustion energy output when natural gas is used in external combustion or used in continuous internal combustion.
2. Methane Number: indicates the *knock tendency* of a fuel, comparable to the octane number for gasoline. It is a product of the different constituent gases within the natural gas, particularly the proportions of methane, ethane, propane and butane. Understanding the knock resistance is important when using natural gas in an Intermittent Internal Combustion engine. A low Methane Number increases maintenance and repair costs since major overhauls may be needed, resulting in greater expenditure and down-time.
3. Composition: natural gas can contain undesirable components such as sulphur, and this can affect the depreciation of

important engine parts and the level of hazardous exhaust emission, if there is a high impurity.

If was found that both the quality and swing in quality of the natural gas produced in Thailand posed an additional concern that needs to be taken into account. The natural gas available in Thailand originates from two sources, namely the Gulf of Thailand and Myanmar. As of August 2009,[2] the average Methane Number of these two sources was 71.9 and 78.2, respectively. These Methane Numbers provide a level of confidence that the quality of gas will not cause significant damage to the engines, and are therefore acceptable as fuel for internal-combustion engines. However, when the composition is considered, gas from the Gulf of Thailand has a composition of methane of 75.08 per cent, while gas from Myanmar is composed of 72.60 per cent methane. If we compare this with other standards, such as that used by the California Air Resource Board (CARB), for example, we find that CARB requires that the natural gas used in vehicles contain a Methane level of not less than 88.00 per cent. This means that the standard for natural gas used for vehicles in Thailand allows for potentially 'undesirable' content of up to 24.92 per cent and 27.40 per cent respectively, which is more than double the figure used by CARB of not more than 12.00 per cent. In addition, this composition varies constantly, so that vehicles should ideally have Electronic Control Units that adjust the engines according to the quality of fuel received, and emissions need to be processed (through After Treatment) using such devices as, for example, Catalytic Converters to reduce toxic emissions. In addition, since the quality and swing affects emissions and maintenance costs, there needs to be explicit requirements for emissions and quality checks throughout the lifetime of the buses, or of the contract, and more accurate estimation of costs.

With respect to the financial estimates of the bus leasing project, several items were missing or inaccurate. First, there appeared to be no consideration of the location of the bus terminal or the gas filling stations. These locations need to be coordinated for efficient operation. For example, should at least one filling station be located at the bus terminal so that filling can be done before the daily route is embarked upon? How many additional filling stations would need to be constructed, and where? The Petroleum Authority of Thailand (PTT) estimates a cost of 5 million Baht per station, and each station would have to be within a one-kilometer radius from the main pipeline. With

one bus taking 27 minutes to fill, and each pump working 20 hours per day, each pump could serve 40 buses per day, so that 100 pumps would be required for 4,000 buses. These costs would have to be included in the cost-benefit analysis of the project.

The financial estimates of the BMTA, successive revisions, and estimates by the NACC Working Committee are presented in Table 2. The Working Committee concluded that there was a tendency to over-state revenues and under-state costs, arising from the projected number of passengers and the price of natural gas (which is kept artificially low), as well as omissions of indirect costs of the project.

TABLE 2
Financial Estimates: A Comparison (Unit: Baht, Unless Otherwise Indicated)

Cost of leasing (per bus per day)	TOR	BMTA revised 2 May 2009	Submitted to Cabinet 3 June 2009[a]	NACC Working Committee
Vehicle lease	2,195	2,537	1,885	
Repairs & maintenance	2,250	1,359[b]	2,250[c]	
Electronic system	157	170	139	
Insurance	31	31	31	
Tax	8	8	8	
Management	136	417	129	
Total cost of lease	4,780	4,522	4,442	
Fuel cost	8.50 Baht/kg			Shadow price[d]
(per bus per day)	1,428 Baht[e]	1,428 Baht	1,428 Baht	2,016 Baht
				2,352 Baht 4,372 Baht
Cost of lease + fuel	6,208	5,950	5,870	6,458 (min. 4442+2016) **9,152 (Max. 4780+4372)**
Other costs				
Construction of filling stations				50 million Baht per station
Feeder pipeline				20-30 million Baht per km.
Opportunity cost of land required for filling stations				To be estimated

Compensation for 6,129 workers[f]				4,814 million Baht
Effect on private buses replaced				Not estimated
Effect on market structure (increased concentration)				Not estimated
Indirect costs (such as net health effects of emissions)				Not estimated
Benefits to society (passengers, pedestrians)				Not estimated
Revenue	10,500[g]	6,273.22[h]	6,780[j]	

Source: NACC Working Committee report (2009).

Notes: [a]. Interest rate of 6.725 per cent.

[b]. Actual average cost over three years between 2005-09 equaled 1,317.92 Baht per air-conditioned bus EURO2 (from BMTA Monthly Report).

[c]. TOR values, calculated from 7.50 Baht/km. * 300 km./bus/day = 2,250 Baht/bus/day. Repair and maintenance costs calculated by King Prachtibok Institute (March 2008: 33) equaled 4.55 Baht/km. but the resolution of the BMTA Board at Meeting 8/2552 on 30 March 2009 increased the operating cost by 5 per cent and profit by 3 per cent, increasing cost to 7.54 (Minutes of the TOR Drafting Committee, Meeting 16/2552 on 9 April 2009.

[d]. Using gas price of 12 Baht per kg. in 2009, increased to 14 Baht per kg. in 2010 and 26 Baht per kg. in 2011 from interview of PTT representative on 10 September 2009.

[e]. Calculated from gas usage of 168 kg. per bus per day, multiplied by the price of gas. 168 kg. per bus per day is estimated from total gas expenditure in 2009 divided by 365 divided by the number of buses using gas, divided by the price of gas currently used by BMTA, that is 8.50 Baht.

[f]. BMTA, Early Retirement Plan. Of course this should also be offset by the savings of wage costs in later years.

[g]. Calculated from 350 passenger x 30 Baht per passenger.

[h]. Calculated from the composition of passenger categories as follows: (1) Daily ticket at 30 Baht: 26 per cent (2) Single ticket at 12 Baht: 52 per cent (3) Monthly ticket at 800 Baht (divided by 30): 5 per cent (4) Secondary student ticket at 600 Baht (divided by 30): 7 per cent (5) Primary student ticket at 300 Baht (divided by 30): 7 per cent, and (6) Discounted monthly ticket at 450 Baht (divided by 30): 3 per cent.

[j]. Calculated from 226 passengers x 30 Baht per passenger.

It can be seen from Table 2 that several cost items had not been included or estimated, such as the costs of filling stations, land acquisition for filling stations, feeder pipelines, net health cost (or benefit) to bus and road users. Notably, the revenue estimates were challenged by at least two groups of people, namely a group of

Members of Parliament (MPs) and the Senate Sub-Committee. In all, NACC'S Working Committee concluded that there was a tendency to over-state revenues and under-state costs. The omission of various indirect costs, such as pipelines and filling stations is a consequence of the silo characteristic of public administration. The BMTA regards these expenditures as the responsibility of the PTT, but a proper cost-benefit analysis would include them.

The bus leasing project in 2009 was effectively dropped after the NACC Working Committee presented its report to Cabinet.

The project re-surfaced in 2013 as a bid to purchase 3,183 buses. A total of 13 versions of the Terms of Reference (TOR) were produced. Responding to one of NACC's points made on the earlier leasing project, the BMTA divided the procurement into 8 parts to serve 8 service areas. Nevertheless, several issues remained that raise questions regarding transparency and governance. These can be divided into the following areas:

- Physical specifications and requirements,
- Safety considerations,
- Repair and maintenance costs,
- Selection criteria, and
- Reference price and committee.

Physical Specifications and Requirements

Greater scrutiny was given to the physical specifications in this purchase proposal than the former leasing proposal. The suitability of the physical specifications is viewed in terms of quality, value for money and usage, which is related to the opportunity for competition.

First, in the TOR, there was still no mention of requirements in terms of performance and function, only physical characteristics, such as length of vehicle, engine size, and specific mention that the buses had to be body-on-frame (to the exclusion of 'integrated structure'). The length of vehicle was stipulated as 12 meters, to the exclusion of other lengths, such as 8 and 10 meters. Having a fleet of varying sizes would seem to meet the different demands of passengers at different periods of the day (peak and off-peak), as well as provide more flexibility to cater to different physical road conditions, and reduce fuel and vehicle cost as well. Thus confining the length to only 12 meters seems overly specific. The exclusion of

'integrated structure' for the bus frame effectively limits competition (from superior products) and favor certain suppliers (of lower quality products). If the price range corresponds to the lower quality, it would not be an issue, but the reference price specified in the TOR corresponds to higher-quality vehicles.

A further requirement that limits competition is that the vehicles bidding for the contract have had prior use of natural gas available in Thailand, and had previous business in Thailand.

With respect to unnecessary specificity (as opposed to functional or performance-related requirements), many areas can be pinpointed. For example, regarding motive power and the size of engine, the TOR specifies exactly 174KW (or 237 horsepower) for air-conditioned buses and 155KW (211 horsepower) for non-air-conditioned buses). This seems overly restrictive. Rather, some performance requirement, such as ability to accelerate from zero to 40 kph within 10 seconds for vehicles weighing 15-16 tons in total, for example, should be specified instead.

Another example is the drive-train. Specifying the number of gears (such as 4-speed Planetary) is too restrictive. Specifying 'automatic transmission' should suffice, to allow greater flexibility and competition.

A further example is the suspension system. Specifying the type of 'spring' such as air bag, is too restrictive. A more functional specification would be 'the strength value of the spring to the wheel rate' such as 5 kilograms per 1 millimeter, as a safety standard that is not specific to a physical characteristic.

As for wheel and tire, standard specifications do exist, but seem to be missing from the TOR. Transparency and competition would be promoted if the requirement simply states that the tires need to be radial, for smooth roads, conforming to international standards such as 285/80 R 22.5 for example.

For the brake system, physical characteristics should not be specified, such as disk brakes or air brakes, or size of disk or drum ("not less than 400 millimeters" as in the TOR). An example of a performance criterion would be 'ability to stop or become stationary, from a speed of 40 kph within 10 meters, and repeatability every 30 seconds'.

Another contentious characteristic that could potentially serve the interests of certain producers is the specification that the non-air-conditioned buses be 'high-floor', and air-conditioned buses be 'low-floor'. 'Low-floor' buses allow wheel-chair access, and are more suitable for the elderly and children. An added point in favor of low-floor buses is that they cannot be converted from trucks – a common practice undertaken by low-quality producers. An addition advantage of low-floor buses is that the gas canisters would have to be placed at the back or on the top of the buses, rather than under the buses which is typically the case with high-floor vehicles. Back-loaded or top-loaded canisters reduce the danger to passengers in case of a gas leak.

More appropriate specifications would therefore enhance safety as well as potentially generate greater efficiency, competition, quality, and cost savings.

Safety Considerations

Mass transit systems involve a large number of people, and safety requirements should be paramount, and not confined to minimum standards that the Department of Land Transport seems to be adhering to. This is not even considering the problem of enforcement of standards that currently appears rather lax. Both 'Active Safety' and 'Passive Safety' or 'Post crash' safety standards need to be seriously reviewed, including factors relating to driver capacity, vehicle maneuverability, strength of vehicle structure and safety-inducing fixtures and materials, fire prevention, crash absorption, and air quality within the vehicle.

The safety requirements in the TOR leave much to be desired. There is no mention of 'crash safety' or 'air quality', only conformity to outdated standards. For example, for city buses, should there be a control system that does not allow speeds of over 80 kph which the driver cannot over-ride? Should we require that the structure should not be "deformed" by more than 10 per cent on impact of, say, 5 G (force equal to 5 times of the weight of vehicle plus passengers or 50 tons momentum)? Should we require handles that are secure, for all standing passengers, at heights that children can reach? There is no mention of stability or road traction. Ministerial regulations require only a tilt standard. Should there be an additional requirement for 'yaw' (when negotiating a curve), for example, centrifugal force of not

less than 0.5 G? There are no provisions or requirements for Active Safety and Passive Safety or Post crash requirements, such as control of vehicle, structural strength, fire control, forced absorption on collision, gas detection, and so on.

It could be construed that these lower standards are designed to limit competition from high-quality producers. If industrial protection is the objective, then it should be made explicit, so that society can judge whether such protection (which has lasted for more than five decades, to the benefit of certain producers and at the expense of consumers and taxpayers) is still warranted.

Repair and Maintenance Costs

BMTA's TOR explicitly states that the 'winner' of the bid must provide for repair and maintenance of the vehicles according to the following schedule:

10.2 The prospective supplier who wins the contract must provide for repair and maintenance for a period of 3 years, from one day after the date of acceptance, according to the following schedule, specified by the BMTA: 10.2.1 Repair and maintenance for non-air-conditioned buses, using natural gas; Year 1: 816 Baht per vehicle per day; Year 2: 854 Baht per vehicle per day; Year 3: 897 Baht per vehicle per day; or repair and maintenance cost for 3 years, averaging not more than 855.57 Baht per vehicle per day.
10.2.2 Repair and maintenance for air-conditioned buses, using natural gas Year 1: 966 Baht per vehicle per day Year 2: 1,040 Baht per vehicle per day Year 3: 1,121 Baht per vehicle per day or repair and maintenance cost for 3 years, averaging not more than 1,042.33 Baht per vehicle per day

Source: BMTA (2009, TOR#2).

At first glance, these conditions may seem to be motivated by the desire to protect the interests of the State, but why would these conditions have to be set by BMTA? Should the cost of repair and

maintenance be included in the price of the bus, and competition based on 'lifetime costing'? Cheaper vehicles may require higher maintenance and repairs, whereas more expensive alternatives may incur less need for repairs. According to the above schedule, it appears that whoever wins the contract for 3,183 buses would be 'given' another 3 billion Baht for a period of 3 years, during which time, repairs may be minimal.

Selection Criteria

BMTA's selection and evaluation of suppliers/bidders' proposals are based on 10 criteria with a maximum of 100 points that can be awarded. The breakdown of possible points is shown in Table 3. Criteria 1, 2, 4 and 5 had been revised somewhat in line with recommendations earlier made by the NACC Working Committee. However, the selection criteria appear unclear at best, and at worst could be used to favor or exclude certain bidders.

TABLE 3
Criteria for Technical Evaluation of Proposals TOR # 2

	Technical Details	Maximum Points
1	Technical characteristics of vehicle and parts, country of origin, details of engine, and test reports according to the European Economic Commission of the United Nations or European Economic Community Directives, with name and address of testing agency*	15
2	Details regarding repair and maintenance schedules, including warranties for damage and depreciation related to normal usage, according to the supplier's standards	15
3	Name and address of service center	5
4	Details regarding parts center for engine, gears, chassis, undercarriage, transmission system and natural gas equipment, list of parts numbers, photographs, drawings, inventory storage, and letter of assurance of parts availability for a minimum of 10 years	15

	Technical Details	Maximum Points
5	History of sale of vehicles of 12 meters in length (or not less than 11.40 and not more than 12 meters) to government, state-owned enterprises, or private corporations in Thailand or other countries	5
6	Assembly plant in Thailand to be used, the assembly plan, as well as detailed history of experience in assembling buses of 12 meters in length (length of at least 11.50 and not more than 12 meters), with authentication from the assembly plant, which must be submitted with the bidding documents	10
7	Details regarding service, maintenance and repair of engines using natural gas available in Thailand, and history of efficient service to government, state enterprises, or businesses in Thailand	15
8	History of sale of engines used in assembling buses that have efficiently used natural gas available in Thailand	5
9	Balance sheets and profit and loss statements of their business for the years 2010, 2011 and 2012	5
10	Test report for driving and running of buses fully loaded with passengers, using natural gas available in Thailand for a period of 10 days	10

Source: BMTA (2009) Draft TOR No. 2 from BMTA website.

Note: *The first criterion had initially merely echoed the physical characteristics in the TOR, and seemed superfluous, since these characteristics must already have to be met, to participate in the bidding process in the first place. Those not fulfilling these basic requirements should be excluded automatically. BMTA therefore revised the first criterion to include test reports.

BMTA also imposes the condition that, to be eligible for selection, bidders/suppliers have to attain a score of at least 80 per cent, and not less than 50 per cent for each criterion. This condition seems

innocuous enough, but careful scrutiny of the criteria raises a host of serious questions.

First, some of the criteria are extremely ambiguous and no scale or method of awarding points is given. Selection criteria should be based on differences in quality or performance. For example, the ability to stop the vehicle faster, or within a shorter distance, when travelling at the same speed. Such a performance criterion would be easy to demonstrate and verify. Performance criteria should be used where possible, and superior performance above the minimum specified, should be rewarded with additional points. Each criterion is considered in turn as follows:

Criterion 1	Technical characteristics of vehicle and parts, country of origin, details of engine, and test reports. It is unclear how many points would be awarded to country of origin. What 'details' of the engine would receive more points than others, or would every competitor fulfill the same requirements, in which case the 'marginal' points become crucial. How are 'test reports' considered and what is the conversion scale from test score to point score here?
Criterion 2	Details regarding repair and maintenance schedules, including warranties for damage and depreciation related to normal usage. Would this be a standard warranty for every supplier? What is the scoring scale if some warranties cover a longer period than others?
Criterion 3	Name and address of service center. What is the purpose of this criterion? Does location matter as long as service can be accomplished efficiently? How is this scored? What distance from where, or within a radius of how many kilometers of what, would receive full marks of 5? This criterion is easy to manipulate in order to exclude competitors, for example, by giving a score of 2.
Criterion 4	Details regarding parts center for engine, gears, chassis, undercarriage, transmission system and natural gas equipment, list of parts numbers, photographs, drawings, inventory storage. Should this not be included just for information? What kind of scoring system would be used for the 15 points to be awarded?

Criterion 5	History of sale of vehicles of 12 meters in length (or not less than 11.40 and not more than 12 meters) to government, state-owned enterprises, or private corporations in Thailand or other countries. The phrase "or other countries" had been added here by BMTA after objections from the NACC, but other criteria below still restricted suppliers to experience in Thailand.
Criterion 6	Assembly plant in Thailand and assembly plan. Again, what is the scale to be used for scoring? What characteristics of the assembly plant would be favored as opposed to others?
Criterion 7	Details regarding service, maintenance and repair of engines using natural gas available in Thailand, and history of efficient service to government, state enterprises, or businesses in Thailand. Again, very restrictive and discriminatory, as well as vague, leaving room for a great deal of 'discretion'.
Criterion 8	History of sale of engines used in assembling buses that have efficiently used natural gas available in Thailand. This effectively excluding new foreign competitors
Criterion 9	Potential bidders must submit balance sheets and profit and loss statements of their business for the years 2010, 2011 and 2012. 5 points are to be awarded, but how are these awarded, or should this just be part of the documents required for bidding, not a selection criterion?
Criterion 10	Test report for driving and running of buses fully loaded with passengers, using natural gas available in Thailand for a period of 10 days. How are test scores converted to points (10 points)?

Most easily manipulated, however, seems to be the requirement (in a footnote) that each bidder must obtain more than 50 per cent score on each of the 10 criteria. A failing score on say, Criterion 3: name and address, would easily exclude a non-favored supplier, even though the technical qualifications may be outstanding.

Reference Price and Committee

A 'reference price' is a tool that is commonly used in public procurement, particularly in construction and medical and relief

supplies, particularly by international aid agencies, to increase transparency of prices. UNICEF (n.d.) for example, approaches vaccine manufacturers and pre-negotiates prices, and has a supply catalog that can be accessed by self-procuring countries, or used as a reference point in future bilateral negotiations. Many governments also employ product lists and reference prices as benchmarks in procurement processes. The NACC law requiring public disclosure of information regarding reference prices (with method of calculation and quality and quantity breakdown) can be a useful tool to prevent inappropriately high cost (and corruption and kick-backs) in public procurement.

The concept is straight-forward, but often the practice is complicated and controversial. Reference prices work well for standardized products, but for technically complex products, it is extremely difficult to estimate in advance what the reference prices should be. It has also been argued that use of reference prices can be taken to be ceiling prices, leading to low quality products. Blomberg (2014) for example, feels that the use of reference prices is 'a contradiction to the whole purpose of competitive tendering', since they become the 'maximum price' in practice. However, the reference price as used in Thailand under the NACC law (Article 103(7)) is not intended to be a maximum price, but a benchmark, which ideally can be exceeded if there is sufficient justification. In practice, because of the budgetary process, whereby a budget has to be pre-approved, it often becomes effectively a maximum price, and the case of the BMTA bus procurement is no exception. If some flexibility is allowed by law, the reference price would not be so restrictive; that is, if bidders quote a higher price, the burden is on them to show the quality differences, and this should be allowed. The problem is with the decision rule used, not the use of the reference price itself.

The proper use of reference prices should not lead to low quality and should not contradict competitive tendering, if technical specifications and prices are 'synchronized', that is price and quality must match. In addition, the reference price must be only a reference, not a ceiling – which means that budgetary process may have to be reviewed. But even given this limitation, it is clear that the process of obtaining this reference price by the BMTA was highly imperfect and non-transparent. NACC's law stipulates that the actual

process by which reference prices are calculated by the procuring agency must be published, as well as the names of the actual persons who undertook the calculations, so that transparency and accountability would be fostered.

The BMTA however presented the method of calculation many months after the price was announced (in July 2013). Even in March 2014, the BMTA was still purporting to canvas suppliers for prices. And only in the last TOR #13 (September 2014) did the names of the persons calculating the reference prices appear. This was subsequently proven to be a false statement.

From Exhibit 1, it can be seen that even though the project was announced and the first TOR publicized in July 2013, the BMTA reports canvassing suppliers in February 2014, contrary to what is required by law. Also violating the law is the failure to name the persons responsible for calculating or determining the reference prices.

EXHIBIT 1
Announcement of Reference Price

Purchase of 3,183 buses using natural gas as fuel

1. **Name of Project**: Purchase of 3,183 buses using natural gas as fuel by Bangkok Metropolitan Transport Authority (BMTA)

2. Budget: 13,162,200,000 Baht

3. Date of reference price determination: 13,162,200,000 Baht, comprising 3,800,000 Baht each for non-air-conditioned bus; and 4,500,000 Baht each for air-conditioned bus (sic)

4. Source of reference price: Committee sent letters to 19 vendors of vehicle parts and completely assembled vehicles on 24 February 2014. Only two vendors responded as follows:

4.1 Winwin NGV Co. Ltd.

4.2 Cho Thavee Dollasien Public Company Ltd.

Both companies reported a price higher than the budget approved by Cabinet, so the approved budget was used as the reference price

5. Names of officials calculating the reference prices:
Committee to Draft the TOR and Bidding Documents for Procurement of 3,183 Buses using Natural Gas, Order No. 454/2556 dated 18 June 2013

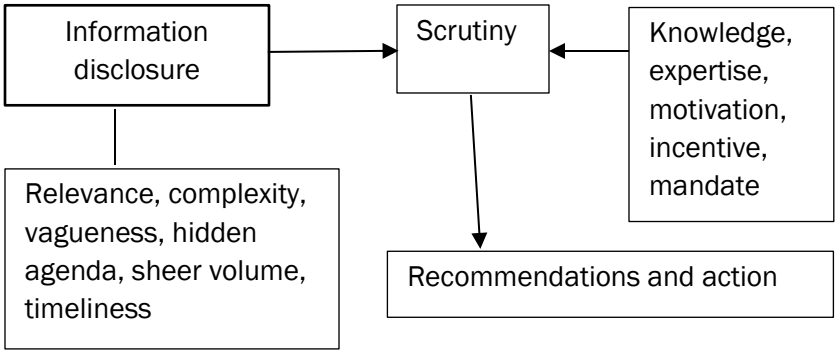
Source: translated from BMTA TOR #8 circa March 2014. (Bold type indicates NACC's template).

ASYMMETRIC INFORMATION AND PRE-EMPTIVE AUDITING

It is widely recognized that access to information fosters transparency and accountability. But access alone is not sufficient to establish democratic governance and integrity in the procurement process.

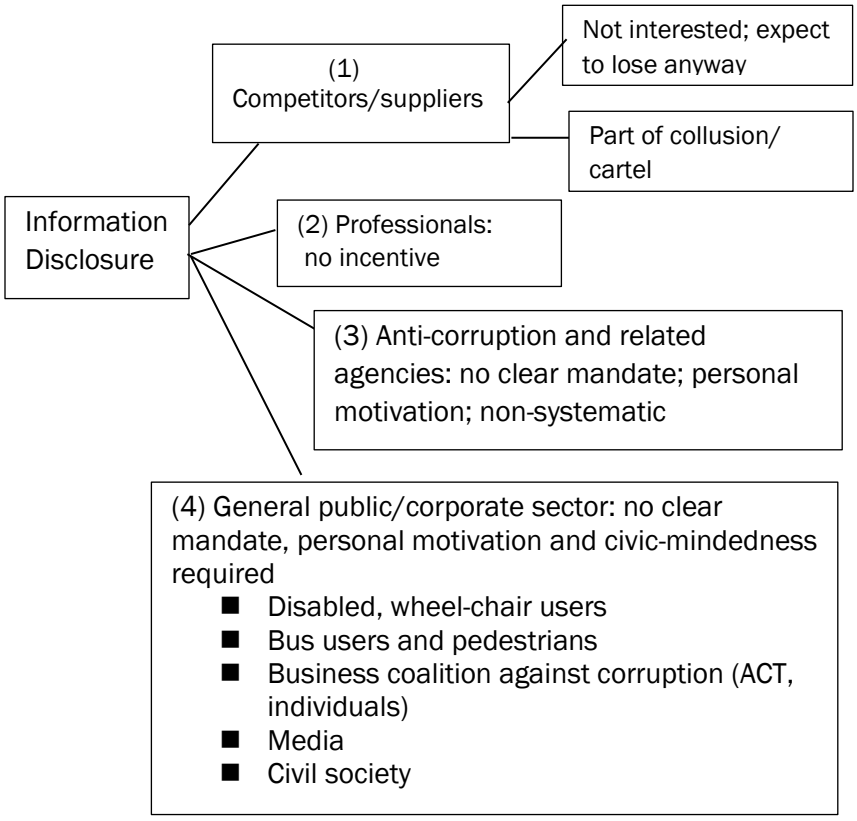
It can be seen from the above discussion that even though the procuring agency complied with the law by publishing the Terms of Reference and other documents regarding reference prices, the mere disclosure of information or its availability does not automatically lead to scrutiny or result in transparency. A great deal of technical knowledge is required, as well as motivation. Figure 1 summarizes the requirements and difficulties in utilizing information even when disclosed.

FIGURE 1
Path from Information Disclosure to Action



The stakeholders can be divided into four major groups: (1) competitors/suppliers, (2) professionals, (3) the anti-corruption agency and related organizations, and (4) the general public (bus users and pedestrians, the corporate sector, media, and other interested parties). The players and difficulties in utilizing the information, as well as the incentive to use the information even it available, is summarized in Figure 2.

FIGURE 2
Players and Motivation in the Bus Procurement Case



Information asymmetry occurs both in terms of the technical requirements, as well as the behavioral aspects, which are related to the oligopolistic market structure. To be able to scrutinize the technical specifications, expert knowledge is required. Who possesses such expert knowledge? First, other suppliers. Other suppliers can be sub-divided into 3 groups: (i) high-quality suppliers not part of the select network, (ii) suppliers that have history and perhaps special rapport with the procuring agency, and (iii) other suppliers who may have a tacit arrangement with suppliers in group (ii). From various interviews, the high-quality suppliers in group (i) are not willing to participate in the bidding, as they believe that there will not be fair competition. Group (iii) may also not participate, or

participate in a perfunctory, if not collusive, manner. The consequence is that there is no real competition.

The next group that possesses expert knowledge consists of the professionals. It was found that vehicle engineers in academic institutions and professional associations did not possess the motivation to get involved. Only when specifically invited by the NACC to meetings to scrutinize the TORs, did they offer their opinions. Anti-corruption work has the characteristic of what economists call a 'public good'. Once 'produced' everyone benefits from it, so it suffers from problems of non-revelation of demand (for integrity) and the 'free-rider' phenomenon. This is true of all forms of market intervention where benefits are dispersed and costs are concentrated (that is, incurred by individual persons or entities). The motivation for action is generally minimal. This contrasts with situations where benefits are concentrated, and costs are dispersed, such as various forms of subsidies. The recipients of subsidies tend to be well-organized, since the benefits accrue to them, whereas the cost to society (such as in the form of higher taxes and inefficiency in resource allocation) are dispersed among the larger population (who tend to be less organized and incentivized, since the net benefits are small, and not easily recognizable).

For the rest of the groups – the non-experts – the first task was to ascertain whether the information was relevant and accurate, and even how accessible it was. In the case of bus procurement discussed here, it appeared that the procuring agency did its best to limit accessibility by publishing the TOR on Friday afternoon leading up to a long weekend, and requiring that written comments be sent by the following Friday, allowing effectively only three working days for interested parties to digest the information and submit their recommendations. For non-experts, this alone would be a daunting task. In addition, it was also found that some citizen groups have a specific agenda, and would not concern themselves with the overall integrity of the procurement process once their demands or needs are met.

It was the collaborative effort of the anti-corruption agency (NACC) and select professionals in Phase One, supplemented by pro-active involvement of the business sector with their collective action and Integrity Pact components, bus users (namely the disabled, wheel-chair-bound citizens group) in Phase Two, supported by media

attention and initiative at both Phases, that led to substantial modifications in the procurement plan. It was perhaps a coincidental 'confluence of the minds' that allowed the anti-corruption effort and in particular, the pre-emptive, pro-active auditing and intervention, to succeed to a certain extent.

The number of buses was reduced, from 4,000 to 3,183, and currently only 489 buses are being purchased, at prices that are 20 per cent lower than the reference price earlier set (with the same quality). Nevertheless, new questions have arisen in Phase Three, which at the time of writing, have not been fully resolved.[3]

While the anti-corruption effort took great pains not to interfere with the project itself, and concentrate mainly on the transparency aspect, it was difficult to ignore the larger question of the role of the BMTA as both regulator and operator of bus services, and their seeming fixation on the use of natural gas for fuel. Interviews with various engine experts reveal that diesel engines could be more economical, if fuel prices (natural gas and diesel) reflected market forces, and because depreciation and wear-and-tear in diesel engines is much less. Major overhauls of diesel engines would not be required as frequently as engines using natural gas, and emission levels can be comparable if the appropriate technology is used.

With rapid technological progress in both the vehicle industry and fuel sources, the State should allow itself flexibility and not commit to large fleets of thousands of buses, or limit the source of fuel exclusively to natural gas. In addition, co-ordination with all modes of transportation – road, rail, water, air – in a Transportation Masterplan would be a necessity.

CONCLUSION AND LESSONS LEARNED

Pro-active corruption prevention is a major component of fighting corruption. In order to do so, information dissemination to encourage discussion among all stakeholders before project implementation, is necessary. However, after disclosure, what are the tools that can be relied on? In Thailand at the present time, social sanctions are weak, and so is voluntary accountability. In societies that are rules-driven, rather than values-driven, careful project monitoring, as well as possible interception, to advance real competition and value for money, remains an important tool. Even with disclosure of information government agencies intent on favoring certain suppliers,

can still do so with impunity, with the procurement process undertaken under a cloak of tacit collusion.

The above discussion shows that information asymmetry is a main obstacle that needs to be overcome for anti-corruption efforts to be effective. Not only does information need to be accessible, it also has to be relevant and accurate. Disclosure of information is not a stand-alone tool. It is not a case of "we require, they posted, we conquered". Requiring disclosure is simply the first and necessary step, but seeming compliance and receiving information can seem like being sprayed with a fire-hose, with no effort made by the disclosing agency to indicate any hierarchy of what is important and what is not. Albert Einstein said that information is not knowledge, and a great deal of effort is required for the transformation to take place. The devil really is in the details. In addition, without motivation and mandate to scrutinize the information, the mere availability of information, even if relevant, will not prevent corruption.

Collaboration and concerted efforts are extremely important in the case of procurement of complex products. Crucial factors were the Senate involvement, media attention, and NACC action in First Phase. It was important to have different organizations undertake fact-finding studies, so that information warfare can be avoided. In the case of the buses, there seemed to be a consensus of opinion from diverse groups, demanding greater integrity. In the Second Phase, business groups, the Thai chamber of commerce, and the private-sector Anti-Corruption Organization of Thailand (ACT), disabled persons, and media added impetus. ACT's initiative regarding Collective Action and use of Integrity Pacts among producers is a promising start, but the absence of major players, such as in the automotive and construction sectors, is a stark reminder that significant challenges remain. In the case of the bus procurement project, the integrity pact came after the reference price had already been re-calculated to be more transparent.

Asymmetric information between anti-corruption agencies and the government agencies undertaking procurement, requires concerted efforts among stakeholders. The problem is that anti-corruption work is a 'public good' (non-rival, non-excludable) and the odds are stacked in favor of 'free-riding'. 'Concerned groups', 'stakeholder involvement' can be over-rated, if motivation is absent. While not intending to disparage these attempts which are certainly essential, it is important

to stress the need for a systematized approach to monitoring projects. The case of the public buses discussed here worked on an ad hoc basis, and a more systematic approach, or even an independent body, is needed. Concerned citizens need mechanisms through which they can participate in shaping policies and regulations, and hold government and government officials accountable on a regular basis.

The bus procurement case also shows that vibrant and independent media perform a vital role in reducing information asymmetry and enhancing transparency. But merely publishing and broadcasting public notices, articles, and announcements does not automatically lead to accountability, unless concerted efforts are galvanized to digest and analyze the information in a systematic way. This in itself is a Herculean task. Sustaining the effort is even more difficult, given that stakeholders can be plagued by fatigue, naiveté, loss of interest after certain goals are achieved, possible intimidation, or just succumbing to laurels after partial accomplishments. The danger of jumping from the frying pan into the fire is ever present. Entrenched interest groups - unknown to anti-corruption workers – need to be mapped in advance, since in-depth information is key. A more systematic approach and mechanism is therefore essential.

NOTES

1. Interview of Secretary-General of NESDB on August 18, 2009.
2. Since the NACC Working Committee was formed in 2009, these were the latest figures available at the time.
3. Positive changes included a re-composition of the Reference Price Committee, a change of BMTA's Board Chairman, openness to suggestions by the new Board, observers appointed from the business sector and academia to take part in the new calculation of the reference prices. Transparency was enhanced and reference prices more rational at this stage. They were also invited to witness the process of reviewing the technical qualifications, disqualification of certain bidders, and ultimately the selection of the winner. However, concerns have been raised by the independent observers at the time of writing. Apart from some inconsistencies in the scrutiny of bid documents, the winner's share price almost doubled on September 3, 2014 and trade volume exploded ten-fold from 11.5 million shares on

September 1, to more than 115 million shares on September 3, 2014, when the Board was re-constituted (see Appendix Figure A), raising questions about possible insider trading. In any case, more search and digging will be undertaken. Again, an information asymmetry problem.

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APPENDIX
Movement in Share Prices and Trading Volume of Eventual Bid Winner

Source: Stock Exchange of Thailand. Specific link not given, to avoid naming of company (for legal reasons).