



RESIDENTIAL AND
CIVIL
CONSTRUCTION
ALLIANCE OF
ONTARIO

Constructing Ontario's Future

An Independent Study Funded by



The Price Implications of Government Contracting Practices in the **GTHA**

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September 2010

An Independent Study Commissioned by the
Residential and Civil Construction Alliance of Ontario

The Residential and Civil Construction Alliance of Ontario (RCCAO) is an alliance composed of management and labour groups that represent all facets of the construction industry. Its stakeholders stem from residential and civil sectors of the construction industry, creating a unified voice. The RCCAO's goal is to work in cooperation with governments and related stakeholders to offer realistic solutions to a variety of challenges facing the construction industry. For more information please visit www.rccao.com

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Preface

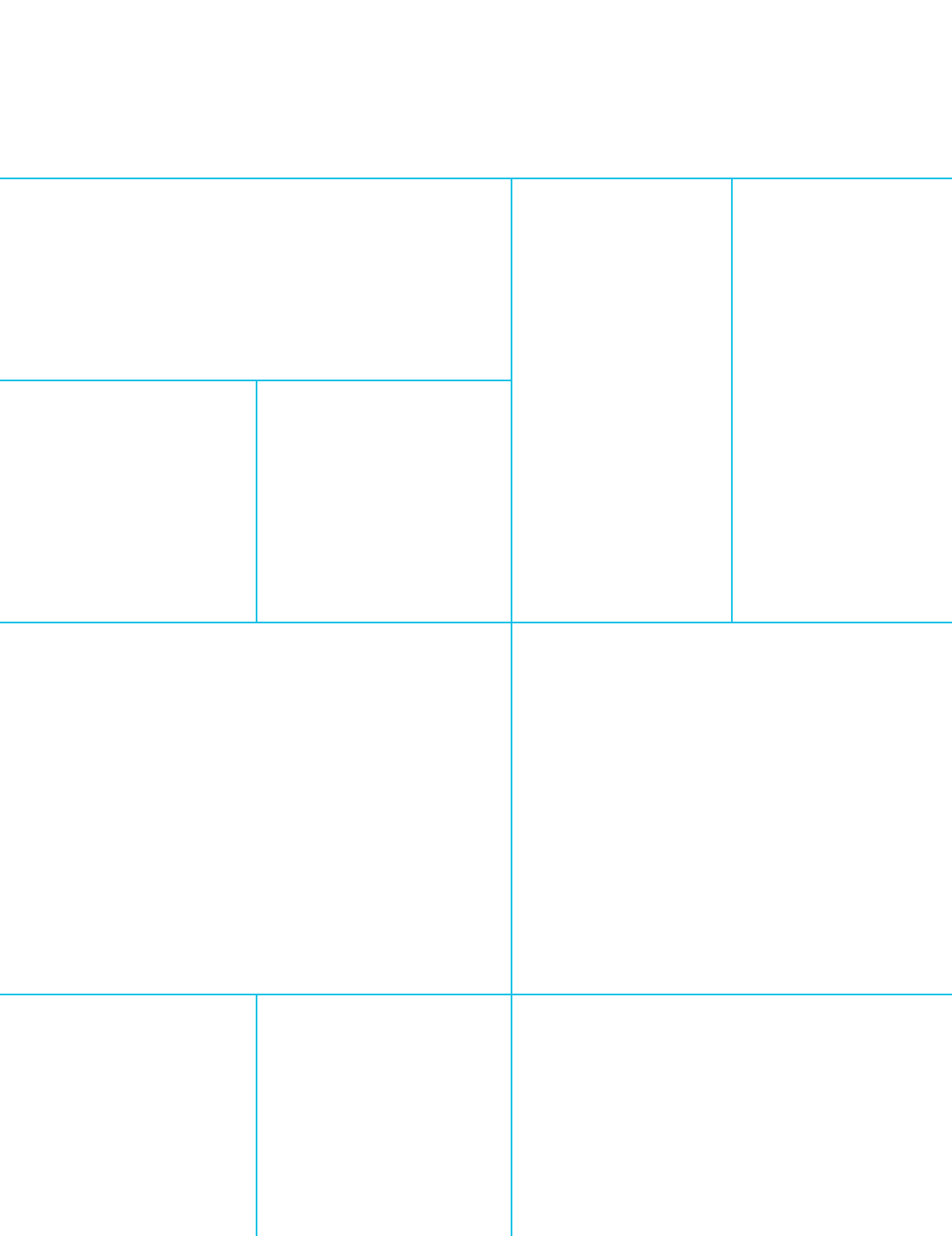
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Executive Summary

This Report provides a detailed discussion as to why common practices in governments and broader public sector procurement in Ontario in relation to construction leads to reduced competition for government work and higher prices to government. It builds upon a 2009 study funded by the Residential and Civil Construction Alliance of Ontario (RCCAO), *Towards a Fair and Balanced Approach* (TFBA). This Report addresses the requests that the RCCAO has received for additional information concerning these issues. It offers specific examples of the problems identified in TFBA, and explains their cost consequences by relating those problems to voluminous published economic studies from around the world, as well as reports from unimpeachable sources such as the Federal Procurement Ombudsman and Statistics Canada.

The Report details how government construction costs in the Greater Toronto-Hamilton Area have been increasing faster than overall construction costs since governments and private sector entities began the practice of “bullet proofing” their tender and contract documentation. The Report also draws upon a survey that was distributed by RCCAO to both member and non-member contractors that are active in government construction, which confirms the theoretical points made in TFBA and in this Report as well. Like TFBA, this Report is intended to serve as a basis for discussion between industry and government. While the points made in this Report are not intended to be the last word on the practices in question, they are intended to bring home to the public sector why they are of concern, as the seriousness of the consequences that result from the practices to which those concerns relate.

1.0 Introduction

1 The Residential and Civil Construction Alliance of Ontario (RCCAO) commissioned a report entitled *Towards a Fair and Balanced Approach* (TFBA), which was released in October 2009. It was hoped that TFBA would lead to a dialogue with the Federal, Provincial and municipal governments (Government), as well as the broader public sector (BPS),¹ concerning a number of practices which have crept into the public contracting process in Ontario. As explained in TFBA, these practices have two anti-competitive effects on public procurement of construction services. In broad terms, either they deter or prevent qualified bidders from bidding for Government/BPS construction work, or they cause the contractors who bid for such work to submit a more costly bid than would otherwise be the case. The Report—which was extensively vetted by senior managers within the construction industry prior to its issue—estimated that these practices collectively are adding approximately 5% to the cost of Government/BPS construction in Ontario. This would have an annual cost to the taxpayer in the range of \$131.5 million. This 5% figure was not arrived at arbitrarily, nor was it the isolated view of one or two people. It represented the considered view of numerous experts in Ontario construction as to the likely net cost of the present overall approach.

2 Perhaps predictably, Government/BPS response to TFBA has divided into three broad camps. One group has entered into dialogue with a view towards discussing how their practices and documentation can be modified to make them more attractive to the construction industry, without undue sacrifice of Government policy freedom or the protection of taxpayer interest. A second group has asked for further clarification of the ideas set out in TFBA. A third group has either ignored TFBA completely, or responded to it in a negative manner.² Since the need to improve public procurement is clear, we have focused our attention primarily upon the first and second groups.

3 This Report supplements TFBA and responds to a number of the comments that RCCAO has received requesting additional information or clarification about some of the points made in TFBA.

(a) Sources of Information

4 Whereas TFBA was drafted to provide readers with a high level view of problematic aspects of public sector contracting in the Greater Toronto-Hamilton Area (GTHA), this Report is intended to provide more detailed information. In preparing this Report, we have referred to published studies commenting upon procurement related issues from around the world. We have provided citations to leading works by economists, think tanks and national and international organizations of unquestionable reputation. We show conclusively that the views advanced in this Report and in TFBA are consistent with the current thinking of recognized authorities. Since Canada has an advanced economy, it can expect similar consequences to the contractual practices that are adopted here to that which has been experienced in other similar economies. We have the opportunity to learn from the experience of others, and can profit from doing so.

5 In the spring of 2010, the RCCAO distributed a survey to contractors who are active in Government/BPS construction in the GTHA. Out of the 27 contractors surveyed, only one indicated that it was now doing significantly less work for Government than five years ago. The purpose of this survey was to confirm the extent to which the points raised in TFBA represented a concern of those businesses actively pursuing Government and similar construction work. We have incorporated the results of that survey into this Report.

6 Over and above the foregoing, to the extent that such information is available, we have sought to buttress the foregoing with references to information concerning Government and BPS procurement in the GTHA.³ We have also referred, in a number of cases, to reports of the Federal and Provincial auditors general, and also to published reports in the media. In our view, this material further strengthens the case put forward in TFBA and in this Report.

(b) A Basis for Discussion

7 Like TFBA, this Report is intended to serve as a basis for discussion. The industry's interest in such a dialogue was made clear in the conclusion to TFBA, which stated:

To overcome the problems that we have discussed, contractors and other suppliers should work together with Governmental organizations to develop a better understanding of each other's operations. The goal of this process would be to bring forward revised contract language and practices that are broadly acceptable to Government, which will allow contractors and other suppliers to offer competitive bids for Government work.

Ultimately, it is in the interest of both Government and its suppliers for the procurement system to work well., In Canada, we have attained a level of honesty in Government contracting that is the envy of most of the World. Nevertheless, there remain serious problems with the process, which lead to frequent disputes and to significantly higher costs for Government than prevailing market conditions necessitate. Government and its suppliers (whether construction Contractors or other sectors of the economy) could benefit from learning to work together more cooperatively—as has been done in the private sector—to improve the quality and reliability of the supply chain.

As a discussion document, this Report is not intended to be the last word on the points that it contains. However, it is intended to identify issues of concern to the construction industry, to explain why they are of concern, and to bring home the seriousness of the consequences that result from the practices to which those concerns relate.

(c) The Process and Not the People

8 Systemic problems with public procurement are not the “fault” of any public servant. They are the result of a misdirected process. Far from being the cause of the problem, the vast majority of public servants involved in the public procurement process are—at least in our experience—hard-working, intelligent men and women, who are dedicated to their jobs. Many of them are carrying a number of files which greatly exceeds the number that a private sector buyer would be expected to administer. Since Government operations are so diverse, many of them (particularly at the municipal level) are engaged in purchasing over a much wider area than any private sector buyer. Generally speaking, the policies and procurements under which they work were set by others, and they had little input into that process. People in this situation should not be understood to be the targets of criticism simply because the process is not working well.

9 Having said that, we see no reason to be shy in criticism of a system which seems in many respects to be heading in the wrong direction. If the views expressed in this Report or in TFBA appear negative or negative in some respects, those views are not directed at the individuals involved in the purchasing process. It is the process and overall approach that requires attention. People cannot be criticized for following the directions they have been given. However, the industry remains convinced of the need to open up a dialogue with senior decision makers within Government and the broader public sector regarding on the practices and approach that give rise to contractor concern. That cannot be done, however, without setting out what practices are objected to and explaining the reasons.

10 To place this Report in its proper context, it should also be understood that—whatever criticisms one may make of general Government and BPS contracting practice in general—there is a significant amount of variation among the practices followed by each Government individually. In a survey of contractors active in Government construction in Ontario, approximately 85% agreed or agreed strongly with the statement that there are significant differences encountered when dealing with one Government as opposed to another. Some Government and BPS entities follow only a few of the practices discussed in this Report and TFBA. Others have begun adjusting their contracting practices.⁴ There is considerable cause for concern, however, in relation to those Government and BPS entities that follow most of the practices discussed in this Report and TFBA, and show little interest in modifying their approaches.

11 As the intent of this Report is to address overall process, rather than specific problematic contracts, we see little reason to discuss the minute details of any individual tender or RFP, or to identify specific Government agencies whose contracts are problematic. Such an approach would not be conducive to dialogue. The goal of a document such as this Report is to identify the general kinds of problems that are being encountered, so that discussion can begin on how to improve the public procurement process. No one expects the public sector to embrace every idea that the construction industry may bring forward for reform. Nevertheless, it is

the responsibility of elected officials, and through them the public service, to pay attention when their suppliers or a significant group of them make clear that current practice is adding additional cost. Since Government and BPS entities primarily employ a so-called “competitive” system of contract award (such as the issue of requests for tender or requests for proposal), in which contractors bid to terms set by the owner, there is no practical opportunity for the kind of dialogue on contract terms which is common in relation to a negotiated contract. Therefore, a Report such as this one, which identifies and explains the causes of concern, coupled with a process of dialogue between industry and Government representatives, offers the best opportunity for an improved procurement process.

(d) Why Adopt a Fair and Balanced Approach?

12 The argument in favour of a fair and balanced approach to Government contracting is not a moral one, but rather is one based in the economic interest of the Government and public sector entities concerned. With limited exceptions, where a contract is negotiated or entered into voluntarily between experienced suppliers and customers, the terms that it embodies will be neither good nor bad in any kind of moral sense. However, this does not imply that any terms that a contract may incorporate will be justifiable on a cost-benefit basis. The question of whether a practice should be followed is one that should be asked and answered by the elected representatives of the people. It is important for them to understand, however, that every practice carries a cost with it as well as a benefit. Too often, these costs do not seem to be appreciated by the individuals who advocate the adoption of particular purchasing practices. Input from private sector suppliers is obviously critical to the making of an informed decision. In some instances, there may well be countervailing considerations which justify the retention of a practice to which the construction industry objects. However, where the cost implications of retaining that practice are high, the case in favour of retention should be compelling. These matters can be discussed with the Government agencies and other BPS entities in due course.

13 It is the avoidance of waste that constitutes the principal benefit that Governments will derive from adopting a more fair and balanced approach to their construction contracting. The simple explanation is that any other approach adds cost to public procurement. No doubt cost is not the only consideration in Government decision making, but it is a very important consideration, and will certainly remain so for the foreseeable future. The Government of Ontario’s 2010 budget is based upon a commitment to cut the current deficit in half in five years and eliminate it in eight years. It will not be possible to meet this commitment without considering carefully whether the individual components of the overall approach to public procurement in the GTHA can be justified on a cost-benefit basis.

14 The point has been raised in answer to TFBA that the responsibility of Government purchasing people is to act in the public interest. In terms of broad principle, we agree. The introduction to the Federal Government's annual *Purchasing Activity Report* states:⁵

... the federal Government's Contracting Policy objective is to acquire goods and services and to carry out construction in a manner that enhances access, competition and fairness and results in best value or, if appropriate, the optimal balance of overall benefits to the Crown and the Canadian people.

As well, contracting is to be conducted in a manner that will:

- Stand the test of public scrutiny in matters of prudence, probity, facilitate access, encourage competition and reflect fairness in the spending of public funds;
- Ensure the pre-eminence of operational requirements;
- Support long-term industrial and regional development and other appropriate national objectives.
- Comply with the Government's obligations under the North American Free Trade Agreement, the World Trade Organization – Agreement on Government Procurement, and the Agreement on Internal Trade.

We endorse with the foregoing principles, and would suggest that broadly similar principles should apply to all levels of Government and public agencies operating under the umbrella of Government.

15 Not everything that Governments do constitutes acting in the public interest. This is particularly true with respect to the process by which Government carries on business. Concerns in this regard are often raised within Governments themselves. For instance, on June 15, 2010, Federal Auditor General Sheila Fraser provided the Standing Committee on Public Accounts with the following frank assessment of the overall adverse consequences of the process governing rehabilitation of the Parliament Buildings:⁶

Mr. Chair, the governance arrangements are hindering rehabilitation work while the buildings continue to deteriorate. We found that decision making and accountability are fragmented. We also found that the current arrangements do not allow for reaching consensus on priorities and committing resources to implement long-term plans.

These weaknesses, which cannot be attributed to any organization alone, result in delays in making decisions and implementing projects, and contribute to increasing project costs and risks.

Broadly speaking, it is with problems of this nature that we are concerned here.

16 Central to this study is the question of identifying the kinds of factors that are likely to influence (a) a decision by a contractor to bid for a construction project, and if so, (b) the price that the contractor will quote in that bid. There are numerous factors which influence the number of bidders who are willing to compete for a construction contract. One study of the United Kingdom's construction industry identified 55 factors which influence bid willingness and price.⁷ A study of the Saudi construction industry identified 31 factors.⁸ The difference in the number quoted turns to a large extent on the way in which the factors are classified and defined. All studies in this area, however, indicate many areas of common concern. By way of illustration, these include:⁹

- Anticipated level of competition and profitability;
- Anticipated number of other bidders;
- Assessment of risk;
- Availability of bond coverage;
- Availability of finance;
- Confidence in design professional and owner's consultant;
- Confidence in owner;
- Experience of the prospective pool of bidders with the type of work concerned;
- Familiarity with the environment;
- Perceived level of difficulty of the project;
- Project management arrangements;
- Rules governing the tender;
- Style of tender;
- Terms of proposed contract;
- The need for work (i.e. current workload of each bidder);
- Type and size of the project, including suitability of project to each contractor's business plan;
- Type of contract.

As should be fairly clear, many of the above considerations relate specifically to various aspects of risk, and some of them are tied directly to the contract award process or the terms of the prospective contract.

17 Complex procurement procedures and incomprehensible documentation represent are only some of overall process-related obstacles to effective competition for Government construction work. Other barriers include unrealistic experiential requirements (either in terms of number of years, or in specific locale), contractual provisions that adversely impact normal cash flow, provisions that introduce unnecessary uncertainty into the contracting process (e.g. contract extension rights, qualifications on the volume of work) and so forth. As we noted in TFBA, two things *are likely to occur* where such features are present in relation to the Government/BPS contract.¹⁰ First, those contractors who do bid for the work will tend to adjust the prices that they bid to reflect the unusual and unattractive features of the contract that is on offer. Second, some contractors will not bid at all for the work that is offered. Generally, the contractors who refuse to bid are those which are the strongest players in the construction industry. Top quality construction companies are in great demand for their services.¹¹ They do not need to take work that presents exceptional risk. This abandoning of the market has a number of important price implications. Two implications worthy of particular note are the following:¹²

- **Lost Business Efficiency:** Top quality companies are invariably the most efficient. Since they are, they are able to bid the most competitive price. The result of their leaving the market for public construction work, is that the public authority concerned (here the Commission) then must chose from the bids of less efficient contractors, whose prices will be correspondingly higher.¹³
- **Lost Technical Expertise:** Since the top quality companies are usually the most experienced, they are better able to identify and avoid the risks that are associated with the execution of a given project. They are also the companies that are best able to identify innovative, cost-saving solutions when problems are encountered. Their business experience and market share make them better able to discipline their subcontractors. They buy products and other construction inputs on a larger scale and therefore in the norm can secure more favourable pricing. Top quality contractors usually have the best employees, since they offer the most interesting work and the best working conditions. They also tend to attract the top quality workers and subcontractors—in part because top firms work on the most important and prestigious projects, and in part because successful businesses can afford to pay more.

18 A fair and balanced approach to Government contracting offers the Government a number of advantages. Most derive from two basic causes. First, a fair and balanced approach permits contractors to price their bids aggressively, thus resulting in a lower contract price. Second, it encourages the top flight contractors to bid for Government work. Since top tier contractors are generally the most efficient within any industry, this will lower costs further.

(e) The Law of Tender

19 Many of the problems discussed in this Report and TFBA grow out of the Canadian law of tender. Since the decision of the Supreme Court of Canada in *Ontario v. Ron Engineering & Construction Eastern Ltd.*¹⁴ there have been hundreds of cases litigated in Canada (and many more claims brought but subsequently settled out-of-court), which have involved allegations that a Government or other public sector entity has failed to conduct its tender on a basis that is open, transparent and fair. Although there are exceptions and qualifications to the exceptions, the general law in this area is reasonably well summarized by De Weerd J. in *Martselos Services Ltd. v. Arctic College*, in which he stated:¹⁵

The duty on the part of the defendant, as a public body, to act fairly to all tenderers, is in my view beyond question. It was clearly implied in the tendering contract. As a public body operating with public funds, the defendant was required to conduct its operations in a manner worthy of the high trust placed in it by the public.

20 This duty has proven to be a very exacting standard, and many Governments have adopted extensive measures to avoid liability. More specifically, many Governments have adopted the practice of bulletproofing their RFP, tender and contract documents to afford a range of immunity from liability should a claim be brought against them. It is an open question how successful this strategy has been from a tactical legal perspective. The most celebrated recent case in this area—the decision of the Supreme Court of Canada in *Tercon*—proves how difficult it can be for public sector entities to insulate themselves from tender related liability.¹⁶ In a survey of 15 recent randomly selected tender related cases, the Government or other public agency lost seven of them, and prevailed in seven.¹⁷ The remaining decision was a split decision. In addition, as we will discuss in greater detail below in relation to staff training, many Governments and BPS entities have also become overly preoccupied with matters of process, so as to further reduce the chance of such claims. This preoccupation has had a spillover effect with respect to all aspects of public procurement. Over the past 20 years, the private sector has been moving steadily in the direction of strategic alliances, relationship contracting, lean procurement and partnering, whereas Governments have focused on positioning themselves with a view towards anticipated litigation. As a result, Government relationships with their contractors and other suppliers are adversarial, and in some cases unnecessarily hostile. The following language, taken verbatim from a current tender of one GTHA municipality, is characteristic of the kind of contract language we have in mind:

a) All tenderers are advised and put on notice that notwithstanding anything else contained in this RFT that all tenderers are forewarned and advised that if the City chooses not to proceed with this RFT process or any subsequent procurement process or any stage including, without limitation, the completion of the RFT process, the commencement, implementation or completion of any RFT process or other procurement process and/or the award, negotiation or the finalization of any agreement or contract and that accordingly, all tenderers acknowledge and agree that if any such processes are suspended, terminated

or cancelled at any time or times during any stage of the RFT or subsequent procurement process (if any) by the City, then the tenderers shall have no claim against the City for any costs, expenses, losses including loss of profits, liabilities or damages whatsoever.

b) The City reserves the right to exercise complete and unfettered discretion in all aspects of the conduct of the RFT and any subsequent procurement process, the assessment and evaluation of tender submissions, including the determination of criteria and the selection, if any, of a successful tenderer, without incurring any liability whatsoever to any tenderer, including any liability for costs, expenses, losses or damages, and without giving any reasons therefore.

c) Without limiting the generality of the foregoing, the City, in its sole and unfettered discretion, reserves the right to change the dates, schedules and deadlines set out in this RFT, or to change the scope of the project, or to cancel the RFT or the project, without stating reasons therefore and accordingly the City also reserves the right to accept or to reject any or all of the tender submissions and the City reserves the right to proceed as, in its sole and unfettered discretion, following receipt of the tender submissions, including, without limitation, issuing a second or more, or a modified RFT for the project or entering into contract negotiations with any tenderer.

21 Should any bidder be so misfortunate as to have its bid accepted, it would then be presented with a contract which provides (inter alia) that:

The Contractor shall comply with the City Representative's orders, which shall be in writing at the Contractor's request. The Contractor shall not be entitled to additional compensation or compensation for loss or damage by reason of complying with any order of the City Representative made in accordance with this Section.

Thus, the city may change aspects of the work program so as to increase the contractor's costs, without any obligation to pay for the costs that thereby result. Further, in carrying out the work provided for in the contract, the contractor is required to provide the following indemnity:

Except for claims arising solely from the negligence of the City, the Contractor shall indemnify and save harmless the City, its officers, servants and agents from and against any and all claims, all costs and expenses including legal fee arising in any way out of the performance of the work. Without limiting the generality of the foregoing, such claims include:

a) all claims for personal injury or death;

b) all claims in respect of damage to real or personal property, whether public or private, including but not limited to lands, buildings, structures, utilities, cleaning due to mechanical failure, fences, trees, shrubs, sod, roads, ditches, drains and litter containers;

-
- c) all claims relating to any infringement of any right or privilege;
 - d) all claims relating to inventions, copyrights, trademarks or patents and rights thereto used in doing the work;
 - e) any claim for a charge at law or in equity.

22 Thus, under this provision, if the negligence of the City is 95% responsible for a claim, while some third party is 5% responsible, the contractor is required to indemnify the City against that claim. Contractors often seek reciprocal indemnities from owners in relation to claims that arise from acts by the owner or its agents. Should anyone request any indemnification from a GTHA public sector entity, they are often presented with this type of argument:

This is contrary to Section 28 of Ontario's *Financial Administration Act*, which, absent the approval of the Minister of Finance, prohibits the granting of indemnities by provincial entities and renders any such contractual provisions null and void. While this statutory protection does not apply to all public institutions in Ontario (e.g. municipalities, the broader public sector and certain agencies are not covered) the provincial legislature has determined that granting such indemnities is against the public interest for many provincial bodies.

23 In point of fact, this type of argument mischaracterizes section 28 of the FAA and is based on a misunderstanding of current Ontario Government practice in relation to its major construction contracts. The enactment of section 28 did not involve any determination as to whether contractual indemnities in relation to construction or other supply contracts were or were not in the public interest.¹⁸ It was enacted due to growing concern about the magnitude of the Government's unbudgeted liabilities—many of which often came as a surprise to the Minister of Finance, who was then obliged to fund them under section 22 of the *Proceedings Against the Crown Act*.¹⁹ The goal of section 28 was merely to impose some discipline over the assumption of contingent liabilities by the Crown. The only public sector entities that are affected by section 28 are those that have the ability to increase, directly or indirectly, the indebtedness or contingent liabilities of the Crown. Insofar as the Government of Ontario is concerned, the current practice of the Province is to provide indemnities on its major construction contracts. For instance, section 19.6 of the Durham Consolidated Courthouse Agreement provides for indemnification by the Crown (HMQ) in respect of:

- (i) the death or personal injury of any person arising, directly or indirectly, out of, or in consequence of, breach of this Agreement by HMQ or any negligent act or willful misconduct of HMQ or any Province Person, except to the extent caused, or contributed to, by the breach of this Agreement by Project Co or by any act or omission of Project Co or any Project Co Party;

(ii) any physical loss of or damage to all or any part of any property or assets of Project Co or any Project Co Party, arising, directly or indirectly, out of, or in consequence of, breach of this Agreement by HMQ or any deliberate or negligent act or omission of HMQ or any Province Person, except to the extent caused, or contributed to, by the breach of this Agreement by Project Co or by any act or omission of Project Co or any Project Co Party; and

(iii) any physical loss of or damage to property or assets of any third party, or any other loss or damage of any third party, arising, directly or indirectly, out of, or in consequence of, breach of this Agreement by HMQ or any negligent act or willful misconduct of HMQ or any Province Person, except to the extent caused, or contributed to, by the breach of this Agreement by Project Co or by any act or omission of Project Co or any Project Co Party.

The Crown is also obliged to save its contractor, their directors, officers, employees, agents and representatives from and against any and all direct losses which may be suffered, sustained or incurred as a result of, in respect of, or arising out of any breach of a representation or warranty of given by the Crown under the Project Agreement, and in relation to certain infringements of intellectual property rights for which the Crown is responsible. A number of other specific indemnities are provided by the Crown under that Agreement.²⁰ Thus, on major construction projects, it is clearly not the policy of the Ontario Government to disclaim liability for any cost increases that it causes.

24 Bulletproofed documents containing provisions which exclude all potential liability hardly serve to entice any contractor that has a choice to enter into a contractual arrangement with such an adversarial prospective partner. Those contractors who may chose to bid will likely add a significant premium to the price that they quote, as compensation for taking on the risk that such an adversarial partner presents.

25 Provisions of this nature are characteristic of a process-obsessed approach to procurement that has gone wrong. In our view, too often, the process of public procurement has become a barrier to cost-effective public procurement. In a democracy, the requirements for equality of access, transparency and accountability in public decision making (including the award of public contracting) place a high premium on the importance of adherence to proper process. However, the process of procurement is not all important. Effective delivery of value for money is essential to the proper delivery of Government programs and services to the public at reasonable cost. Far from promoting the public interest in such effective delivery, preoccupation with process leads to many of the contracting practices described in this Report and in TFBA. Ultimately, this approach restricts rather than enhances access to Government contracts, undermines competition, is not fair, is far from transparent, and does not result either in best value or the optimal balance of overall benefit to the taxpayer. It is for this reason that we have brought them to public notice. Many practices which Governments follow have outlived their usefulness. Others were ill-judged from the get-go.

2.0 Is Public Building More Expensive?

(a) General Factors Influencing the Pricing of Government Contracts

26 We have been asked to provide supportive evidence to show that Government and BPS contracting in the GTHA is problematic, and to explain how these problems relate to the Government approach to contracting. It is not difficult to come up with a litany of recent cases in which public sector procurement of construction has become a matter of public controversy.²¹ Among of the most celebrated examples of problematic capital work in Ontario is the Brampton Civic Hospital. As the 2008 Report of the Auditor General of Ontario notes:²²

A consulting firm engaged by WOHC estimated in September 2000 that the cost for the Government to design and build a new hospital would be approximately \$357 million (updated to \$381 million in October 2001). Using a similar approach in January 2003, a second consulting firm estimated that the cost would be \$507 million (updated in November 2004 to \$525 million). While there had been increases in labour and material costs during the period, those increases and inflation alone would not account for the large difference in the two estimates. ...

Over the approximately three-year construction period, the total cost came to \$614 million, comprising \$467 million in design and construction costs for the hospital, which was built on a reduced scale; \$63 million primarily for modifications to the facilities to accommodate installation of equipment; and \$84 million in financing charges. We noted that a portion of the \$63 million cost to modify the facilities for installation of equipment could have been avoided with better planning.

27 Many of the alleged deficiencies of public sector procurement as frequently reported in newspaper accounts are actually more cosmetic than real, in terms of the probable costs that can be expected to be incurred in relation to the construction of a given capital facility. The cost increases which subsequently materialize are little more than an eventual manifestation of the true costs that should have been understood from the outset. As one informed observer has noted:²³

Public-sector procurements are subject to what is often called an optimism bias, which is the tendency in the public sector to budget for the best possible outcome as opposed to the most likely. In fact, due to the mixing of the policy delivery function with the oversight function within Government, costly enhancements or changes to the project after the initial contract award can be a frequent occurrence. This is particularly true for traditional public-sector procurement of non-standard buildings, where one study found that estimates of project duration and total expected capital expenditure were off by fifteen per cent and sixty-six per cent, respectively.

28 This approach to Government decision making frequently leads to the appearance of a project that is out of control. Since no project of more than very short duration and simple scope is likely to proceed under ideal conditions, most construction at some point will encounter costs that were not anticipated. It is, for example, extremely unlikely that weather over the build period will be consistently more favourable than the average weather conditions of the past, that there will be no adverse site conditions (e.g. unexpected environmental rehabilitation costs, unidentified bedrock out-cropping, etc.), that there will be no delay in the delivery of materials, that all materials delivered will be exactly as specified, that no cars will be illegally parked or break down so as to delay the conduct of work on a given day; that no piece of equipment will break down while in use or be misplaced and have to be found; that every single worker on every single day will arrive exactly on time and work diligently from arrival to departure; that every single Government approval will be secured promptly and at low cost; that no work will be done so poorly as to require correction, that all required technical expertise will be available at precisely the moment at which it is required, that there will be no stand-by costs for equipment, because every single piece of equipment will be delivered at precisely the moment that it is required, and will be returned immediately following use). Any project budgeted on the basis of such assumptions is very likely to prove problematic.

29 The tendency in Government/BPS capital procurement in Canada towards under-budgeting often arises as a consequence of our three (or sometimes four) levels of Government. To secure important local initiatives, the lowest level of Government will commit to a completely unrealistic program. One Southern Ontario municipality recently issued a press release with respect to the construction of a sports stadium, and it provides a good illustration of the kinds of problems that can arise during the construction of a municipal capital project. It gave the following reasons for a \$5.6-million cost overrun on a project originally budgeted at about \$39 million (although it had already increased to just under \$48 million by the time construction began):

- The original application for the arena portion had a two-week time line and the application and conceptual design were developed in that short time period—meaning that many of the site-related conditions could not be explored prior to estimating the project cost. Once funding was received, the time lines again were very short for completing the design and starting construction, and did not allow for proper investigation into site challenges and their related costs.
- The Highway ... corridor is subject to significant considerations, including a 14-metre setback from the highway where construction is not allowed so that future widening of the highway can be protected. This caused some design and approval delays—and every delay costs money, as the final deadline for completion had to be met.

-
- The ... property is essentially a sand base that has a fairly significant grade difference from one end to the other; this requires additional work for the new building, and the property has to be leveled to that point to accommodate for storm water management. Storm water must be accommodated on site and the costs of a storm water pond were not considered in the application.
 - Due to the short time frame, the proposed square footage was underestimated in the proposed arena design that was submitted.
 - Lastly, the aggressive construction deadline is driving the cost up, as overtime is expected to meet completion dates. If the project is not completed on time, the Ministry controlling the project will not issue the funds to complete the project, i.e. the City's grant money will be reduced!

Problems of this nature are all too common in Government/BPS procurement. The first and fifth paragraphs pertain to unrealistic time frames, the second and fourth to a failure to consult properly before taking the contract to market, the third to a failure to conduct proper site testing.

30 Making decisions in the presence of such factors is likely to result in a Government over-committing itself, or making a poor choice as to where to invest its money. The hidden costs of Government construction that are associated with such events mean that decisions made in relation to the facility are not made with the real price of the facility in mind. Unfortunately, when the project is actually built, it is likely that the actual cost will be in line with what should have been budgeted in the first place.

31 Cost overrun and delays that result from the inevitable occurrence of a less than ideal outcome no doubt indicate a lack of candor in the Government decision-making process—specifically the tendency towards playing make-believe, in order to secure funding approval for a project. However, the associated cost increases that arise when predictable delay or hazards occur do not necessarily reflect a failure of the purchasing function within Government as such. It would be very unusual for decisions of this nature to originate with the purchasing staff. Normally, decisions of this kind are usually made elsewhere.

32 Cost overruns of this nature are a particular concern in the GTHA at the moment, because local Governments will likely soon be venturing into two types of construction that have proven historically to be especially problematic. The first type of construction in question involves the construction of stadiums—a subject now of some immediate concern in relation to the 2015 Pan Am Games. Many stadium projects have suffered cost over-runs when undertaken by municipalities across North America, as the following table indicates:²⁴

Table A: Cost Overruns in North American Stadium Construction

Team	Stadium	Original Estimate (millions)	Cost Overrun (millions)	Cause
Carolina Hurricanes	Entertainment & Sports Arena	\$130	\$26	Design changes requested by the team and Centennial authority, and weather conditions
Cincinnati Bengals	Paul Brown Stadium	\$287 (raised to \$485)	\$51	Changes from original plans, project delays and additional expenses caused by weather conditions and land acquisition process
Cleveland Browns	Cleveland Browns Stadium	\$280	\$28	Weather, additional construction costs
Cleveland Cavaliers	Gund Arena	\$152	\$76 (combined with Jacobs Field)	Construction costs
Cleveland Indians	Jacobs Field	\$173	\$76 (combined with Gund Arena)	Construction costs
Houston Texans	Reliant Stadium	\$310	\$57	
Seattle Mariners	Safeco Field	\$471	\$100	Accelerated construction schedule, architectural flaws and construction overruns

33 The second type of construction which has proven especially problematic is the construction of light rail and similar mass transportation systems—a type of major capital investment that many Ontario municipalities are now actively considering. Ventures of this kind almost always begin with high hopes.²⁵ However, across North America, the overwhelming experience with light rail systems has been that such systems ultimately cost more money (not infrequently, vastly more money) and carry fewer riders than was expected during their planning stage.²⁶ The following tables are taken from one study which compared transportation infrastructure cost overruns and demand shortfall in North America, Europe and elsewhere:²⁷

Table B: Average Cost Escalation in 258 Transportation Infrastructure Projects²⁸

Project type	Number	Average Cost Escalation
Rail	58	44.7%
Bridges & tunnels	33	33.8%
Roads	167	20.4%
All Projects	258	27.6%

Table C-1: Average Cost Escalation in 44 Urban Rail Projects In Three Geographical Areas (in constant prices)²⁹

Geographical Area	Number	Average Cost Escalation
Europe	13	44.3
North America	18	25.8
Other	13	59.2
Total	44	44.9%

Table C-2: Difference Between Forecast and Actual Traffic in 210 Transportation Infrastructure Projects³⁰

Project type	Number	Average Difference
Rail (ridership)	27	(39.5%)
Roads (vehicles)	183	9.5%
All	210	3.2%

The author of this study adds the following observations based upon the projects that he considered:

- For rail, 75% of all projects have cost escalations of at least 24%. 25% of projects have cost escalations of at least 60%.
- The hypothesis that type of project has no effect on cost escalation is rejected at a very high level of statistical significance ($p < 0.001$). ...

The author also observes:³¹

For urban rail 75% of projects have cost escalations of at least 33%. Of urban rail projects 25% have cost escalations of at least 60%.

For urban rail and other rail, large cost escalations combined with large standard deviations result in a particularly high level of uncertainty and risk regarding forecasts of costs, that is, budgets. ... Assessment and management of such risk should therefore be central to all phases of the project development cycle in urban and other rail projects, from decision making to planning to construction.

Nor is the foregoing study the only one of its kind. A 2007 study by the United States Federal Transit Authority reviewed those projects built between 1990 and 2003. It found that of the 21 projects considered, the disparity between budget estimate and final cost ranged from San Jose (at 28% under the budget forecast) to Portland (at 72% over). On average, the 21 projects finished more than 20% over budgeted cost.³²

34 A decision-making process which leads to capital infrastructure commitments made on the basis of imaginary numbers is anything but transparent, and it seriously compromises the Government budget deliberation process. It can cause unfair political embarrassment for the Government of the day—when the adverse results of the optimism bias occur—even though that Government may have been in opposition when the decision to proceed with the project was made and may have actually opposed the scheme in the first place. Most importantly, it

leads to a Government process which is fundamentally misleading: cosmetics in both fashion and in Government create an appearance that is untrue. This is not a sound approach to Government decision-making.

(b) The Comparative Price of Government Construction

35 Since the risk of cost-overrun is an ever present hazard where such an approach to budgeting is adopted, it tends to drive an aggressive approach to contracting, in which Governments seek price security. In TFBA, we discussed how the shift in Government contracting practice over the 1990s and the first decade of this Century towards bulletproofing Government contract documents was leading to a steady increase in the price of Government construction. We have been asked to provide more detail on this point. This information is set out in this section of our Report.

36 The comparative cost of public-sector buildings relative to comparable private-sector facilities can be gleaned from standard industry pricing reference books.³³ The following table compares the per square foot construction cost for public administration buildings (i.e. Government offices) as against the per square foot construction cost for commercial office buildings. It shows how Government construction costs relative to those of the private sector have been trending more sharply upwards since the beginning of the twenty-first century.

Table D: Comparative \$ PSF Cost of Canadian Office Buildings, 2000 and 2008

	2000			2008		
	High	Low	Average	High	Low	Average
Public Administration Building	137.13	112.19	124.66	184.40	150.87	167.83
Commercial Office Building	101.89	124.53	113.21	149.98	121.71	136.34
Difference	35.24	-12.34	11.45	34.42	29.16	31.49
As percentage	34.59%	-9.91%	10.11%	22.95%	23.96%	23.10%

There are a number of notable trends in Table D which are worthy of specific mention. In 2000, the price of low cost Government office buildings was nearly 10% below the price of low cost office buildings in the private sector. By 2008, the price of low cost Government buildings had climbed to almost 24% above the cost of comparable private sector facilities. Looking at the average price for office accommodation, the public sector was paying just over 10% more in 2000 for its office accommodation than the private sector. By 2008, the price differential had

jumped to more than 23%. Viewed from a prudent management of public funds perspective, about the only good news in the above figures, is that the cost of high quality Government office facilities had increased slightly less than the cost of high quality office facilities in the private sector (i.e. by only \$47.27, in comparison to \$48.09). However, even that good news is qualified by the fact that while private sector construction costs had increased on average by only 20.43%, the average cost of public sector office accommodation had increased by 35.43% (i.e. from \$124.66 to \$167.83 PSF).

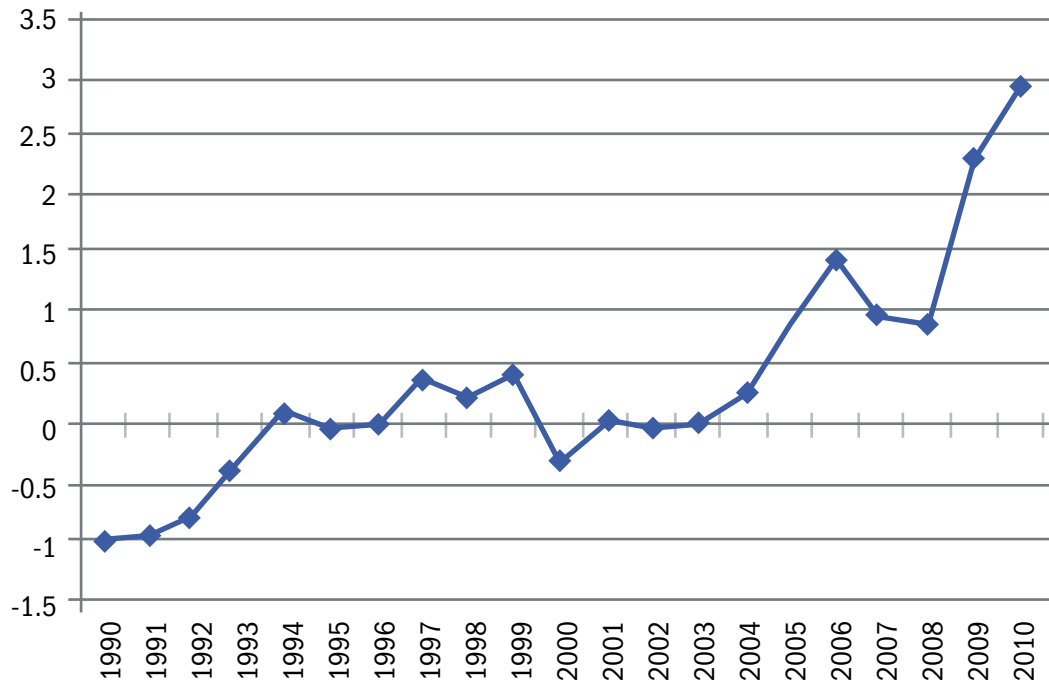
37 The clear indication in Table D is that public sector construction costs are increasing faster than those of the private sector. This is a serious cause for concern to every taxpayer and to every elected official.

38 Comparing absolute costs of Government and private-sector buildings can be difficult, because with a few exceptions (such as public administration and commercial office buildings) the types of construction being carried out tend to be very different. Even for a given class of public institution, comparing construction costs for one type of facility with another is difficult. For instance, in the case of university construction, dormitories are more expensive than laboratory facilities, and labs are in turn more expensive than classrooms or offices.

39 A more realistic method of comparison is to focus on changes in the ratio between the respective costs for types of building that are dominated by the private sector as opposed to other types of building which is dominated by the public sector. Office buildings afford a good example of predominantly private sector buildings. Schools afford a good example of predominantly public sector.

40 Prior to 1993, the per-square-foot cost of school construction in the GTHA averaged about \$1 less than the per square foot cost of an office building. During the 1990s, the gap steadily narrowed, and by 1994, the cost per square foot to construct a school had actually risen slightly above the per square foot cost of building an office building. For several years, the two figures jostled back and forth, but in 2003, school per square foot costs overtook per square foot costs and since then the gap has grown fairly wide, as the following chart indicates:³⁴

Chart 1: Difference in Office and School Construction Cost (\$psf)



To flesh out Chart 1 with some more specific detail: in 1990, the per square foot cost of building a school was on average \$1.025 less than the cost of building an office. By the first quarter of 2010, the per-square-foot cost of building a school was \$2.90 more expensive. And as the chart's trend line makes very clear, the gap is growing.

41 University dormitories afford another example of the comparatively high cost of public sector construction. Such facilities are usually built to a fairly Spartan standard. Nevertheless, the per-square-foot cost of facilities of this kind recently built in Ontario has been about 6.7% above the per-square-foot cost of building a condominium in Toronto, and close to 20% above the corresponding cost for Toronto low end private sector rental accommodation. This disparity exists even though according to the RS Means Newspaper, a college dormitory, apartment building and a hotel should all be within the same ballpark when it comes to their square-foot cost of construction.³⁵

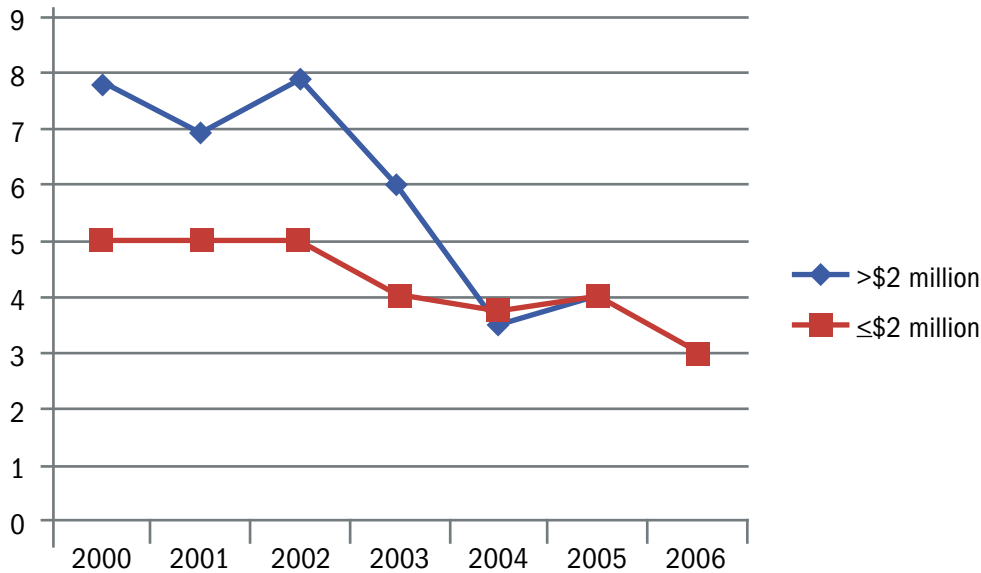
3.0 Specific Pricing Issues

42 A number of respondents to TFBA have asked for more information as to how and why one-sided contract terms have an adverse impact on Government construction costs. In TFBA we identified a number of specific provisions of this nature, including contract extension provisions, reservation of rights to re-contract for the same work; extraordinary rights of holdback; unfair allocation of price risk; liquidated damage clauses and unrealistic time tables; waiver of liability; allocation of responsibility for structural faults and site conditions; and arbitrary warranty provisions. Three specific areas have been raised for further discussion: termination for convenience clauses, non-exclusive contract arrangements, and extended warranty arrangements. In this section of the Report we will provide additional detail as to why provisions of this nature are problematic to contractors and therefore costly to Government and other public sector owners.³⁶

43 Where a particular set of owners seek to contract on terms different from prevailing practice, the response of bidders to what they consider to be unfavourable contract terms is either not to bid, or to adjust their bid price so as to allow for the unattractive features of the proposed contract. As a general observation, those unattractive features which present a minor problem to bidders are usually responded to by way of price adjustment. Those features which present a major problem tend to discourage bids. If the contract is sufficiently unattractive, no bids will be received—a problem which has in fact occurred from time to time over the past few years.

44 One empirical study of the impact of changes in Government construction contracting requirements on willingness to bid looked at the impact of a new contracting approach adopted by the Government of Western Australia. In October 2002, the Government of Western Australia introduced a Building Skills Policy. It required construction contractors awarded Government work to allocate 10% of deemed labour hours in relation to such contracts to the employment of apprentices and trainees. The following chart traces out the change in the average number of bids received in relation to Government contracts over the period concerned:³⁷

Chart 2: How Special Terms Influence Bidding

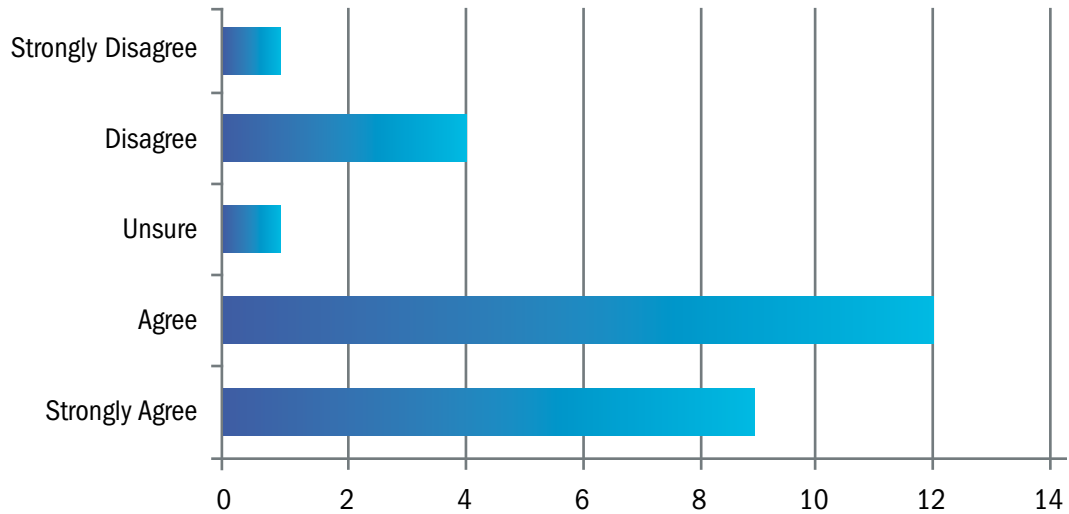


Not every special Governmental requirement will necessarily reduce the number of bidders so dramatically (here a 62.5% reduction in contract participation). Where adverse contract terms have more limited price implications, it is more likely that bidders will adjust their prices than leave the field of Government contracting.³⁸ However, whichever of these results occur, the effect is costly.

(a) The One-sided Nature of Public Procurement

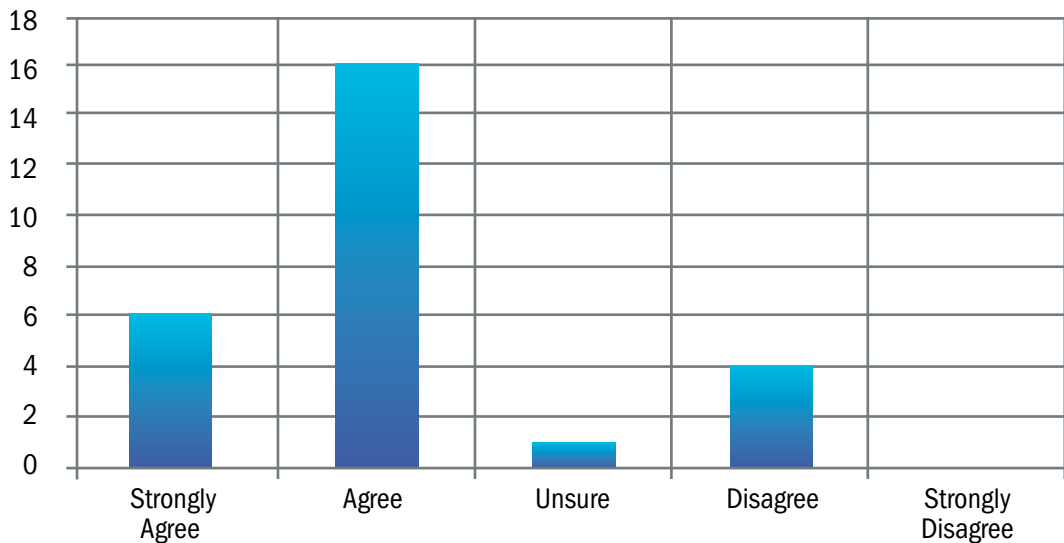
45 There is a question as to whether the terms of contract set out in Government/BPS construction tender and RFP documents in the GTHA are more demanding than the corresponding provisions found in the corresponding documentation employed by major private sector entities. The answer is an unqualified yes. In RCCAO's recent survey, contractors were asked to state whether they agreed or disagreed with the statement that Government contract documents (e.g. tender and RFP documentation) are more likely to contain a significant number of one-sided contract terms than corresponding documents relating to private owners. Chart 3 shows the spread of responses to that statement. They are overwhelmingly supportive (77.8%):

Chart 3: Are Government Contracts One-Sided?



The adverse impact of a one-sided approach is also clear. As Chart 4 confirms, an overwhelming majority of respondents (77.8%) agreed or strongly agreed with the statement that the inclusion of one-sided contract terms in tender or RFP documents “is a factor that my company considers in determining whether not to bid for a Government contract.”

Chart 4: Do One-sided Contracts Influence Price?



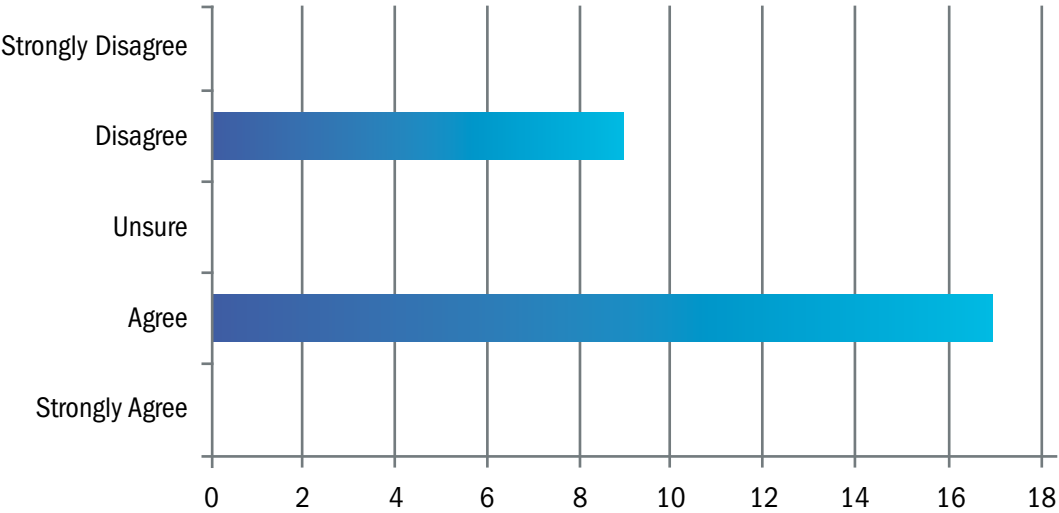
As we have noted, this survey group was limited to those firms which regularly participate in Government contracts. No doubt the above trends would have been even more pronounced among firms which pursue Government work only occasionally.

46 Another problem frequently encountered in Government contracting is the use of atypical (and often restrictive) specifications. Difficulties of this kind may arise from limited experience in the kinds of construction concerned. In other cases, specifications either intentionally or otherwise exclude some prospective suppliers from bidding for work. One of the most common reasons for trying to restrict the level of competition is to protect local contractors and other suppliers. Governments are under continuous pressure to favor local suppliers, and to give advantages to other perceived worthy enterprises.³⁹ So common is this problem that Article 1007(1) of the *North American Free Trade Agreement* provides that the parties shall ensure that their entities do not prepare, adopt or apply any technical specification with the purpose or the effect of creating unnecessary obstacles to trade. Article 1007(3) goes on to provide that:

Each Party shall ensure that the technical specifications prescribed by its entities do not require or refer to a particular trademark or name, patent, design or type, specific origin or producer or supplier unless there is no sufficiently precise or intelligible way of otherwise describing the procurement requirements and provided that, in such cases, words such as “or equivalent” are included in the tender documentation.

47 Chart 5 deals with the question of whether or not poorly written specifications influence the willingness of contractors to bid. While there is a significant dissenting minority, most of the survey group agreed that there was a relationship between the clarity of the specifications and their willingness to bid. As we noted above, the survey group under study here included only those contractors bidding for Government work. Presumably, a significant number of respondents within this group believe that they are able to reflect any risk resulting from one-sided contracts in their bid prices.

Chart 5: Do One-sided Contracts Discourage Bidding?



48 This interpretation is reinforced by Chart 6, which illustrates the overall pattern of response to the question of whether or not the inclusion of one-sided terms is a factor that they take into account in deciding upon the bid price. In this case, 26 out of the 27 respondents agreed (96.3%), and only one disagreed. The question specifically asked respondents to indicate whether the effect of such terms was to increase price.

Chart 6: Do Contract Terms Influence Bid Price?

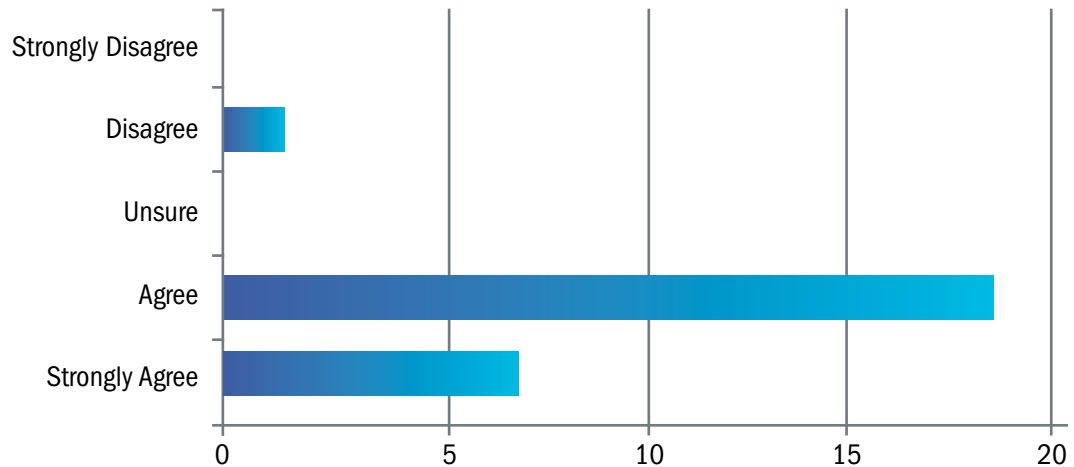
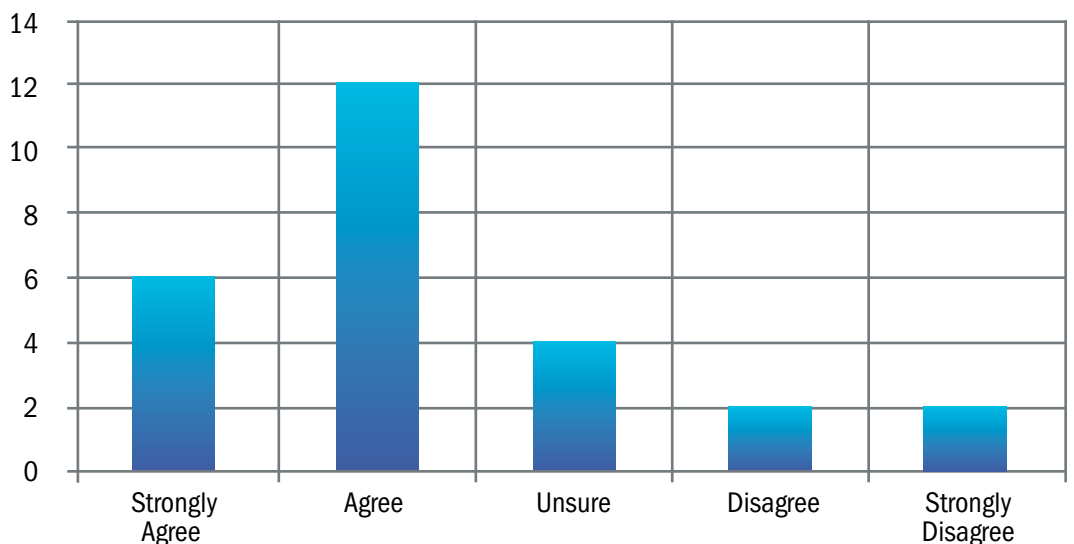


Chart 7 shows the distribution of responses in answer to the statement. The risks and delays associated with Government contracting are best provided for by way of an adjustment to price. Here again, the response is overwhelmingly inclined in favour, with 18 out of 26 respondents agreeing (one member of the sample group provided no response to this question):

Chart 7: Does Risk Result in Price Adjustment?



Public sector construction projects are generally considered by the construction industry to be more susceptible to delay than private sector projects. It follows that the anticipated time value of the money that is to be earned through a construction contract will be considered by a prudent contractor when preparing a bid price.⁴⁰

(b) Risk Allocation

49 As we noted in TFBA, one of the most common manifestations of one-sided contracting by Government and BPS entities is the tendency towards seeking to off-load risk to the contractor. To illustrate this point, we will make use of a relatively mild provision of this kind. A recent GTHA tender called for tenders to remove an underground fuel storage tank. The tender documents included a statement that read:

It is the Bidder's responsibility to be familiar with the job site and to examine all existing conditions to determine the amount and character of the work involved and to take their own measurements and make their own calculations prior to submitting a bid.

The tender documents offered little in the way of disclosure of the site conditions or the history of the tank in question: for instance, whether it had ever been damaged, under what conditions it was installed, by whom, whether evidence of any contamination had previously come to light, the results of any inspection reports, or similar information. The request for tender was issued on June 10. Bids were required to be submitted by June 22, thus allowing only seven business days for site inspection. The scope of work included the following statement:

Any petroleum impacted or unsuitable material in the vicinity of the UST may be removed at the discretion of the consultant. The contractor may be required to:

Excavate, screen and stockpile the soil as directed by the on-Site Consultant. ... The soil may be sorted as:

Clean Soil – Soil that meets the applicable Ministry of the Environment (MOE) Site Condition Standards (SCS). The clean, non-contaminated material may be stockpiled on-Site, and reused as backfill at locations specified by the Consultant.

Contaminated Soil – Soil that exceeds the applicable MOE SCS. The contaminated soil may be removed off-Site to an appropriate MOE licensed disposal facility. The Contractor must supply the Consultant with the MOE Certificate of Approval for the licensed facility prior to the shipment of contaminated soil. Weigh-scale tickets for each load showing [tonnes] received at the disposal site must be provided. The Contractor is responsible for additional analytical testing (if any) that is required for their chosen disposal facility. For pricing purposes assume the soil is non-hazardous and impacted with hydrocarbons only.

Unsuitable fill material (wood, plastic, metal pieces etc.)

-
- If necessary, the management of groundwater and off-Site disposal of contaminated water at a licensed facility during the execution of the contract.
 - Supply, place and compact imported clean fill. Backfill should be granular B up to 0.3 m below grade, and granular A for the top 0.3 m.
 - Resurface the excavation area with asphalt consistent with the Region's standards.

50 Some people who have commented on TFBA have argued that the reasonableness of pre-bid information disclosure has to be assessed in the context of whether contractors were provided with the opportunity to conduct their own inspections prior to bidding. The clauses indicate that such an opportunity was at least available. An owner typically is far more familiar with the history of that property than any contractor. Furthermore, although it is possible to carry out test drilling to investigate soil conditions (or, depending upon the nature of the contract, an even more expensive ground-penetrating radar survey), such efforts will not necessarily result in a proper identification of all relevant facts in relation to subsurface conditions. Put another way, while testing, inspection and related efforts may identify problems, they do not rule out problems. Testing of this kind is also expensive, and must be scheduled (which may not be possible within the time frame of a tender). Incurring costs of this nature is hardly realistic when contractors are merely bidding in an open competition.

51 Legalistic arguments as to the opportunity to examine and test ignore the realities of the tender process. No contractor can afford to invest money in testing on the mere hope that if he or she wins the contract it will be possible to recover that cost from the income earned on it. Furthermore, since each bidder would need to carry out its own testing at its own cost, and each would need to carry out independent testing, the effect of the above approach is to increase greatly the total cost of testing.⁴¹

52 The argument about the reasonableness of the opportunity to inspect misunderstands the commercial realities of the contracting process. The critical issue in procurement is not so much the legal issue as to where liability lies should a given hazard be encountered. Rather, it is the effect of that allocation on pricing and willingness to bid. This is one of the problems inherent in asking lawyers for advice on commercial matters. Although there are exceptions, lawyers are not especially astute at the identification and measurement of pricing implications.

53 As we noted in TFBA, rational contractors presented with a risk allocation such as that set out above will either hedge their pricing or they will refuse to bid. As the Australian data set indicates⁴², very often contractors who pick up tender documents simply walk away without bidding. The terms and conditions of the proposed tender agreement will also influence the bidding price. Some contractors will assess the risk of a given program of work much higher than others. The result is that instead of securing several competitive bids for carrying out the work, the owner ends up getting radically different quotes to carry out very different perceptions of the work described in the tender documents. Table E shows the range of bids received on three different GTHA construction contracts by one city in 2008.

Table E

Contract "1"		Contract "2"		Contract "3"	
Bidder	Bid Price	Bidder	Bid Price	Bidder	Bid Price
A1	\$57,262.50	B1	\$3,460.00	C1	\$3,210.00
A2	\$79,750.00	B2	\$21,300.00	C2	\$4,195.50
A3	\$139,750.00	B3	\$35,250.00	C3	\$102,850.00
A4	\$245,000.00	B4	\$162,500.00	C4	\$103,500.00
A5	\$255,000.00	B5	\$185,100.00	C5	\$137,500.00
A6	<u>\$272,500.00</u>	B6	<u>\$277,250.00</u>	C6	<u>\$176,650.00</u>
Average	\$174,877.08		\$114,143.33		\$87,984.25

Clearly, the contractors who bid for Table E’s contracts differed in their understanding of the contracts concerned and the risks associated with it. Bid ranges of this nature (in which the winning bid on one contract was only 3% of the average bid price, and only 1.25% of the highest bid) are not common. However, they underscore the price distortions that are likely to arise when the allocation of risk departs from the norm and is vaguely described.

54 It is, of course, possible that tender documents such as the tank removal contract discussed above, would be interpreted to mean that the contractors who bid for the that contract are required to exercise only reasonable diligence in determining what is required to perform the work. However, that is not what the contract says. In addition, the question is not how the wording of the document would be interpreted by a judge if the matter were to go to trial, hypothetically. At least in our experience, only rarely are business people prepared to assume a risk based on the many ways a judge might rule. The key issue is how risk allocation is reflected in bids. The above figures indicate that risk allocation results in very different pricing of contracts. The more uncertainty that is assigned to the contractors, the more varied the bids will be. And that is not in the commercial interest of the public sector owner, which is seeking to obtain realistic and competitive pricing for the work that it needs to have carried out.

55 There is no commercial justification in allocating the risk of unknown site conditions to the contractor. The property owner who wishes to have work completed should reasonably expect to be responsible for the costs of carrying out that work. It is the owner who benefits from having the improvement made to its property. In a world of perfect competition, in which all information relating to costs would be known, the price charged by a contractor would reflect the actual conditions of the site—not some guess as to their conditions.

56 The sole benefit of allocating risk to the contractor is that it may result in the owner obtaining a windfall benefit, if the contractor has under-assessed the risk with the contract or has under-allowed for that risk in its price.⁴³ The chance that the owner might obtain such a benefit is well recognized; it is known as the winner's curse.⁴⁴ To secure such a benefit, the tender must attract at least one inexperienced bidder, since new entrants into a market are the bidders most likely to overvalue the contracts for which they bid. While the precise response that is likely to result in response to the winner's curse varies somewhat with the conditions of the relevant market, the prevailing response may be quickly described. As one economist has astutely observed, businesspeople are neither blithering idiots nor hyper-rational automatons.⁴⁵ They are prepared to take chances, but do so following fairly predictable patterns. Over time, bidders become better able to work out a fair bid price. Where presented with conditions of uncertainty, they will factor their assessment of the risk that the uncertainty presents into their contracts. Experienced bidders, therefore, tend to bid conservatively. Usually, inexperienced bidders will avoid bidding in relation to markets that they have come to identify with risk. If the market consists only of sophisticated bidders (the inevitable situation where pre-qualification is used, or where there are high barriers to participation, such as significant prior experience criteria), the result of shifting risk to the bidders will normally be to force a high price.⁴⁶

57 If, through the inexperience of some bidders, an owner does manage to secure the benefit of an underpriced bid, that benefit is mixed. The risk of default or poor performance from the contractor who submits such a bid is clearly higher. Since Government projects are often time-sensitive, the risk of such default is usually a material consideration. This question aside, there is an important ethical reason for avoiding trying to take advantage of the winner's curse. It is whether any Government—which presumably is created and exists to work to the common benefit of all—should engage in sharp practice. Everyone is entitled to their own views on this question, but it is worth noting that when this question has come before the courts, they have consistently taken the view that the responsibility of a Government is to behave honourably.⁴⁷

58 Economic and psychological studies have concluded that people are generally risk averse. The tendency towards risk aversion means that people will chose a less risky option when given that alternative, and will try to shift risk to others when they are not.⁴⁸ The prevailing Government approach to risk allocation in the GTHA represents an effort to deal with risk. However, not all strategies for doing so are equally likely to achieve successful results, and in our view the prevailing pattern in GTHA public procurement these days is not numbered among those strategies that are most likely to succeed. One needs to consider the impact of the approach followed on the behaviour of the contractors who bid for the work concerned—particularly their pricing policies.

59 Only when a balanced consideration is undertaken is it possible to deal with the question of whether the apparent benefit offered by a particular contracting approach works against the Government's own long-term interest. In our view, the Government approach followed in the GTHA works consistently against the Government by:

- (a) Deterring competition for work;
- (b) Favouring poor quality suppliers;
- (c) Encouraging hedging in price; or
- (d) Encouraging sharp practice⁴⁹ and other forms of cheating by contractors or other suppliers.

60 Contractual provisions which prompt such a response are unrealistic. In most cases, it is in the Government's interest to structure its contract so that it bears at least some of the risk of unpredictable adverse cost fluctuations.⁵⁰ It is simply a mistaken assumption for Governments to assume that they can avoid the costs resulting from the risks associated with construction by merely transferring risk to the contractor. It is the net benefit resulting from risk transfer, taking into account all factors, that is the most relevant benchmark. It is something of an axiom in economics that there is no such thing as a free lunch.⁵¹ It is therefore somewhat surprising when one encounters the argument that not only is there a free lunch, but that there is actually a diner that serves such lunches all the time, and that Government purchasing departments are eating there every single day. Essentially, this is the argument that is made with respect to the transfer of risk.

61 This is the reason: in a sense, the risk allocation provisions of a contract are akin to a type of insurance. In a contract, the parties allocate risk, and the price adjusts to reflect that risk. Where a potential bidder concludes that price adjustment is not an adequate response to the assignment of risk, then that bidder will not pursue the contract. Unfortunately, the manner in which the parties may seek to assign risk by contract can itself create new risks. Among the most important is what is known as moral hazard, which is a phenomenon of the contracting process which has been extensively studied in the insurance field. Moral hazard is the tendency of a party who is insulated against a hazard under a contract to change his or her behaviour in a way so as to increase the risk (i.e. the probability) that the hazard will occur, by virtue of the protection that the contract affords. In other words, the existence of contractual protection distorts the behaviour of that party.⁵² It has long been accepted that excessive protection against risk leads to risk-taking behaviour and risk indifference.⁵³ Moral hazard reduces the protected individual's motive to prevent loss, which increases the costs of the contractual party providing the protection against the risk. Since costs obviously drive price, ultimately the prices that are charged within the relevant market ultimately increase due to moral hazard.⁵⁴ The prescription to reduce this cost-inflating factor is to structure a contract so that the insured party bears some measure of risk, and so is incentivized to take reasonable precautions against the hazard arising, and to constrain the damages that result should the hazard ultimately be encountered.⁵⁵

62 For this reason, most studies of risk have identified that it is normally advantageous for risk to be shared.⁵⁶ By parceling out risk, both parties have at least some role to play in identifying relevant facts that are material to the assessment, detection and avoidance of risk. They also have some incentive to avoid risk where possible, and to mitigate loss where it cannot be avoided. Risk sharing is now the norm in the private sector, and in alternative financing and procurement (AFP) contracting with Government.⁵⁷ It is difficult to fathom why these benefits are not applied in general Government contracting.

63 Certainly there has been enough written on this subject. For instance, in their article on public-private partnerships in Canada,⁵⁸ professors Aidan Vining and Anthony Boardman carried out a detailed study of ten AFP projects in Canada, chosen on the basis of the availability of public information, size, jurisdictional coverage and the ability of the project to teach lessons about this type of service provision. One of the assessment criteria was the extent to which risk transfer under AFP contracting results in a reduction of cost to the Government. Their conclusion on this point:

In infrastructure projects, it rarely makes sense to try to transfer large amounts of risk to the private sector.

64 The overall allocation of risk should include incentives for the contractor to seek cost economies, and to mitigate the damages resulting from risk. It follows that one of the key considerations in the development of an optimal package of contract documentation is to allocate risk between the parties to the contract in an efficient manner. In principle, effective risk allocation will improve project performance and result in greater financial control. More specifically, contractual allocation of risk sets investment incentives for each party and exploits differences in their respective risk-bearing capabilities. Contracts should allocate risk in order to exploit fully the comparative differences in the levels of risk-aversion of the contracting parties or their ability to manage, hedge or shift that risk.⁵⁹ The basic rules for achieving effective risk allocation are to allocate each risk:

First: to the party best able to avoid or mitigate the risk;

Second: where neither party possesses such an ability, to the party best able to absorb and spread the costs that are likely to arise should the risk arise (this factor takes into account which of the parties is the lowest cost insurer);

Third: where neither party is better placed to absorb or spread the risk, to the party whose risk tolerance is otherwise high.⁶⁰

The three goals of this process are to⁶¹ minimize the chance of an adverse event occurring, minimize the extent of a loss resulting from non-performance of the contract, and spread such loss as may occur.

65 Certainly there are risks that are better managed by the contractor. Since risk avoidance and loss mitigation offer one means of reducing the costs of construction (and therefore the price), it is these kinds of cost which should be borne by the contractor. In most cases, there are risks over which each party enjoys a degree of control (either in the way of being able to take steps to avoid the likelihood of the relevant hazard actually occurring, or to mitigate any loss that may flow should it be encountered). In such cases, the risk should be pooled, so that each party is obliged to take appropriate risk or loss avoidance measures. However, simply assigning risk does not in itself eliminate or reduce risk. Where the risk is transferred to a contractor who is no better able to manage the risk or loss than the owner, then the contractor's price will reflect fully the anticipated costs relating to that risk. Moreover, since contractors are not insurance companies, the likelihood is that they will build a substantial premium to the contract price to cover any cost that they may have to absorb in association with the risk—and this is especially likely to be the case where the risk that is transferred is one over which the Government has a substantial measure of control.

(c) Termination for Convenience

66 Another specific contract practice identified as a matter of concern to the Ontario construction industry in TFBA is the inclusion of termination for convenience provisions in public sector construction contracts. We were also asked to provide more detailed discussion with respect to how such provisions work in the GTHA Government/BPS contracting context. The following provision is taken from the current standard form construction documents of one of the largest public sector entities in the GTHA.

(1) Notwithstanding any other provisions relating to the Owner's rights to terminate this Contract, the Owner may, by written notice to the Contractor, terminate this Contract for its own convenience at any time if the Owner deems such action necessary or in the best interests of the Owner. The Owner's right to terminate the Contract for its convenience shall be absolute and unconditional and exercisable by the Owner in its sole discretion. Such notice of termination for convenience shall specify the date upon which such termination becomes effective. Upon receipt of such notice, the Contractor shall cease all operations, except as may be directed by the Owner's Representative to complete any unfinished portion of the Work, and except as may be deemed necessary by the Owner's Representative in the interests of the safety of the Work and the public.

(2) The Contractor, upon receiving such notice of termination from the Owner, shall immediately carry out any instructions given and shall proceed with such work as instructed by the Owner's Representative in the notice of termination. Subject to any directions in the notice of termination, the Contractor shall immediately discontinue ordering Products and issuing Subcontracts related to the cancelled Work and shall make every reasonable effort to cancel existing orders and Subcontracts related to the Work, on the best terms available.

67 Provisions of this kind are quite common in public sector contracts. Nevertheless, such provisions present an obvious risk to the contractor. When entering into a construction contract, the contractor commits to carry out the work unless released from so doing by default of the owner or by the occurrence of a *force majeure* event. Subcontractors are hired, staff members are retained, equipment is rented, materials and other building inputs are ordered. Public sector owners, on the other hand, want the right to walk away for their own convenience. This particular contract, like many public sector contracts, does not fully define compensation payable in such an event. For many contractors, entering into a contract on such a basis is unacceptable. It allows the owner too much latitude to walk away on payment of limited or no compensation.⁶²

68 Unilateral rights to vary the terms of a long-term contract are not necessarily inimical to an effective supply arrangement. However, none of the factors which are normally associated with such a practice (such as the absence of any relationship-specific investment,⁶³ or the need for procurement planning and risk hedging⁶⁴) are present in relation to Government construction contracting. In commerce, contracting parties seek to negotiate only complete, rigid contracts in order to avoid renegotiation. Flexibility is normally allowed only to permit the parties to adapt their contractual framework to unanticipated contingencies.⁶⁵ Even then, the flexibility allowed will be conditional upon conformity with incentives for loss mitigation and other cooperative behaviour.⁶⁶ Moreover, where the unique features of a particular transaction militate in favour of their employment, such provisions must be drafted on a basis which is well suited to the requirements of the transaction.⁶⁷

(d) Non-Exclusive Contracts

69 Another objectionable type of contractual provision which presents particular concern are those provisions which permit the public sector owner to award a contract for the same work to another contractor. The following provision is taken from a Southern Ontario RFP relating to the removal of contaminated soil from a specifically designated location (emphasis added):

The [owner] makes no guarantee of the value or volume of work to be assigned to the successful proponent. The Agreement executed with the successful proponent will not be an exclusive contract for the provision of the described Deliverables. *The [owner] may contract with others for the same or similar Deliverables to those described in this RFP or may obtain the same or similar Deliverables internally.*

It has been argued that provisions of this kind are necessary because public sector entities are often decentralized bodies with several departments having purchasing authority. We have difficulty following the logic of this argument in relation to construction contracting. Although there may be a need to permit a municipality, for instance, to contract for the supply of general goods and services, that need cannot have application in relation to the usual construction contract which relates to the performance of a specific work assignment. Here, there cannot possibly have been a chance of another contract being issued by some other department for work of a similar kind at the same location. Either the owner in this case was intending to enter

into a binding contract with a service provider for the removal of the soil, or it was not. An owner cannot have it both ways. Further, even in the general goods and services line, a right to contract with another supplier for the “same” deliverables is an outright negation of the notion of a contract as a firm order.

70 Provisions of this kind deter good contractors from bidding for work, because they offer no assurance that the contract will be performed by the public sector owner. Those contractors who bid for the work will likely factor a substantial hedge into their prices. Is the flexibility that provisions of this nature worth their cost? A critical question to ask is how often public sector entities make use of such provisions. If the impact of such a provision is a 1% addition to the overall price of the contract, then the provision would impose a net cost if it was invoked by the Government concerned in less than 1% of all construction contracts. Yet often, in negotiation with Government representatives, it is argued that Governments almost never rely on such provisions. If this is so, then it is difficult to see how the costs that they lead to are justified.

(e) Extended Warranty Coverage

71 We have also been asked to elaborate regarding why efforts by public sector owners to secure extended warranty coverage tend to undermine cost effective contracting. The basic answer to this question is that such additional protection costs more money than it is likely to save. The reasons stem from the manner in which warranty coverage is priced.

72 Generally, the manufacturers of equipment installed as part of a building offer a warranty of approximately one year (longer manufacturer warranty periods usually apply with respect to HVAC equipment). However, many GTHA public sector construction contracts seek to obtain a warranty from the builder of two years, and for a few, even this is not long enough. The following is taken from the general conditions employed by one GTHA entity:

The Contractor shall promptly correct at its own expense any defect or deficiency in the workmanship or material which appears within a period of two (2) years from the date of issuance of the Certificate of Substantial Performance of the Contract or such longer period as may be specified for certain Products or Work. Corrected workmanship or material shall be further warranted by the Contractor for a period of two (2) years, or such longer period as may be specified for certain Products or Work, from the date the defect or deficiency is last corrected. Neither testing, inspection, payment nor acceptance of the Work by the [owner] shall relieve the Contractor of this responsibility.

It will be noted that under this provision, each time a replacement is made, the warranty period begins afresh. Such an approach is commercially unsound. If the owner contracted the installation of a widget that was supposed to last for two years, it is not entitled to nearly another two years of warranty coverage if the widget needs to be replaced within a week or two of the expiry of that two-year period. The owner has only paid for two years of warranty coverage (or whatever the term may be). No additional amount is paid for warranty coverage in relation to the replacement part.

73 In principle, construction contracts can reduce the long-term cost of a facility by incentivizing the contractor to deliver a high-standard design and comprehensive construction solution which will reduce operating costs, including such costs as life-cycle replacement.⁶⁸ However, in order to achieve actual savings, it is in general necessary for the contractor to be involved in the design of the facility in question. Control over design allows the contractor to incorporate long-term cost-saving measures into the building. Nevertheless, even where the contractor is given design control (as, for instance, in design-build contracts) the actual cost reduction will depend on a range of other factors, including whether the owner of the building has a sufficient incentive (in the contractor's assessment) to take appropriate risk avoidance measures.

74 The scope of warranty coverage is an obvious concern to any customer, since it is difficult for customers to factor into their contractual decision making the service costs associated with a given purchase. This is particularly true in relation to new technologies, where there may be little information available concerning long-term reliability. However, while the desire of a customer for longer-term coverage is natural, that desire must be balanced against the pricing implications relating to obtaining each successive level of warranty coverage. In order for a supplier to provide a warranty, the supplier must be able to determine the risk associated with the warranty, and then make proper provision within the contract in respect of that risk. Estimation of such costs for these warranties is complex because it is often difficult to identify performance conditions under which items will be used. In addition there are uncertainties associated with usage, preventive maintenance and servicing.⁶⁹ The longer the term of the warranty, and the more customer-specific the conditions of usage are likely to be, the harder it becomes to work out the actual cost to the supplier of providing warranty protection. This is particularly true where (a) the supplier is not the manufacturer or other originator of the product, and (b) the volume of business conducted by the supplier concerned in relation to the particular product in question is limited.

75 There is no debate that the immediate problem of construction defects can be alleviated by imposing a longer defect warranty period.⁷⁰ However, it does not follow from this general observation that it is cost effective to impose extraordinary long warranty periods that exceed the general level of coverage available within a market in relation to building components.

76 Contractors are not manufacturers. Where equipment is incorporated into a building, the warranty must be provided by the manufacturer. All goods will fail over a long enough period of time. Generally, manufacturers identify the amount of warranty coverage they are prepared to provide. Any customer seeking additional coverage must be prepared to pay for it. When a manufacturer offers a warranty of any kind, the price charged for it (whether it is built into the original purchase cost or added as a separate charge) will reflect prevailing patterns of customer usage, the manufacturer's (or industry's) life-cycle estimate based upon experience with similar products, the proven operational reliability of component parts incorporated into the item, the manufacturer's own build quality, and a good deal of other information that is known only to the manufacturer. Much of this information is unknowable by the contractor. For this reason, it is difficult for the contractor to assess the risks to which it is exposed. Since a contractor who

gives a warranty must price that warranty into the contract, there is natural tendency towards including a substantial hedge in the price.

77 Thus far, we have implicitly assumed that extended warranty coverage is cost-effective. Is this is so?

78 There is a good deal of literature on the subject of extended warranty coverage, and for the most part it indicates that such coverage is rarely a good buy. Extended warranty coverage began to catch on in the consumer market during the mid-1980s, when many manufacturers and retailers discovered that differences in the scope of warranty coverage were a factor that consumers would take into account in making purchase decisions.⁷¹ Since then, extended warranties have become increasingly popular with consumers, as both retailers and manufacturers responded by offering such protection. With manufacturers, the response has been primarily to increase the term of basic warranty coverage, although some manufacturers (e.g. Apple, with its Apple Care program) also offer true extended coverage at the end of the basic warranty period which is priced as a separate service at an additional cost. Most large retailers now offer their own extended coverage, sometimes in competition against the extended coverage options offered by the manufacturer. Whether provided by manufacturers, retailers, or third-party insurance companies, numerous studies indicate that consumers seem to view extended warranties as a way of reducing perceived risk.⁷² Manufacturers and retailers reveal that the availability of extended warranties both generates revenue and attracts customers, as the availability of such warranties is seen as a value adding service to customers.⁷³

79 Coverage of this kind is far from costless.⁷⁴ Extended warranties are known to offer high profit margins, and there is good reason to believe that in many cases consumers do not fully understand the extent or the limits of the coverage that they are buying⁷⁵—although obviously the circumstances of each consumer are unique and the determination of the net benefit of extended warranty coverage requires a consideration of the specific circumstances of each transaction. High profit margins for suppliers rarely equate to a good deal for consumers. One has to ask—since extended warranty coverage tends to be overly expensive in the consumer setting, are there factors present in the market for public sector construction that would make such coverage a good deal there? As we will now explain, we believe that the circumstances of government contracting make it likely that extended warranty coverage will be even less cost effective in that setting.

80 Without digressing into a complex discussion, in working out the pricing for warranty coverage it is necessary to identify the expected average cost of providing such coverage, and then to determine the appropriate expected discounted cost.⁷⁶ Whoever offers the extended coverage must estimate the additional risk that the extended period of warranty coverage presents, and work out a suitable price to charge to consumers to secure that coverage. Since the risk of product failure tends to increase as a product ages (failure being a function of product life duration), the increase in the cost of warranty coverage does not follow a linear progression. In other words, longer-term coverage is disproportionately costly.

81 There is not much detailed study of the cost of extended coverage secured outside the consumer realm. For this reason, it is necessary to adapt what is known to the market for Government construction contracts. We can see no aspect of Government procurement which would make it less risky to a supplier to offer a Government customer extended warranty coverage than to offer such coverage to any other customer. However, there are obvious reasons why it would be more costly for the supplier to offer a Government customer such coverage. The first is that Governments are atypical customers whose usage requirements tend to be above the normal range. The second is that it is impossible to spread risk among Government entities in construction contracting. In consumer contracts, there are millions of consumers who buy. Governments and other public sector entities are comparatively few in number and each construction project is unique.

82 It is an elementary proposition that the longer and wider the scope of warranty coverage, the greater the risk to the supplier.⁷⁷ Lifetime, or evergreen, warranty coverage is particularly problematic. Coverage of this kind is sometimes made available in the consumer market, but even there it is usually limited to goods which by their nature have a long-term durable quality, and involve no moving parts or electrical equipment. Lifetime coverage is rarely encountered in the commercial market. Quite possibly, the presence of lifetime consumer warranties is predicated on the assumption that few consumers have good record keeping practices, so that after a certain period of time it can reasonably be assumed that few consumers would be in a position to prove that they are the original purchasers of the goods concerned. Doubtless, few suppliers would be prepared to make a similar assumption with respect to non-consumer customers.

83 One of the critical influences on the pricing of extended warranties is the problem of adverse selection. The people who purchase such coverage are the people whose pattern of robust usage is most likely to give rise to a need for such coverage. Intense users place greater demands than other users on repair services during the period covered by the manufacturer's basic warranty. An extended warranty with a price exceeding expected cost permits the recovery of the extra costs of servicing more intense users.⁷⁸ Since intense users cannot normally be identified by a retailer or manufacturer, the costs associated with providing coverage to such users must inevitably be factored into the general pricing of extended warranty coverage. This fact in itself is sufficient to make extended warranty coverage a poor choice for consumers whose patterns are light, or who come close to the norm.

84 Contracting for longer-term warranty coverage in relation to public sector construction must be viewed in the same light. Building contractors do not manufacture the equipment or building components that they incorporate into their buildings. Very often, it is owners who specify the equipment and components that must be used. Nevertheless, Governments still seek extended warranty coverage. Since the parts and equipment required for one project will likely differ widely from those required for another, there is little opportunity to spread the cost of providing warranty coverage, as there is when one buys from a retailer.

85 Taking all of these factors into account, extended warranty coverage costs the Government more. Most builders are prepared to provide such coverage, but they do so simply by purchasing back-up units, which are held in reserve until required. Similar duplicate purchases are made for all parts that are subject to warranty that would not be within the day-to-day normal inventory of the contractor concerned. This is obviously very costly. Except in the sense that the repair can usually be carried out expeditiously, the public sector owner does not benefit much in most cases. The price of the replacement part is built into the contract price, and the labour cost of installing the part will also be built into the price. Contractors have an obvious incentive to assume that public sector entities requiring such coverage are likely to be heavy users, and that therefore the risk of a claim under the warranty is high. Since many public sector facilities are open to the public, there is good reason to believe that claims are likely.

86 As with one-sided risk transfer, extended warranty provisions represent a misguided attempt to try to get something for nothing. In some cases, people can do so by cheating the system.⁷⁹ However, they are unlikely to find many contractors that are prepared to provide goods or services at no cost, and they are even more unlikely to find contractors prepared to enter into a contract to do so. As we have mentioned, it is a basic principle of economics that there is no such thing as a free lunch.⁸⁰ There are no free warranties, either.

87 A final factor that must be taken into account in deciding upon whether to purchase warranty coverage is whether it is possible to conform to the requirements of the warranty concerned. Most warranties are voided where the items concerned are opened by anyone other than an authorized service technician. In addition, the modification of an item will usually void a warranty.⁸¹ Since most Governments have in-house staff, or service contractors, who may carry out routine work that will interfere with an item covered by a warranty in some prohibited way, there is a higher risk of a Government-customer voiding its warranty coverage than is the case with consumer customers. Where this occurs, the benefit of the warranty is completely negated, and the money invested in the warranty is essentially thrown away.

(f) The Use of Non-Standard Documentation

88 Another factor which increases the cost of Government and BPS construction is the persistence of many such entities in the use of non-standard documentation. This practice stems from the Government/BPS approach to risk transfer and grows out of the practice of trying to bulletproof tender and contract documents. Such documentation not only varies from the usually industry precedents, but also varies from the documentation employed by other similarly situated Government and BPS entities. In this section of the Report, we will discuss the adverse pricing consequences of this approach.

(i) Generally

89 As we discussed in TFBA, Governments in the GTHA region show a very strong preference for using their own construction documents, rather than industry standard forms such as those prepared by the Canadian Construction Documents Committee (CCDC). A number of explanations are advanced in support of this practice. Perhaps the two most important arguments advanced in justification are claims that

- Governments are unique customers with unique needs and therefore need to use special purpose contract documents;
- Industry standard documentation is biased against owners, and Governments have a duty to act in the public interest to ensure that their contracts provide fair protection to the taxpayer.

There is no doubt a certain truth to the statement that Governments are in some respects unique from non-Government owners (e.g. in relation to the budget approval process, and in terms of the diversity of Government interests). However, it is easily possible to over-stress these differences. Without exception, private sector owners are interested in purchasing construction services at a reasonable cost, in having their construction work carried out well, and delivered on time. In what way are these expectations distinct from those of Government? Further, even if one accepts that Government differs significantly as a customer from a private sector owner, it is far from clear that Town A differs significantly from Town B—yet most municipalities tend to employ their own construction contracts, and all are fairly sure that they—and only they—have got it right.

90 However, for the sake of argument, let us assume that Governments are each sufficiently unique from each other that there is at least some justification for each of them employing its own contracting form. In addition—while we will deal with the question of whether the standard form documents approved by such organizations as the CCDC are in fact biased—for the moment, we will accept this proposition as correct. Let us now turn to the question of the pricing impact of employing a unique form of contract.

91 At one time, it was assumed that all standard form contracts resulted from market power, and that accordingly all such contracts were unfair to the weaker contracting party (in most cases, the customer).⁸² It is now understood that there is little relationship between market power and the use of standard form contracts. Instead, firms in both concentrated and un-concentrated markets, and firms having both high and low market shares, offer similar terms to consumers.⁸³ The reason that markets tend toward standardization of contract terms is that by doing so, contractors and other suppliers are able to focus competition on the one basic aspect of the transaction that is most readily understood—specifically, the price.

92 This is why this option is desirable. Take, for instance, two contracts, one of which offers widgets at \$1.50 a piece with a 90-day warranty, while the other offers widgets at \$2.50 but with a one-year warranty. All other aspects of the transaction are equal. Which is the best deal? A moment's reflection is sufficient to make clear the difficulties that a consumer would have in comparing two such offers—particularly if the consumer has little experience with the type of product concerned. On the other hand, if both widgets had a one-year warranty, and one was priced at \$2.50 and the other at \$2.75, it is fairly clear which offers the better deal. The same is true if both suppliers offer a warranty of 90 days. In such a case, if the consumer is given the price of one at \$1.50 and the other at \$1.45, it is clear that the second is the better deal. What is true with respect to warranty coverage is true in relation to all other soft (i.e. non-price) aspects of a sale contract. Variation of contract terms complicates the process of price competition.

93 The anti-competitive effects of bespoke Government contracting, however, do not end there. They also result in price escalation. If Town A has its own contract, and it differs in wording from the industry standard, the logical assumption is that Town A is seeking to obtain some beneficial treatment that is not offered under the industry standard language. The problem from the contractor's point of view is to place a value on the additional rights that Town A will obtain under its special purpose contract. It is fairly obvious that the minimum Town A can expect to pay under its own contract language is the price that was charged under the industry standard form. Let this cost = w . Let us assume for the moment that it is possible for the contractor to determine the probability adjusted value of the additional risk that is assumed under the Town A form. Let this cost = x . In such a situation, the best position that Town A can expect to get to is the point where the bid price is $w + x$. However, in such a situation, it is no better off than it would have been if it had bought the item in question under the standard form industry contract.

94 The extra costs that Town A will have to pay do not end there. It takes time to read and analyze a special purpose contract. That cost will have to be factored into the contractor's bid price as well. Let this cost = y . The special purpose contract also increases uncertainty. How does the contractor know that his understanding of the special purpose contract is correct? It can get a legal opinion, but that costs money and a legal opinion may be right or wrong. The contractor must therefore factor the uncertainty as to whether the opinion is right into

the contract price. Let this cost = z. The reality is that it is not possible to carry out an exact calculation of the amount to allow for risk. Most likely, the contractor will incorporate an allowance above what it estimates the cost of the risk to be, just to be on the safe side. Thus, the very strong probability is that Town A will be much worse off than it would have been if it had gone with the standard form. Instead of paying just w, it ends up paying:

$$w + x + y + z$$

95 It is an axiomatic proposition that in contracting, asymmetric information will undermine the attainment of the optimal price. This is as true in tender or auction-based contracting as it is true in relation to negotiated contracts.⁸⁴ For this reason, in general anything which contributes to informational disparity tends to work against the interest of whichever party believes that a tender or auction will improve its contractual result. In the construction tender context, the information asymmetry works to the prejudice of the contractors bidding for the contract. The owner will necessarily understand its own contract better than the contractors who bid for the work. Therefore, it can reasonably be expected that the contractors will overcompensate in their bid prices, for the risk that they perceive to be associated with the contract.

(ii) The Fairness of CCDC2-2008

96 Let us now run to the question of whether industry standard form documents, such as CCDC2-2008 (the stipulated sum construction contract used throughout Canada) is in fact unfair to owner interests. CCDC2-2008 was prepared by a committee which comprised representatives of the Canadian Construction Documents Committee as well as the Canadian Construction Association (CCA), the Association of Consulting Engineers of Canada, the Royal Architectural Institute of Canada (RAIC) and Construction Specifications Canada.⁸⁵ The practice of the CCDC is to work on a consensus basis, and the owner representatives endorsed CCDC2-2008. This consensus approach is reflected in the extent to which owners have adopted this form of contract. CCDC2-2008 is the single most utilized standard contract form in the Canadian construction industry, and is used by public contracting authorities across Canada, including Public Works Canada, Provincial Governments⁸⁶ and their agencies, municipal Governments⁸⁷ and private sector owners and developers, as well as dozens of universities, colleges, and hospitals. In Ontario, it has also been endorsed by the Ontario Ministry of Health and Long Term Care.⁸⁸ Relevant professional organizations have also approved its use:

The Ontario Association of Architects (OAA) supports and endorses the concept of standard industry documents as produced by CCDC and provides input through a representative acting on behalf of the Royal Architectural Institute of Canada (RAIC) who is a CCDC organization member.⁸⁹

Therefore, the suggestion that some respondents have made that owners do not support the use of CCDC2-2008 is essentially without foundation. A minority of owners may not do so, but they are out of step with the rest of the market.

97 What is clear beyond doubt is that standard contract form contracts facilitate competitive pricing. Standardization simplifies the assessment of risk. The rights and responsibilities of the parties under a standard form contract are more readily identifiable, because such contracts are more frequently discussed in court decisions, and because the market soon settles on an accepted meaning for each clause within the contract.

98 In contrast, major problems can arise in any contractual relationship through the use of ambiguous or conflicting contract documents. Contracts from different projects are often merged without a thorough review, resulting in provisions from one part of the contract conflicting with provisions in another part. Even when new contract documents are written, considerable effort is necessary to ensure that they are complete and consistent, and critical matters are not overlooked. Using standard documents is a well-recognized method to avoid these problems. Documents that are drafted after extensive consultation with all affected interests are more likely to reflect a proper balance of risks and competing interests than those that are produced solely by one party. Moreover, such documents are more likely to be well-designed and drafted, since these documents are subjected to thorough peer review. For these reasons, there is a strong tendency within the private sector towards conformity to industry standard documents.⁹⁰

99 Tailor-made Government contracts lack all of these attractions. As specially drafted documents often give rise to risk of an uncertain magnitude, they can face significant contractor/supplier resistance. The more that a contract departs from the industry norm, the greater that resistance is likely to be. Thus, on a number of GTHA Government contracts, bidders have insisted on the use of CCDC2, or a variant thereof. For instance, all three of the bids received in relation to one tender for the construction of a mass transit Operations and Maintenance Facility included the following statement:

Our bid is subject to the use of the standard CCDC2 document with a minimal number of changes and resolution of such clauses within the bid documents as required, to be agreed between the Owner, Ontario General Contractors Association and the successful bidder.

As a result, the municipality was forced to proceed with the use of this contract form.

100 CCDC2 was drafted to serve as a generic document. As such, the terms it contains may need to be modified to suit the specific requirements or unique circumstances of a particular contract. In such a case, the best approach (from a transaction cost management perspective) is to qualify the specific provisions concerned by adopting some supplemental condition. It is worth noting CCDC2 itself specifically contemplates the use of such qualifying language. The advantage of such an approach is that by focusing the attention of the parties on the particular clause that requires modification, it is much more readily possible to factor the effect of that modification into the bid price than would be the case if the entire contract was rewritten from top to bottom. However, by following this approach, the final bid price is likely to be much lower than if the Government or BPS entity insisted in using its own unique document. Such modifications have, in fact, been carried out on a number of occasions.⁹¹

4.0 Number of Bids

(a) How Many Bids Are Sufficient?

101 A number of municipalities have recently published data to support their claim that their tenders are competitive because they attract, on average, five or six bids. On this basis they claim that current tender practices are attracting sufficient competition. This claim apparently is based upon a misreading of TFBA, in which it has been assumed that four bids or more represents sufficient competition to assure the optimal price. There is no “optimal number” or “sufficient number” of bids that will ensure a competitive price. As we will discuss below, a low number of bidders invites bid rigging, and (even in the absence of actual rigging) discourages aggressive bidding on the part of prospective contractors. However, where bidders must invest heavily when preparing or submitting a bid (as is often the case, for instance, when competing for a design-build or similar contract through an RFP), many contractors may be unwilling to participate if there are more than five or six bidders, since a higher number of bids makes the chance of a bidder winning very low.

102 For the sake of argument, we have accepted that the *average* number of bids received in reply to a request for tender for a Government/BPS construction contract is around five or six. Does this mean that there is no problem with competition? We would suggest not.

103 It is true that studies show that where there are fewer than four bids, prices will be higher than the prevailing market price.⁹² However, it does not necessarily follow that where there are four or more bids, that the prices will approximate the market price. Nor does it follow that where there are many bids, prices will beat the market price.⁹³ There are many other factors to consider. In any event, it is not difficult to identify specific examples of GTHA construction contracts which have not attracted four bids. To cite a handful of examples taken from official reports filed with the councils concerned:

- A November, 2009 RFP to Design/Build/Operate New Source Separated Organic Material Processing Facility at one GTHA municipality failed to identify a successful proponent with a cost of services proposal within the approved capital budget.
- At another area municipality, a January 2009 water treatment plant construction contract received only two bids.
- Another contract for the construction of an Operations and Maintenance Facility attracted only three bids, and each of them was subject to conditions.
- In July 2009, another Southern Ontario city received only one bid in relation to a contract for the surface treatment of various roads.
- In September 2009, in a tender to identify a roster of five companies to carry out watermain, sanitary and storm sewer work, one GTHA municipality received only six bids, one of which was informal and disqualified, and two others of which were rejected as being over budget.

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- In February 2010, another GTHA city received only one bid (over budget) for the rehabilitation of a berm. The tender was cancelled.
 - In June 2010, another GTHA municipality received only one bid for construction work on the second phase of a park development, and it came in at \$556,282 over budget.
 - Also in June 2010, a Southern Ontario municipality received only a single bid in response to a tender for the refurbishment of a major municipal road.
 - Yet again in June 2010, another Southern Ontario GTHA township received only three bids for the construction of a septic system at a recreational facility, and only one bid for the construction of the water system for that same facility.

Clearly, the prospect of a Government or BPS entity receiving only one or two bids (or no bids at all) in response to a tender or RFP is hardly unusual in the GTHA area. In this section of the Report, we will discuss how the number of bids influences the ultimate price of the contract.

104 Even if a Government/BPS entity averages five or six bids on its tenders and RFPs, there may still be serious problems with the overall level of competition for such work. First, the number of bids received cannot necessarily be equated with the number of bidders participating in any tender competition. It is the actual number of truly distinct bidding participants which is relevant to securing optimal pricing. Studies have determined that joint bidding is an extremely common occurrence in certain types of tender,⁹⁴ and the possibility of such a problem can be even greater where an RFP is employed. Overlapping bidding can undermine the apparent competitiveness of a tender. For instance, different bids might be submitted by A and B. However, B and A might each be subcontractors in relation to each other's bid. In such a case, A and B quite likely are not really submitting bids in competition with each other. They may be configuring the same bid in two different ways in order to hedge their risk with respect to the manner in which the proposals will be scored by the owner's evaluation team. This is especially likely where the contract is awarded by RFP (as all design-build contracts are likely to be, as are all contracts derived from the design-build approach). In such a case, one of the confederates will likely submit a high-end bid, the other a low-end bid, allowing them to cover the prospect that the owner may need to scale back the project as originally conceived in order to fit within a budget.

105 It should be noted that an average of five or six bids per construction contract is low by international standards. For instance, in one 2008 study of 211 tenders relating to 69 infrastructure projects in 29 countries, the average number of bids per contract was 23.6.⁹⁵ In comparison to that average, the claimed average of five to six bids per construction contract is not especially good evidence of strong competition. According to another study, during the years 1980 to 1990 the Architectural Services Department of the Hong Kong Government received a total of 2,531 bids from 193 bidders for 199 contracts let, receiving an average of nearly 13 bids for each contract. Obviously Hong Kong has a dynamic and robust economy,

and the period of this study was marked by rapid expansion of that colony's economy. Consequently, competition for contractors among owners at that point would have been high, and the number of bids received should therefore be expected to be low.⁹⁶ Nevertheless, over this period Hong Kong was receiving on average more than twice the number of bids per contract that certain Ontario municipalities claim they are receiving.

106 Depending upon the nature of the competition, there may be very good reasons for wishing to keep the number of bids significantly below 23 or even 13.⁹⁷ For instance:

- If the contract is being awarded under an RFP which entails a complex submission and an equally complex evaluative process, it might be difficult to keep track of more than six bids;
- For large-scale projects requiring a high level of specialized technical expertise, there may only be a few firms that are qualified to bid;
- Where a contract is awarded via RFP involving a significant amount of pre-submission work on the part of the bidders, an argument can be made for constraining the number of bids to five or six (if this is not done, some bidders may be deterred from bidding because the cost of submitting a bid is disproportionate to the chance of winning the contract).

107 Averages are not very helpful in answering the question of whether tenders are sufficiently competitive. For any given Governmental organization, some tenders or RFPs will attract a number of bidders. Others will attract only one or two, and on some occasions may not attract any. In order to decide how effectively current practices are working, it is also necessary to consider the dispersal of the number of bids, rather than just the average number of bids. Construction tenders are of different kinds. Some are not directed to a specific contract, but rather are intended to identify a roster of qualified contractors who can then be approached to bid for specific work assignments.

108 Generally, tenders which seek to identify a roster of prospective contractors (usually to carry out routine construction work, e.g. general plumbing, general painting services) attract significantly more bidders than contracts to carry out specific projects, because there are more small contractors who are capable of bidding for such work. In addition, very often the purpose of such a solicitation is to identify a roster (i.e. several) of qualified contractors, who can then be approached from time to time to obtain quotes for carrying out specific assignments. Since there is more than one winner in such a competition, there is a greater incentive to compete. As all construction contracts offered by a given Government entity do not attract a uniform number of bids, averages can provide a distorted picture of the overall competitiveness of the bidding process.

109 For instance, at one GTHA municipality, its transaction reports as filed with the City Council indicate that it received the following bids in relation to such tenders between 2007 and 2009 (the purchasing by-law at that municipality requires the disclosure of this information to Council):

Table F

	Date	Number of Tender Documents Picked-up	Number of Bids
Graffiti Removal	March-07	17	3
Plumbing	August-08	19	6
Painting	August-08	13	5
Graffiti Removal	October-08	21	9
Topsoil supply	April-09	9	8
Ground maintenance and general landscaping	April-09	46	19
Sod	April-09	5	2
Small Electric Repair	August-09	7	7
Elevator Maintenance	September-09	4	2
Average		15.67	6.78

While this type of data is highly informative, unfortunately most municipal administrations do not publish information of this kind unless their procurement by-laws specifically require them to do so.

110 What Table F does make clear is that even though the municipality in question averaged 6.78 bids, on one-third of these contracts it received very few bids. Further, it received more bids for the ground maintenance and repair contract than it did in total for the five contracts that attracted the fewest bids. On only two contracts did it manage to attract bids from more than half of the contractors who picked up the tender documents. Table F makes clear the need to consider not only the average number of bids received, but also the dispersal of those bids.

111 Consider for instance, town municipalities (A, B and C), each of which issued 20 tenders or RFPs over the course of a year for the following types of construction services. For the moment, we will ignore C. For A and B, the average number of bids was 4.25 per tender/RFP. Each, however, received a very different spread of the number of bids. For instance, in the case of Town A for 13 of the 20 bids of the contracts that it offered, fewer than four bids were actually received.⁹⁸ Town B, in contrast, got four or more bids in all but three of its tenders and RFPs. As Table G makes clear, the average number of bids proves nothing.

Table G

	Town A	Town B	Town C
Waste treatment plant	0	2	0
New bridge	1	3	1
Cured in place sewer relining	1	3	1
New office building	2	4	1
New recreational centre	2	4	1
New ice rink	2	4	1
Design contract for transportation centre	2	4	2
New library	2	4	2
Refurbish old office building	3	4	3
Watermain replacement	3	4	3
Asbestos removal	3	4	3
New roof fire station	3	5	3
Sidewalk repair	3	5	5
Curb cutting services	4	5	7
Emergency paving work	5	5	9
General locksmith services	6	5	9
General painting	9	5	11
General carpentry	10	5	13
General plumbing	11	5	15
General electrical	13	5	17
Average	4.25	4.25	5.35

Therefore, it is necessary to consider the dispersal or distribution of the data. Usually, when dealing with tables of statistics, most of the observed results will cluster close to the average (or mean). Only a few examples tend to one extreme or the other.

112 In order to consider the implications of the distribution of data, it is necessary to use measures other than the average of the data sample. The most commonly employed measure of dispersal is known as the standard deviation. It is used to describe how tightly all the various examples are clustered around the mean in the data set. When the examples are pretty tightly bunched together and the bell-shaped curve is steep, the standard deviation is small. When the examples are spread apart there will be a relatively large standard deviation.

113 Computing the value of a standard deviation is complicated.⁹⁹ However, it is important for our purposes here only to understand the implications of the standard deviation rather than the precise means of calculating it. In a normal distribution of data (which, when presented graphically will trace out what is known as a bell curve), approximately 68% of results will fall within plus or minus one standard deviation of the statistical average. This means that if the standard deviation of a data set is two, for example, the majority of data in the set will be within plus or minus two standard deviations of the average. In such a case, roughly 95.5% of normally distributed data will be within two standard deviations of the mean, and over 99% will be within three.

114 However, the bids received by Town A do not trace out a bell curve. In our experience, this situation is quite common for construction contracts. The condition is irreparable, due to the different technical requirements which bidders must satisfy to bid for contracts of different kinds. Some construction contracts are very specialized (which means that only a few bidders can qualify to bid), while others will involve the kind of general work that any small contractor could probably carry out.

115 The implications of this situation may be simply stated. The average number of bids received is an incomplete and often misleading indicator of the competitiveness of a tender. The critical question is the standard deviation. In the above examples, Town A has a standard deviation of approximately 3.65. Town B has a standard deviation of 0.85. The higher the standard deviation, the wider the dispersal of the data. By implication, the higher the standard deviation, the more misleading the average number of bids is as an indicator of overall competitiveness.

116 We will now look at Town C. It has the highest average number of bids (at 5.35). However, it also has the highest standard deviation (at 5.21). And on only 8 of the 20 tenders that Town C conducted, did it receive four or more bids. For the GTHA municipality which was referred to above, its standard deviation for the tenders included in the sample was 5.24.

(b) Why Reducing the Number of Bids is a Serious Concern

117 As we noted in TFBA, there is a considerable amount of theoretical literature in the field of economics dealing with the association between the number of bidders and the expected price at an auction or tender.¹⁰⁰ Indeed, it seems a fairly elementary proposition that a higher turnout will lead to what is (from the buyer's perspective) a positive tender outcome. Conversely, the lower the number of bidders, the poorer the tender is likely to be in tapping into each bidder's valuation or reserve price. All other factors being equal, a low number of bidders is symptomatic, and such a market is unlikely to attract the best price.

118 For these reasons, as a general rule,¹⁰¹ a party conducting tender is well advised to structure it to attract the maximum number of bidders, not just four. The price secured through the tender process is optimized for the following reasons. First, as the number of bidders increases, each participant in the process has an incentive to offer a better price, because it becomes harder for the bidders participating in the process to anticipate each other's behaviour. Second, a higher number of bids can increase the chance of receiving a bid from a party who will place a high value on securing the contract. Such a party is likely to offer the most competitive price. Third, an increase in the number of bids makes it more difficult for the bidders to organize on a collusive basis.¹⁰²

119 Perhaps more important than the actual number of bids received is the number of bids that the bidders anticipate. Construction contractors tend to base their prices on the anticipated intensity of competition. One measure of the intensity of competition is the number of contractors bidding in open competition. In one study, looking at published data sets from around the world, it was found that there was a decrease in the order of 20% to 25% over a range in the number of bidders of from 2 to 15.¹⁰³

120 Put simply, reducing competition increases price. By definition, the more concentrated a market becomes, the less competitive it is. Generally, economists assess market concentration by measuring the total output that is produced in an industry by a given number of firms within the industry. The most basic concentration ratios are the CR4 and the CR8.¹⁰⁴ The CR4 concentration ratio measures the total market share of the four largest firms in an industry. The CR8 measures the total market share of the eight largest firms in an industry. The concentration ratio is the percentage of market share held by the largest firms in an industry.

121 Increases in the market concentration of suppliers lead inexorably to higher pricing. Studies have shown that constraints upon the number of bidders in auctions and tenders—or on the number who voluntarily participate in auctions and tenders—can have the same type of effect on prices as actual market concentration.¹⁰⁵ As one author conveniently summarizes:¹⁰⁶

Virtually all auction market theory points to higher buying prices and lower selling prices as the number of bidders grow. The theory is supported by empirical studies in municipal bond underwriting, bidding for offshore oil, and bidding for national forest timber. Other

concentration price studies have been made in such diverse industries as life insurance, newspaper and television advertising, gasoline retailing, prescription drugs, cement, and microfilm. All of these studies found a positive relationship between market concentration and prices.

Another economist observes:¹⁰⁷

Concentration ratios can be developed in terms of a market area in which the buyers actually compete, or can compete, and estimation of the statistical relationships between those concentration ratios or other measures of concentration and factors such as captive supplies, pricing patterns, and the level and variability of prices will be very revealing.

122 A market is considered to be relatively competitive when the four largest firms in the market own¹⁰⁸ less than 40% of the market. Medium concentration is considered to exist where the four largest firms control 50% to 80% of the market. An industry in this range is likely an oligopoly, meaning that customers are paying above the market price. The more concentrated, the more likely that it is that they are paying well above the market price. A highly concentrated market will have a CR4 \geq 80%. The higher the concentration, the higher the price to those dealing with the concentrated market power. The critical level beyond which the use of market power can be expected to emerge in a dramatic way is 60%.¹⁰⁹ Even so, a CR4 \leq 40% can still have adverse implications. For instance, in the American meatpacking industry, dealings in markets having a CR4 of just slightly more than 25% have been found to suffer price distortions of as much as 3%.¹¹⁰ At a CR4 = 70%, the price distortion has been found to be in the range of 12%.¹¹¹ These studies offer a sufficient reason for exercising caution before introducing artificial restrictions on competition for Government construction work.

123 Generally, the construction market in Canada has a CR4 of 5%. However, this low ratio is misleading as it includes the large number of construction firms active in the residential home and home repair market. Within certain submarkets, the Canadian construction CR4 is much higher, partly because many construction firms operate only locally,¹¹² and partly because only a relatively small number of firms are able to secure the bonding coverage and lines of credit necessary to undertake larger contracts. As one moves towards industrial and institutional construction, the CR4 rises dramatically. In the public sector, many Governments find that they are effectively offering their construction work to a closed list of bidders, which never much exceeds five or six firms. The very size of some Government mega-projects works against efficient procurement. In discussing this tendency, the US Federal Transit Authority's 2005 Final Report on Capital Cost Elements observes:¹¹³

Construction projects generally lack economies of scale. Very large projects may actually see diseconomies from the limited ability of most contractors to get bonded above \$200 million. Splitting contracts into multiple parts to facilitate competition has the disadvantage of increasing soft costs and the complexity of coordination among multiple parties.

As a result, Governments often purchase construction services in a submarket in which there is a CR4 concentration ratio in the range of 90% to 100%. This is especially likely in the case of light rail transit systems (a form of public transaction currently of interest to several Ontario municipalities), which involve a highly specialized form of construction.

124 It is not difficult to find a specific example of a public sector construction purchaser which has faced a high level of market concentration. Few public sector entities in Canada have engaged in as much construction in recent years as the Ontario Infrastructure Projects Corporation (Infrastructure Ontario). Among the 29 Infrastructure Ontario projects that are under construction or which have reached substantial performance as of the date of this Report, EllisDon was selected as the contractor on 11. Of two further projects that have reached financial closure, EllisDon is the contractor on both. PCL was selected on six. Thus, out of 31 projects in total, the top two suppliers have won 17. The top five contractors have won all but three of those contracts,¹¹⁴ making the CR5 better than 90% (the CR4 is 71.2%).¹¹⁵ Although such a concentrated market is a matter of concern, that concern must be balanced against the reality that many public sector entities often do not even attract this high a level of competition for their work, and that very often they are unable to attract top quality contractors at all.

125 There is a considerable volume of literature in the field of economics dealing with the decision-making process that bidders should follow to maximize successful bid participation in tenders and auctions. Interest in this subject has increased, due to the evolution of the take-over market,¹¹⁶ and also the development of Internet-based trading (particularly eBay, in view of its growth into a multi-billion trading market).¹¹⁷

126 It has long been recognized that tenders and auctions do not necessarily lead to the market price.¹¹⁸ Whether they do depends on a variety of factors. One of these is the sophistication of the market participants. Studies beginning in the 1950s have explained why bidders should monitor each other's patterns of behaviour in the bidding process, and adjust their bidding in response to those patterns.¹¹⁹ Further studies have indicated the impact of the design of the bidding process.¹²⁰ The market reputation of the owner is also relevant. Econometric studies of auctions have confirmed that both positive and negative ratings are reflected in the bid prices received.¹²¹ Since at least some Government and BPS entities have developed an industry reputation for being aggressive contracting partners, it is likely that those entities will attract higher prices than others.

127 Generally, the prospective success of the tender process in achieving the optimal result is positively correlated with the number of bids because the latter measures the degree of competition.¹²² Numerous studies¹²³ both of the real world operation of actual tenders and auctions and in terms of the operation of economic models confirm that the extent of competition has a clear effect on costs. High levels of concentration imply higher costs.¹²⁴ They further confirm that the price obtained through the tender or auction process is positively

related to the starting price, total number of bids, and the total number of bidders.¹²⁵ Although there are atypical markets that have structural characteristics which undermines competition among a large number of bidders,¹²⁶ we can see no reason that this would be the case in the Ontario construction market.

128 Moreover, an artificial restriction of the number of bids received in relation to a public works contract can have a number of unattractive consequences beyond simply the matter of price. Discussing the complex subject of value for money in PFI contracting, one study notes with specific reference to Hong Kong:¹²⁷

Hong Kong has only a limited number of contractors who are able to handle large public works projects. Therefore it is often the same groups of contractors who are successful at winning these bids. ... In a more competitive bidding environment the private sectors will try all measures to improve their designs in all aspects. In particular in terms of VFM as one of the main reasons that the public sector opt for PPP is to achieve VFM in public works projects. This would therefore be a key reason to choose a particular private party for the Government. In a bidding environment that has few competitors the private sector does not need to try so hard to win the contracts, hence VFM may not always be achieved.

(c) Facilitating Bid-Rigging and Why this is Important

129 We have been asked to provide a more expansive explanation as to why and how Government contracting practices can facilitate bid-rigging. There is good reason to believe that Governments and even private sector owners may become prey to bid-rigging. There is also good reason to be especially concerned in relation to construction. In 2009, the Office of Fair Trading in Great Britain concluded an extensive investigation and prosecution of bid-rigging in the U.K.'s construction industry, imposing fines of £129.5 million on some 103 firms (86 of which received reduced fines by admitting responsibility).¹²⁸ In the United States, there have been a large number of prosecutions for bid-rigging in relation to Government contracts, with construction being an area of prime concern. Many of the companies involved in these U.K. and American prosecutions have Canadian affiliates. Moreover, there are also homegrown Canadian examples of bid-rigging in relation to construction. For instance, in the Electrical Contractors case, it was determined that Pearson Airport, Skydome Hotel, BCE Place, and other projects had all been targeted by bid-rigging schemes involving electrical contract work during construction or renovation. At least 24 bidding competitions were found to have been rigged during a five-year period. Eight electrical contracting firms and one general contractor were convicted, and fines of more than \$3 million were levied. Moreover, the tendency toward cartelization in the Canadian construction industry has been documented in academic studies.¹²⁹ It is known that the benefits of a RFT or RFP in securing price competition falls sharply as the numbers of bidders decreases.¹³⁰ One of the main reasons is that contract competitions which attract a small number of bidders invite bid-rigging schemes.

130 Specifically, Government contracting practices (or similar practices by any other prospective customer) facilitate bid-rigging when they afford opportunity for consultation, communication, agreement or other arrangements between the contractors or other suppliers likely to collude. The various measures recommended by the Canadian Competition Bureau to avoid the risk of bid-rigging include:¹³¹

- Allow for substitute products whenever possible;
- Avoid preferential treatment for a certain class of suppliers (e.g. avoid local preferences); and
- Maximize the pool of potential bidders.

This is not the only advice available to the GTHA public sector from highly reputable authorities. According to the OECD:¹³²

Bid-rigging is more likely to occur when a small number of companies supply the good or service. The fewer the number of sellers, the easier it is for them to reach an agreement on how to rig bids.

The OECD also recommends:

Effective competition can be enhanced if a sufficient number of credible bidders are able to respond to the invitation to tender and have an incentive to compete for the contract. For example, participation in the tender can be facilitated if procurement officials reduce the costs of bidding, establish participation requirements that do not unreasonably limit competition, allow firms from other regions or countries to participate, or devise ways of incentivizing smaller firms to participate even if they cannot bid for the entire contract.

It also advises:

Note that requiring large monetary guarantees from bidders as a condition for bidding may prevent otherwise qualified small bidders from entering the tender process. If possible, ensure amounts are set only so high as to achieve the desired goal of requiring a guarantee.

It further suggests:

To the extent possible, qualify bidders during the procurement process in order to avoid collusive practices among a pre-qualified group and to increase the amount of uncertainty among firms as to the number and identity of bidders. Avoid a very long period of time between qualification and award, as this may facilitate collusion. ...

Do not disqualify bidders from future competitions or immediately remove them from a bidding list if they fail to submit a bid on a recent tender.

The following specific advice given by the OECD regarding specifications is also worthy of express mention:

Define your requirements as clearly as possible in the tender offer. Specifications should be independently checked before final issue to ensure they can be clearly understood. Try not to leave room for suppliers to define key terms after the tender is awarded.

Use performance specifications and state what is actually required, rather than providing a product description.

Avoid going to tender while a contract is still in the early stages of specification: a comprehensive definition of the need is a key to good procurement. In rare circumstances where this is unavoidable, require bidders to quote per unit. This rate can then be applied once quantities are known.

Define your specifications allowing for substitute products or in terms of functional performance and requirements whenever possible. Alternative or innovative sources of supply make collusive practices more difficult.

All of the foregoing relate to points that are made either in this Report or in TFBA.

131 The risk of bid-rigging is serious and should always be taken into account when designing a tender competition. In one study, for instance, it was found that repeated contacts among the same firms bidding for Government highway construction work resulted in significantly higher profit, ranging from 8% to 17.16%.¹³³ Other studies of outright bid-rigging schemes have suggested far higher supra-competitive profit. As we indicated above, Canada enjoys no special immunity from the problem of bid-rigging.¹³⁴

132 Governments like to use tenders and they like to pre-qualify bidders. Both these practices can lend themselves to facilitating a bid-rigging arrangement. Therefore, it is necessary to exercise care in structuring the overall tender and pre-qualification process to minimize the risk of such an undesirable effect. The simplest method of controlling bid-rigging is to attract a large number of bids to forestall any effort to rig the competition. Each additional bidder brought into the process complicates collusion.

5.0 The Need for Enhanced Staff Training

133 In TFBA, we noted that Governments tend to under-invest in staff continuing professional development, when compared to private sector employers, and that such investment as is normally made now appears to be under considerable pressure, due to the tightness of Government financing. Although some Government representatives have tried to paint a rosy picture of investment in staff training, for many parts of the Ontario Government/BPS sector, the situation is anything but good. Perhaps understandably, Governments rarely trumpet reductions in staff training as evidence of prudent management. Nevertheless, there is considerable evidence that staff training is a ready target when Governments seek to respond to tight budgets. For instance, in mid-2007, CityTV provided one terse description of a critical part of the City's overall response in this regard to its growing budget crunch:¹³⁵

Staff training, development, education and attendance at conferences has been cancelled.

Since then, other Governments and public agencies in Southern Ontario have followed suit, although many have done so quietly. We have spoken to both large and small organizations which offer continuing professional education to the public sector. All have confirmed declining public sector take-up of continuing professional development programs over the past few years. Press reports on this question support the conclusion. For instance, according to a February, 2010 article in the *Brantford Expositor*, all city departments in Brantford were asked to cut 25% of their expenditure on discretionary staff training and development.¹³⁶ Quite possibly there are individual exceptions, particularly among municipalities that are blessed with a strong tax base. Elsewhere, if press reports are to be believed, the trend is strongly in the downward direction and has been for some time.

134 Nor is the problem of under-investment in staff development one which is cited only at the municipal level. It is worth noting that there is often a wide disparity between the lip service that Governments pay to training and development, and what they actually invest in it. Currently, there are more than 3,200 procurement specialists who work in the Federal Government, and perhaps as many as 20,000 Federal public servants in total who are engaged in procurement in some way. In 2006, the Federal Treasury Board Secretariat created a certification program for the training of Government purchasing staff. However, since then only 600 functional specialists in procurement and materiel management have enrolled in the program, and only 16 specialists in procurement, 1 specialist in materiel management, and 1 specialist in both have completed the first of three levels of this certification program. According to the Federal Procurement Ombudsman:¹³⁷

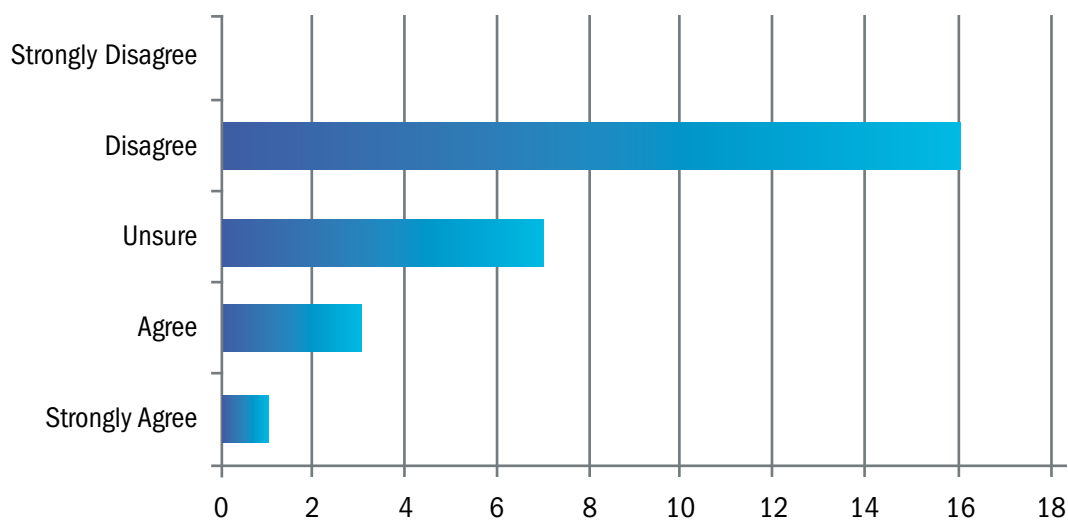
This is due to a number of challenges with implementation, such as lack of qualified instructors, insufficient number of participants to meet minimum class size; and the fact that certification is not mandatory. It can take three or more years to complete the first level of certification so, coupled with resource and budget constraints, this often leads to registered individuals abandoning their training plans.

The Procurement Ombudsman then went on to note that this certification program and the training required to obtain certification were not targeted at other employees who have procurement-related responsibilities, such as departmental oversight personnel. He continued:¹³⁸

The Office of the Comptroller General's (OCG) Horizontal Internal Audit of Contracting for Professional, Technical and Temporary Help Services in Small Departments and Agencies (2010) found that many of the officials responsible for fulfilling the oversight role were not familiar with the intent of many of the contracting policies and regulations or the risks associated with contracting activities. The audit also pointed out that there was limited guidance for those performing the challenge function. In making these points, we wish to emphasize again, that these concerns are not intended to be critical of the staff concerned. No one can seriously expect these individuals to pay for their own training—and even if they were willing to, they would still need time off work to take it. However, it seems fairly clear to us that the failure by Government to secure proper training for its staff constitutes a serious impediment to the attainment of an efficient system of public procurement.

135 Under-investment in training is having an impact on the overall effectiveness of the procurement process. In the RCCAO survey of construction contractors who work regularly for Government and the BPS in the GTHA area, respondents were specifically asked whether they agreed or disagreed with the statement that Government procurement staff are generally knowledgeable, well-trained and professional. Sixteen of the respondents (i.e. just under 60%) *disagreed* with this statement.

Chart 8: Government Staff are Well-Trained



136 In our view, it is unreasonable to expect high performance from public sector purchasing staff unless they are provided with the proper training necessary to carry out their responsibilities. People do not arrive from school fully trained in public procurement, and they cannot be expected to remain abreast of developments in the procurement area without on-going training. Public servants deserve and require the same kind of on-going continuing professional development as is provided by the leading businesses in the private sector.

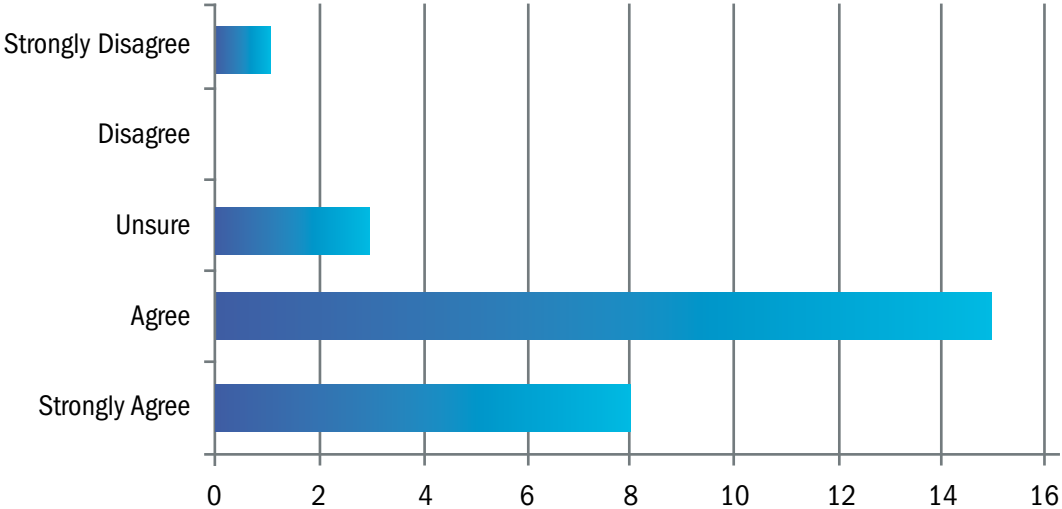
137 In general, returns to an enterprise from training are usually many times the investment, due to the improvements in productivity and enterprise performance to which training leads. Employer satisfaction surveys confirm that employers are in the main very satisfied with the results they obtain, as are the employees who received such training. While training works best when focused, the programs that have proven most effective are those which focus on such areas of concern as lean procurement methods, total quality management, enhancing teamwork, and the re-engineering of processes. The returns on training investments are not always in the form of increases in labour productivity or profitability. Returns can come in the form of a number of measures including:¹³⁹

- Higher levels of value added activities as a result of higher levels of skill;
- Greater flexibility amongst employees who can perform a range of tasks;
- Reduced overhead costs to the firm such as more efficient use of existing facilities, lower consumable costs and reduced human resource expenses; and
- Greater ability to innovate in terms of adopting new technology and introducing better forms of work organization.

138 Under-investment places the public sector at a competitive disadvantage. However, even when training is provided to public sector procurement staff, it is radically different in orientation to that which private sector staff members attend. The threat of tender related litigation has caused virtually every program directed at the public sector to be focused purely on questions of process and the prospect of tender-based claims.¹⁴⁰ At most such events, every single speaker is a lawyer, and most are litigators. Compare the syllabus of the typical public sector training program with that of a program geared towards private sector purchasing professionals. There, law is very much a secondary consideration. Instead, the focus is on such matters as supply chain analysis tools and techniques, the concepts and processes of the supply chain, inventory management, improving productivity and effectiveness, strategic purchasing management, value creation and realization, and integrated supply chain management. By failing to incorporate measures of this kind into the public procurement process, Governments are foregoing the opportunity for the increased efficiency that they can bring to expenditure on goods, services and construction procurement.

139 The adverse impact of an over-focus on process, shows up in a range of areas, not the least of which is in relation to the preparation of specifications. Chart 9 shows the pattern of responses in the RCCAO 2010 survey to the statement poorly written contract specifications in Government tender or RFP documents are a common cause of dispute. All but four of the respondents either agreed or strongly agreed. Only one disagreed, albeit strongly:

Chart 9: Are Poorly Written Specifications the Cause of Disputes?



6.0 Conclusion

140 Many of the comments received by RCCAO support the practices discussed in this Report and in TFBA on the basis that they were adopted “for a reason.” We have no doubt that this is the case. However, the question is not whether there was a reason or even a sufficient reason. From a commercial perspective (which is the perspective which the public sector should adopt when acting as a customer), the issue is whether that reason is of sufficient importance to justify the additional cost that results. As we have shown in this Report, there is clear evidence of rising cost in public sector construction in the GTHA, which is out-stripping the corresponding rises to the private sector. This is a matter that should concern all taxpayers.

141 In addition to the RCCAO’s own survey, both Government and academic studies confirm that the introduction of contract terms that are perceived to present particular risk have an impact on pricing. In a negotiated contract, the appropriate balance of risk is one of the contractual terms the parties will negotiate as between themselves. Such negotiation is not normally possible where RFPs or tenders are used as a competitive method of awarding a contract. In such cases, the Government (or other relevant public agency) specifies the contract terms, and all bidders submit bids on the understanding that the winner will be held to those terms.¹⁴¹

142 It has been argued that some of the practices raised in TFBA involve policy choices, made or approved by elected officials, that are essential to the protection of the public interest. In our experience, this is unlikely. Elected officials rarely concern themselves with the minute details of Government contracting practice. They do not have sufficient time to do so. Instead, they set overall policy and direction.

143 There are important exceptions to this general rule. Some Government contracting practices may well represent value choices, which involve a conscious decision to impose a particular contract requirement, knowing that it will have an impact on price. Fair wage policies, for instance, fall into this category. Such policies usually take the form of requiring Government contractor-employers to pay prevailing union rates, whether or not a particular contractor-employer is unionized. Although the price premium resulting from such a policy is difficult to calculate (which means it is the subject of a good deal of debate¹⁴²), and would, in any event vary with market conditions, the general effect is to inflate contract prices. Nevertheless, for many Governments, such a consequence is a price they are prepared to pay,¹⁴³ particularly in older cities in which there is a significant trade union presence.¹⁴⁴

144 Despite these exceptional cases, for the most part, the specific policies, procedures and contract terms employed in public sector procurement are not critical to any defensible public policy. Since public funds must be carefully managed to permit the maximization of the benefit that can be derived from them, policies, procedures and contract terms that result in a restriction of competition or that otherwise lead to an increase in the cost of services or materials to Government are inherently unattractive from a public welfare perspective. In preparing this opinion, we have looked at more than 100 public sector purchasing by-laws

and directives from Ontario. In not one case has there been any suggestion that public sector buyers should disregard value for money in making procurement decisions. On the contrary, most of these documents specifically direct purchasing staff to place an emphasis on securing good value.

145 It is vital to bear in mind that high expenditure in one area is likely to have important implications in relation to other policy priorities. Governments are not exactly like other purchasers, but in one respect they are precisely the same: they can only spend their money once. When Governments over-spend in one area, they very often must trim essential spending in other areas, in order to make-up the shortfall. It is not difficult to find examples of where a Canadian Government has found itself in exactly this predicament. Consider, for instance, the following extract from the *2009 Report of the Auditor General of Ontario* on the Ministry of Transportation's bridge maintenance program:¹⁴⁵

Using its Bridge Priority Tool, the Ministry estimates that the cost of repairing and rehabilitating bridges in fair or poor condition over the next five years will be approximately \$2.2 billion. Yet the actual funds committed to the Ministry's budget for all bridge work over the next five years is \$1.4 billion, a shortfall of \$800 million. The Ministry has identified another spike in the need for major capital work over the next six to ten years as bridges continue to age: 70% of the provincial bridges were built between 1950 and 1980, and these older bridges have an average lifespan of 60 years. The Ministry has projected that an extra \$4.2 billion will be needed to repair these bridges.

We would suggest that most Ontario taxpayers would rank as a fairly high priority spending the money that is required to keep bridges from falling down or deteriorating to the point at which they cannot be safely used. The specific reason why such shortfalls arise can never be determined, but at least in part such shortfalls result from someone's decision somewhere to commit to a high cost approach.

146 It is not difficult to find specific reported examples of tender or RFP terms which involve applying a perfectly sensible overall policy in a way that undermines any real effort to secure value for money. To give one extreme example: in his June 2010 presentation to the Purchasing Management Association of Canada Annual Conference in Regina, Federal Procurement Ombudsman Shahid Minto referred to one Federal Government contract that required bidders to demonstrate that they had 35 years or more experience. No one would disagree that Governments should hire competent contractors who have sufficient experience to be able to carry out a job well. However, imposing unrealistic qualifications simply results in eliminating competition and adds the inevitable consequence of higher cost. No purchasing bylaw or policy of which we are aware in Canada either justifies or mandates the introduction of such a requirement, but someone nevertheless took it upon himself to impose it.

147 While this may be an extreme example, others that are less extreme can still have an adverse impact on the competition for Government work. Common provisions of this type include requirements for Ontario experience (and sometimes even more localized experience) in carrying out routine construction work such as the building of a swimming pool or bridge maintenance.

148 The basic rules governing purchasing procurement are fairly standard, and are usually set down in general principles. To cite but a few examples: section 7 of the *Mississauga Purchasing By-law* states (in part):

The City of Mississauga's purchasing principles are:

- (a) Acquisition processes shall be efficient, effective, objective, and accountable;
- (b) Transparency and fairness shall be ensured, and competitive value maximized, through full and open procurement processes;
- (c) The Acquisition of Goods and Services shall be conducted in an unbiased way not influenced by personal preferences, prejudices or interpretations;
- (d) Efforts shall be made to achieve the best value for the City.

Section 2(a) of the Town of Oakville states that the purposes of its own *Purchasing By-law* are:

- i) To ensure objectivity and integrity in the procurement process;
- ii) To ensure fair treatment of all bidders;
- iii) To ensure openness, accountability and transparency while protecting the financial best interests of the Town and obtaining the best value when procuring supplies and services.

Section 4 of the Province of Ontario's Procurement Directive:

The overall objective of this Directive is to ensure Ministries and Other Included Entities acquire the goods and services required to meet Government needs in the most economical and efficient manner, through a procurement process that conforms to the following principles:

Vendor Access, Transparency, and Fairness

Access for qualified vendors to compete for Government business must be open and the procurement process must be conducted in a fair and transparent manner, providing equal treatment to vendors.

Conflicts of interest, both real and perceived, must be avoided during the procurement process and the ensuing Contract; and relationships must not be created which result in continuous reliance on a particular vendor for a particular kind of work.

Value for Money

Goods and services must be procured only after consideration of ministry business requirements, alternatives, timing, supply strategy, and procurement method.

Responsible Management

The procurement of goods and services must be responsibly and effectively managed through appropriate organizational structures, systems, policies, processes, and procedures.

Geographic Neutrality and Reciprocal Non-Discrimination

Ministries and Other Included Entities that are subject to Ontario's Trade Agreements must also ensure that access for vendors to compete for Government business is geographically neutral with respect to other jurisdictions that practice reciprocal non-discrimination with Ontario.

The similarity of emphasis in the foregoing documents is reflected in the similar procurement bylaws, policies and procedures across Canada, and also throughout North America and most of the Western world.

149 To give effect to the foregoing principles, it is necessary to have a clear understanding of the costs of particular contracting options. To have this understanding, it is necessary to discuss with contractors (and suppliers in other industries) the pricing implications of particular terms. Simplistic approaches to risk and other price determinants merely inflate the cost to Government.

150 As we stated at the outset of this Report, the focus of this Report is upon the process of public procurement, rather than on those who are involved in it. Therefore, the points made in this Report should not be misunderstood to amount to a condemnation of the Canadian public procurement process, nor a criticism of the people who work in it. On the contrary, the RCCAO survey makes clear that most contractors are convinced of the integrity of the procurement system. Specifically, although Canada has one of the most litigious public procurement systems in the world involving disputes over tender awards, better than 81% of respondents either agreed or strongly disagreed with the statement that the Government contract award process in Canada is in general honest, open, transparent and fair. We also asked suppliers whether they agreed with the statement that there is too much political interference in Government procurement. In answer, 20 of 26 of respondents either disagreed or disagreed strongly with this statement. Nevertheless, 21 of 26 respondents (i.e. more than 80%) either agreed or strongly agreed with the following statement:

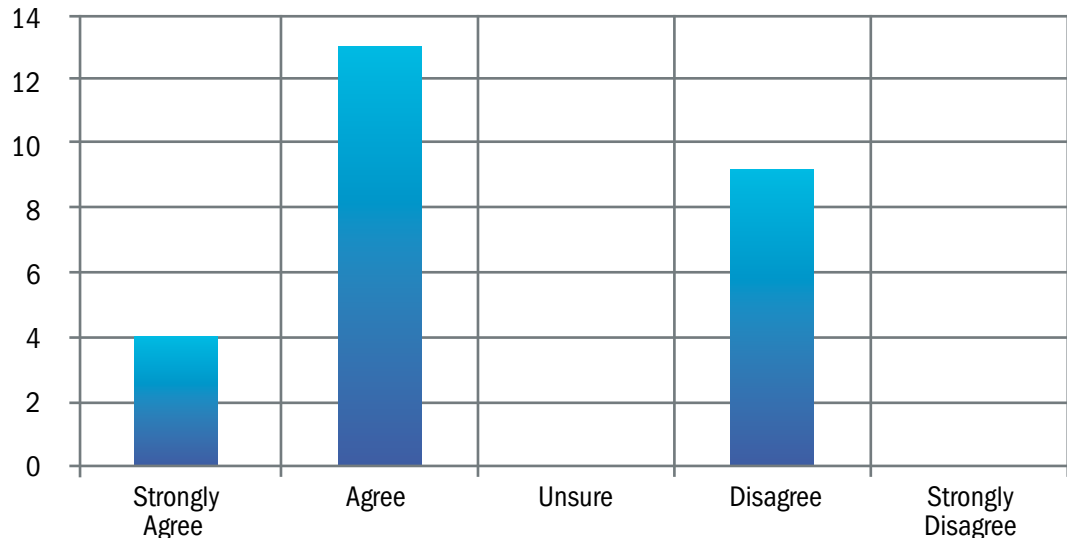
Government procurement is too much focused on process and pays too little attention to business concerns.

151 The RCCAO survey also indicated a need on the part of private sector construction contractors for a better understanding of the public procurement process. For instance, respondents to the RCCAO survey (who, as noted above were all active in Government contracting) were more or less evenly divided on the question of whether they have found the Government evaluation approach problematic. Eleven of the respondents either agreed or strongly disagreed with this statement, nine either disagreed or strongly disagreed. The remainder was unsure. Given the Government’s investment of time (and, as we discussed above, training emphasis) on the process of contractor selection and contract award, such a split decision is disappointing. Along the same lines, opinion was essentially evenly divided in relation to this statement:

Governments need to be clearer in their tender and RFP documents concerning the basis on which contracts will be awarded.

Respondents were also asked whether their company has difficulty understanding the Government decision making process. The spread of responses is set out in Chart 10:

Chart 10: Difficulty Understanding the Government Decision-Making Process



Among those contractors whom we interviewed who do not bid for Government work, one statement was characteristic:

The whole process is too unpredictable.

152 Views of this kind cry out for a better dialogue between Government and private sector contractors who bid for Government work. A better understanding on the part of the contractors as to the underlying concerns of Government will enable contractors to bid more effectively for that work. A more balanced approach to the contracting process on the part of Government will allow contractors the opportunity to bid competitively for that work, and will encourage more contractors to participate in the bidding process.

Endnotes

- 1 The BPS comprises hospitals, school boards, non-private universities, special purpose inter-governmental vehicles, quasi-independent governmental organizations and miscellaneous other near-government entities.
- 2 The response of this third group merely illustrates how difficult it can be to change entrenched attitudes in relation to the public procurement process. The problem of sole sourcing illustrates the point. In 1995–96, the House of Commons Standing Committee on Government Operations complained that there was “an over-proportionate volume of awards of sole source contracts by departments and agencies, thereby reducing competition in the private sector for Government business.” As a result, the directed contracting threshold was reduced from \$30,000 to \$25,000 where it remains today. This change has not had much impact on contracting practice. As a recent report by the Federal Procurement Ombudsman notes:

In 2008, 91% of all federal Government contracts were below \$25,000, which is consistent with statistics over the last ten years. While some of these contracts are competed, in 2008 more than 200,000 (roughly 60%) of them were awarded to a preselected supplier without competition.

Testifying before the Commons Government Operations and Estimates, the Federal Procurement Ombudsman observed:

The bottom line is really that these are the issues that are not resolved through additional regulation. These are issues that are resolved when you have a culture that says we have to be accountable for our actions and ethical considerations are just as important as legal considerations in procurement.

See *Procurement Practices Review: Directed contracts under \$25,000 – a risk-based study: Strengthening the confidence of Canadians in public procurement*,” Ottawa, Ministry of Government Services, July 2010, p. ii
- 3 It is worth noting that, with isolated exceptions, such information is not made readily available by the public authorities concerned. Often, the information must be pried loose through the use of freedom of information legislation. This reluctance to disclose is evidenced by the fact that there have been more than 290 decisions of the Ontario Information and Privacy Commission relating to tender issues, in which compulsory disclosure was sought. Another 84 relate to requests for proposal.
- 4 For instance, the Federal Department of Public Works/Government Services Canada moved to contracts based on the industry standard CCDC2 in 2007. However, this new contractual approach does not apply to low-value construction work, for which many Government departments and agencies continue to contract on the basis described in this Report.
- 5 See, for instance, the *Purchasing Activity Report, 2006*, available online at: http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/con_data/par-06-rpa-eng.asp
- 6 http://www.oag-bvg.gc.ca/internet/English/osh_20100615_e_33896.html
- 7 Ali A. Shasha, “Factors considered in tendering decisions by top UK contractors,” (1993), 11 *Construction Management and Economics* (No. 2) 111

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- 8 Ahmed H. Al-Arjani, "Type and size of project influences on number of bidders for maintenance and operation projects in Saudi Arabia," (2002), 20 *International Journal of Project Management* (No. 4) 279
 - 9 See, generally, I Ahmed, I. Minkarah, "Questionnaire survey on bidding in construction," (1988), 4 *Journal of Management in Engineering* (Pt. 3) 229; B.J. Oluwoye, D. Lenard, "Analysis of contractors' approaches to risk identification in New South Wales," (1997), 15 *Construction Management and Economics* 363.
 - 10 It is important to understand that in this Report, we are describing the tendencies that result from contract practices and terms. Tendencies within a given market do not constitute universal rules. So, for instance, firms tend towards profit maximization in their behaviour. None of them necessarily tries to derive the last penny of potential profit from their business. A particular contract that has a value benefit far greater than the income which it offers may present an opportunity to an individual firm. In such a case, the firm may bid a lower than normal price, because it needs to obtain that other (non-monetary) benefit. In addition, firms which have identified an underserved niche, and which seek to exploit the profit potential of that niche, may find that their choices are limited by virtue of the unique characteristics of the niche in question. Obviously, for instance, firms which specialize in hospital, school or road construction cannot rule out dealing with the public sector per se, since for this type of work, Government or other BPS owners, make up almost the entirety of the market. In such cases, price increases may be the only realistic option for dealing with system-wide conditions. Moreover, insofar as some public owners may be more demanding in their contract expectations, it is readily possible for contractors to distance themselves from those owners who most deviate from prevailing market practice.
 - 11 The "top tier" firms in each sector of the construction market are the firms which are best able to deliver top quality results and the most economic price in that sector. The list of such firms may include small and large firms. Smaller specialized firms may often possess a niche expertise which makes them more competitive than full service firms in terms of meeting the construction needs of particular types of customer. Nevertheless, while not always true, the better firms in any industry tend to thrive and grow over time. The only point in which larger scale firms are almost always stronger is in relation to their buying power.
 - 12 See, generally, R.I., Carr, "Impact of number of bidders on competition," (1983), 109 *Journal of Construction Engineering and Management* (Pt. 1) 61. This paper drew the following conclusions: A contractor seeking the highest expected value from each competitive bid will lower its markup as the number of competitors increases. The contractor's competitors can be expected to do likewise, and their adjustments affect the contractor's expected value. Thus, the number of competitors affects a contractor's profit twofold. The sheer number of competitors dilutes the probability of winning, and competitors' adjustments of their markups undercut its own markup. There is a natural equilibrium among competitors based on their relative costs. A contractor with lower costs will bid a higher markup but still a lower bid than competitors. However, it is not to the contractor's advantage to undercut the opposition further. Coupled with the relative insensitivity of expected value to markup, this

leads to stability in the competitive bidding process. See also A.A. Bubshait, S.A. Almohawis, “Evaluating the general conditions of a construction contract. (1994), *International Journal of Project Management* 133; R. Neufville, D. King, “Risk and need-for work premiums in contractor bidding,” (1991), 117 *Journal of Construction Engineering and Management* (Pt. 4) 659; P.R. Milgrom, “Rational expectations information acquisition and competitive bidding,” (1981), 49 *Econometrica* (Pt. 4) 921

- 13 For instance, in one Italian study of IT procurement, it was found that in complex projects, high quality is often associated to low prices. See G.L. Albano, F. Dini R. Zampino, Bidding for Complex Projects: Evidence From the Acquisitions of IT Services, (October, 2008), Italian Public Procurement Agency, *Fondazione Eni Enrico Mattei*, available on-line at: <http://www.feem.it/userfiles/attach/Publication/NDL2008/NDL2008-086.pdf>
- 14 (1981), 119 D.L.R. (3d) 267
- 15 [1992] N.W.T.J. No. 82 at p. 209
- 16 *Tercon Contractors Ltd. v. British Columbia (Transportation and Highways)*, [2010] S.C.C. 4. The case involved the question of whether the Ministry concerned could rely on a clause in the tender documents limiting its liability. It was ultimately held that the clause was not applicable on the facts.
- 17 *O’Connell Electric Ltd. v. British Columbia (Hydro and Power Authority)*, [2010] B.C.J. No. 816 (B.C.S.C.) Government wins on summary motion; *Tercon Contractors Ltd. v. British Columbia (Transportation and Highways)*, [2010] S.C.J. No. 4 (S.C.C.) Government loses on appeal; *Amber Contracting Ltd. v. Halifax (Regional Municipality)*, [2009] N.S.J. No. 464 (N.S.S.C.) Government wins on appeal; *Maystar General Contractors Inc. v. Newmarket (Town)*, [2009] O.J. No. 3939 (Ont. C.A.) Government loses on appeal; *North America Construction (1993) Ltd. v. York (Municipality)*, [2009] O.J. No. 3631 (Ont. Sup. Ct.) Government wins at trial; *Halifax (Regional Municipality) v. England Paving & Contracting Ltd.*, [2009] N.S.J. No. 335 (N.S.S.C.) Government loss on application; *Whitehorse (City) v. Ketza Construction Corp.*, [2009] Y.J. No. 174 (Y.S.C.) Government loss on application; *Coco Paving (1990) Inc. v. Ontario (Minister of Transportation)*, [2009] O.J. No. 2547 (Ont. C.A.) Government wins on appeal; *Russell (Township) v. Dalcon Enterprises Inc.*, [2009] O.J. No. 2560 (Ont. Sup. Ct.) Government loss on application; *Horizon Builders Ltd. v. Brandon (City)*, [2009] M.J. No. 203 (Man. Q.B.) Government loss on interlocutory motion; *Thales Rail Signalling Solutions v. Toronto Transit TTC*, [2009] O.J. No. 1797 (Ont. Sup. Ct.) Government wins on interlocutory motion; *Irving Shipbuilding Inc. v. Canada (Attorney General)*, [2009] F.C.J. No. 449 (Fed. Ct. of Appeal) Government wins on hearing of application and on appeal; *Newfoundland v. Crown Paving Ltd.*, [2009] N.J. No. 26 (N.L.C.A.) Government wins at trial and on appeal; *Budget Rent-A-Car of B.C. Ltd. v. Vancouver International Airport Authority*, [2009] B.C.J. No. 71 (B.C.C.A.) split decision; *Force Construction Ltd. v. Queen Elizabeth II Health Sciences Centre*, [2008] N.S.J. No. 630 (N.S.S.C.) Government loses on appeal; *Mitchelmore v. Western Regional Health Authority*, [2008] N.J. No. 248 (N.L.S.C.) Government loses on motion for summary judgment
- 18 Section 28 reads as follows:

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- (1) Despite any other Act, a ministry or public entity shall not enter into any financial arrangement, financial commitment, guarantee, indemnity or similar transaction that would increase, directly or indirectly, the indebtedness or contingent liabilities of Ontario, or seek the approval of the Lieutenant Governor in Council to enter into any such arrangement, commitment, guarantee, indemnity or transaction, unless,
- (a) the ministry or public entity has obtained the written approval of the Minister of Finance; or
- (b) the arrangement, commitment, guarantee, indemnity or transaction belongs to a class that has been approved by the Minister of Finance in writing for the purpose of this section.
- (2) A financial arrangement, financial commitment, guarantee, indemnity or similar transaction that a ministry or public entity purports to enter into contrary to subsection (1) on or after April 1, 2003 is not binding on or enforceable against any ministry or public entity unless the Minister of Finance exempts it in writing from the application of this subsection.
- 19 Section 22(a) of the PACA provides the foundation for an award of damages against the Crown in right of Ontario. It provides that “The Minister of Finance shall pay out of the Consolidated Revenue Fund the amount payable by the Crown, ... under an order of a court that is final and not subject to appeal.”
- 20 Infrastructure Ontario makes the text of this Agreement available to the public online at: http://www.infrastructureontario.ca/en/projects/jus/durham/files/DCC%20Project%20Agreement_Redacted.pdf
- 21 See, for instance, Kelly Grant, “Cost overruns heat up public works committee, Angry councilor breaks quorum, demands to defer issue for public discussion,” *Globe and Mail*, May 18, 2010; Parker Gallant, “Ontario’s power trip: Big Becky goes bust: The province’s efforts to drill a tunnel from the Niagara River to a power plant are way over budget. Who will pay?” March 4, 2010, *Financial Post*; Parker Gallant, “Ontario’s power trip: Beckygate—Ontario tax dollars go down the big drain: Dalton McGuinty’s “culture of conservation” doesn’t seem to apply to Crown corporations,” April 14, 2010, *Financial Post*; Anna Sajecki, “Still no word on who pays the \$4.5 million,” *Post City Magazine*, June, 2010. Lest anyone conclude that Ontario is unique in this respect, see CTV Edmonton, “Quesnell Bridge revamp already \$5.7M over budget,” January 7, 2010, CTV.ca
- 22 At pp. 104-05, available on-line at: http://www.auditor.on.ca/en/reports_en/en08/303en08.pdf
- 23 Timothy J. Murphy, “The case for public-private partnerships in infrastructure,” (2008), 51 *Canadian Public Administration* (No. 1) 99 at p. 102
- 24 Source: <http://law.marquette.edu/s3/site/images/sports/overruns.pdf>
- 25 See, for instance, Damali Keith, “Groundbreaking Marks METRORail Expansion,” *Fox 26 News* (Houston) July 13, 2009—discussing the commencement of work on a 6.5 mile light rail line from downtown Houston, expected to be completed in 3 years at a cost of \$1.4 billion.
- 26 See, for instance, “Taxpayers Pay Price For Lightly Used Charlotte Light-Rail Line: New JLF report offers first real assessment of LYNX line,” *Carolina Journal*, October 6, 2008

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- 27 Bent Flyvbjerg, “Cost Overruns and Demand Shortfalls in Urban Rail and Other Infrastructure,” (2007), 30 *Transportation Planning & Technology* (No. 1) 9 at p. 14
- 28 Figures taken from Flyvbjerg at p. 15
- 29 Figures taken from Flyvbjerg at p. 15
- 30 at p. 16
- 31 at pp. 15-16
- 32 *Contractor Performance Assessment Report*, (Washington: Federal Transit Administration, September, 2007)
- 33 For instance, the Canadian edition of *Hanscomb’s Yardsticks for Costing*, (North York: R.S. Means)
- 34 Source: Statistics Canada Table 327-0044, showing costs in the GTHA over the period in question.
- 35 Alex Carrick, “RSMMeans” dollars-per-square-foot construction costs: four college building types of structure; May 4, 2010
- 36 In addition to the specific causes of high priced construction discussed here, there are other legal and regulatory factors (e.g. the Government budgeting process) which also appear to contribute to the relative high cost of Government construction. These are summarized in Chapter 12 of K. McGuinness, S. Bauld, *Municipal Procurement*, (Toronto: LexisNexis, 2009)
- 37 Data obtained from Siobhan Austen, R. Richard, “Leveraging training outcomes on public construction projects,” Multi-outcomes Construction Policies Research Project of the Cooperative Research Centre for Construction Innovation, 2006. Available on-line at: <http://eprints.qut.edu.au/27159/1/27154.pdf>
- 38 In August, 1999, Western Australia had also introduced a Priority Access Policy, which required all contractors bidding for contracts of more than \$150,000 to meet certain minimum training the requirements. As it turned out, these requirements were relatively low cost, and there was little direct result on the number of bids that resulted from the introduction of the new policy. It does not necessarily follow, however, that the introduction of the Priority Access Policy had no effect upon Government cost. Unless those engaged in public purchasing in Ontario have discovered some new economic system in which there is such a thing as a free lunch, it can reasonably be assumed that everything which adds to the cost or risk of a contractor will be reflected in any price that the contractor may chose to bid for a public works contract. See, for instance, Stephen Hardy, Nick Adnett, “Entrepreneurial Freedom Versus Employee Rights’: the Acquired Rights Directive and EU Social Policy Post-Amsterdam, (1999),” 9 *Journal of European Social Policy* (No. 2) 127, discussing how social legislation such as the EU’s Acquired Rights Directive undermined UK attempts to impose market-based reforms upon the public provision of services.
- 39 See, for instance, the following: CUPE Press Release, “Premiers must keep local purchasing rights,” August 5, 2009: “Municipal and provincial Governments choose to buy from

local suppliers for a lot of reasons. They do it not only to create jobs and support Canadian businesses in their communities, but also because they want to support ethical suppliers, reduce environmental impact, or pursue social goals like minority hiring.’ Moist said. ‘It is wrong for the Harper Government and premiers to try to take those choices away from local communities.’” See also Jon Willing, “Buy local preference considered at City Hall,” *Ottawa Sun*, January 15, 2010; Rob Bradford, “Roadbuilding focus: Local preference policies setting the clock back on tendering process,” *Daily Commercial News*, August 21, 2009; City of Burlington Press Release, “City chose brick based on architect’s recommendation, purchasing policy,” August 13, 2009; Marelene Bergsma, “City moving ahead with buy local policy,” *St. Catharines Standard*, June, 2009

- 40 See, generally, A. P. Kaka, A. Price, “Relationship between Value and Duration of Construction Projects,” (1991), 9 *Construction Management and Economics* 383
- 41 In isolated cases, bidders have agreed among themselves to carry out a common inspection and testing with each of them sharing the results so obtained. This is only feasible if (a) all bidders are known in advance (e.g. through prequalification); (b) all of them agree to participate; and (c) there is enough time.
- 42 See 44.
- 43 Max H. Bazerman, William F. Samuelson, “I Won the Auction but Don’t Want the Prize,” (1983), 27 *Journal of Conflict Resolution* (No. 4) 618
- 44 The winner’s curse arises where the winning bid of an auction significantly exceeds the value of the item that is the subject of the auction.
- 45 Richard Thaler, *The Winner’s Curse: Paradoxes and Anomalies of Economic Life*, (Princeton, New Jersey: Princeton University Press, 1994)
- 46 See, generally, S. Lu, J. Yang, “Auction Participation and Market Uncertainty: Evidence from Canadian Treasury Auctions,” (2003), Working Paper, Bank of Canada; Richard Engelbrecht-Wiggans, “Auctions and Bidding Models: A Survey,” (1980), 26 *Management Science* (No. 2) 119; Matti Keloharju, Kjell G. Nyborg, Kristian Rydqvist, “Strategic Behaviour and Underpricing in Uniform Price Auctions: Evidence from Finnish Treasury Auctions,” (2005), 60 *The Journal of Finance* (No. 4) 1865
- 47 See, for instance, *Lake Champlain and St. Lawrence Ship Canal Co. v. Canada* (1916), 54 S.C.R. 461; *Canada v. Transworld Shipping Ltd.*, [1976] 1 F.C. 159 (C.A.); *Dynamic Transport Ltd. v. O.K. Detailing Ltd.*, [1978] 2 S.C.R. 1072 per Dickson, C.J.C.; *Agricultural Research Institute of Ontario v. Campbell-High* (2002), 58 O.R. (3d) 321 (C.A.) at paras. 29-30, *application for leave to appeal refused* [2003] 1 S.C.R. vii.
- 48 Donald J. Meyer, *The Economics of Risk*, (Kalamazoo Mich.: W.E. Upjohn Institute, 2003) at p. 2
- 49 i.e. sneaky or cunning behaviour that is technically within the law but which is unethical.
- 50 R. Preston McAfee, John McMillan, *Bidding for Contracts: A Principal-Agent Analysis*, (1986), 17 *RAND Journal of Economics* (No. 3) 326

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- 51 Aidan Vining, Anthony Boardman, Finn Poschmann, “Public-private partnerships in the U.S. and Canada: There are no ‘free lunches’,” (2005), 7 *Journal of Comparative Policy Analysis* (No. 3) 199
- 52 See, generally, Lawrence Summers, “Beware moral hazard fundamentalists,” *Financial Times*, September 23, 2007
- 53 See, for instance, Mark V. Pauly, The Economics of Moral Hazard: Comment, (1968), 58 *The American Economic Review* (No. 3, Pt. 1) 531; Kenneth J. Arrow, The Economics of Moral Hazard: Further Comment, (1968), 58 *The American Economic Review* 537; Mark V. Pauly, “Over-insurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection,” (1974), 88 *The Quarterly Journal of Economics* (No. 1) 44
- 54 Steven Shavell, On Moral Hazard and Insurance, (1979), 93 *The Quarterly Journal of Economics* (No. 4) 541
- 55 R. Arnott, J. Stiglitz, “Moral hazard and non-market institutions: dysfunctional crowding out of peer monitoring,” (1991), 81 *The American Economic Review* (No. 1) 179
- 56 Max H. Bazerman, William F. Samuelson, “I Won the Auction but Don’t Want the Prize,” (1983), 27 *Journal of Conflict Resolution* (No. 4) 618
- 57 AFP denotes “alternative finance and procurement.” Ontario refers to AFP. It is also referred to as “PFI” or “private finance initiative” procurement, “public-private partnership,” and “P3.”
- 58 Aidan R. Vining, Anthony E. Boardman, “Public-private partnerships in Canada: Theory and evidence,” (2008), 51 *Canadian Public Administration* (No. 1) 9
- 59 G. Triantis, “Unforeseen Contingencies: Risk Allocation in Contracts,” in B. Bouckaert, G. De Geest (eds), 3 *Encyclopaedia of Law and Economics*, (Cheltenham: Edward Elgar, 2000) 100 at p. 101
- 60 See, generally, E. Chevallier, H. Müller, (1994), 24 “Risk Allocation in Capital Markets: Portfolio Insurance, Tactical Asset Allocation and Collar Strategies,” *Astin Bulletin* (No. 1) 5
- 61 R. Posner, A. Rubinfeld “Impossibility and Related Doctrines in Contract Law: An Economic Analysis”, (1977), 6 *Journal of Legal Studies* (No. 1) 83
- 62 The level of compensation varies from one contract to another. Typically, the contractor is compensated for work done to the date of termination, plus any direct costs attributable to termination (e.g. re-stocking charges, termination payments). However, usually no compensation is provided for lost profit or for opportunity costs. There are also likely to be other costs that would normally be recoverable as damages that fall outside the scope of compensation.
- 63 Scott E. Masten, “Long-Term Contracts and Short-Term Commitment: Price Determination for Heterogeneous Freight Transactions,” (2009), 30 *Am. Law & Econ. Review* 369
- 64 Y. Shi, L. K. Chu, Shi Ye, Ni Jian, “A Portfolio Approach to Procurement Risk Management,” (2010), 66 *Proceedings of the 6th CIRP-Sponsored International Conference on Digital Enterprise Technology*

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- 65 See, generally, *PSI Energy, Inc. v. Exxon Coal USA, Inc.* (1993), 991 F.2d 1265 (7th Cir.)
- 66 Contractual flexibility or rigidity for public private partnerships? Theory and evidence from infrastructure concession contracts,” (2008), MPRA Paper No. 10541, on-line at: <http://mpra.ub.uni-muenchen.de/10541/>
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- 68 Timothy J. Murphy, “The case for public-private partnerships in infrastructure,” (2008), 51 *Canadian Public Administration* (No. 1) 99 at p.108
- 69 See, generally, H.N. Amato, E.E. Anderson, “Determination of warranty reserves: an extension,” (1976), 22 *Management Science* 1391; K.R. Balachandran, R.A. Maschmeyer, J.L. Livingstone, “Product warranty period: a Markovian approach to estimate and analysis of repair and replacement costs,” (1981), 4 *The Accounting Review* 59; V. Padmanabhan, R.C. Rao, “Warranty policies and extended service contract: theory and an application to automobiles,” (1993), 12 *Marketing Science* 230; L. Yeh, K.W.L. Peggo, “An extended warranty policy with options open to consumers,” (2001), 131 *European Journal of Operational Research* 514
- 70 Seow-Eng Ong, “Building defects, warranties and project financing from pre-completion marketing,” (1997), 8 *Journal of Property Finance* (No. 1) 35
- 71 Ellen Day, Richard J. Fox, “Extended Warranties, Service Contracts and Maintenance Agreements—A Marketing Opportunity,” (1985), 2 *Journal of Consumer Marketing* 77
- 72 The market for extended appears to have grown despite at least some evidence that consumers in general believe that the price for extended warranty coverage is substantially higher than its fair price. See, generally, Lisa E. Bolton, Luk Warlop, Joseph W. Alba, “Consumer Perceptions of Price (Un)Fairness,” (2003), 29 *J. of Consumer Research*; Irene Daskalopoulou, Anastasia Petrou, “Consumers’ expenditures and perceived price fairness, (2006), 33 *International Journal of Social Economics* 766. This perceptions can only be correct if the price of extended warranty coverage exceeds the benefit associated with securing it. The purchase of coverage at a perceived “unfair” price means that consumers are making what must appear on the basis of the information available to them to be a fundamentally irrational choice. Within Government, many of the more sophisticated purchasing people with whom we have discussed extended warranty coverage have indicated that they perceive that they are making a bad bargain. However, in those cases, the individuals concerned have indicated that they have no choice but to proceed with the purchase because they are acting under the instructions of their superiors.
- 73 Craig Kelley, Jeff Conant, “Extended Warranties: Consumer and Manufacturer Perceptions,” (2010), 25 *Journal of Consumer Affairs* (No. 1) 68
- 74 For a technical discussion in relation to the optimal pricing of such coverage, see: Yeh Lam, Peggo Kwok, Wai Lam, “An extended warranty policy with options open to consumers,” (2001), 131 *European Journal of Operational Research* (No. 3) 514

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- 75 Thomas J. Maronick, "Consumer perceptions of extended warranties," (2007), 14 *Journal of Retailing and Consumer Services* (No. 3) 224
- 76 "4 Computational Methods for the Discounted Cost Problem," (1972), 67 *Mathematics in Science and Engineering* 35
- 77 See, for instance, Gopinath Chattopadhyaya, Anisur Rahman, "Development of lifetime warranty policies and models for estimating costs," (2008), 93 *Reliability Engineering & System Safety* (No. 4) 522
- 78 Zhiqi Chen, Thomas W. Ross, "Why are extended warranties so expensive?" (1994), 45 *Economics Letters* (No. 2) 253
- 79 Joseph C. Nunes, Christopher K. Hsee, Elke U. Weber, "Why Are People So Prone to Steal Software? The Effect of Cost Structure on Consumer Purchase and Payment Intentions," (2004), 23 *Journal of Public Policy & Marketing* 43
- 80 This phrase can be traced back to the 1940s, but it was popularized among economists by Milton Friedman: in his book: *There's No Such Thing as a Free Lunch: Essays on Public Policy*, (New York: Open Court Pub., 1977)
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- 82 Friedrich Kessler, "Contracts of Adhesion--Some Thoughts about Freedom of Contract," (1943), 43 *Columbia Law Review* (No. 5) 629
- 83 See, for instance, Florencia Marotta-Wurgler, Competition and the Quality of Standard Form Contracts: The Case of Software License Agreements, (2008), 5 *Journal of Empirical Legal Studies* 447
- 84 See, for instance, Sanford J. Grossman, Oliver D. Hart, "The Allocational Role of Takeover Bids in Situations of Asymmetric Information," (1981), 36 *Journal of Finance* (No. 2), *Papers and Proceedings of the Thirty Ninth Annual Meeting American Finance Association*, 253; James R. Booth, Lena Chuac, "Ownership dispersion, costly information, and IPO under-pricing," (1996), 41 *Journal of Financial Economics* (No. 2) 291
- 85 Patricia Williams, "Construction industry anticipates new Canadian Construction Documents Committee 2 document," *Daily Commercial News*, October 25, 2007
- 86 Such as British Columbia.
- 87 See, for instance, Tender T13-2009 Renovations to the City Clerks Office, Vestibule and Receiving Area - City Hall, Niagara Falls, January, 2010: "This tender utilizes the CCDC 2-2008 Stipulated Price Contract as issued by the Canadian Construction Documents Committee." On-line at: http://www.niagarafalls.ca/city_hall/departments/clerks/supply_and_services/tender_attach/T13-2009/Section-1-2.pdf

See also Corporation of Prince Edward County Recreation, Parks and Culture, Request for Proposal 2010-RPC-028, May 2010, on-line at: http://www.pecounty.on.ca/Government/corporate_services/pdf/2010-RPC-028ArchitecturalServicesforMacaulayChurchRehabilitation.pdf

- 88 Patricia Williams, "Ontario's health ministry adopts CCDC2-based guide to bidding and supplementary conditions," *Daily Commercial News*, May 6, 2008
- 89 "CCDC2-2008 Stipulated Price Contract Overview of the Changes in the 2008 Version and Recommended Supplementary Conditions," OAA Practice Tip PT23.1, available on-line at: <http://www.oaa.on.ca/client/oaa/OAAHome.nsf/9fdcf68a03d24d2852574c600659c05/4c6972e2d330c7b78525766b0054ef27!OpenDocument>
- 90 Patrick Bajari, Steven Tadelis, "Incentives versus transaction costs: a theory of procurement contracts," (2001), 32 *RAND Journal of Economics* (No. 3) 387: "There is a surprising amount of standardization in the contracts used in building construction. The American Institute of Architects (AIA) and the Associated General Contractors (AGC) provide standard forms of contract that are used by many buyers as general conditions for private-sector building. These documents have the advantage that the central clauses are well understood in the industry, and there exists a significant body of case law on the interpretation of the contract conditions."
- 91 See, for instance, British Columbia Housing, Supplementary General Conditions To The Stipulated Price Contract CCDC2-2008, available on-line at: <http://www.bchousing.org/resources/Bid/2009-10/1080-0910-20/CCDC%20%20-%20Supplementary%20Conditions.pdf>
- 92 At no point in TFBA was there any statement or suggestion that four bids represented a "sufficient number of bids" or much less the optimal number of bids for a tender based contract award. In fact, neither the phrase "sufficient number of bids" nor "insufficient number of bids" appear in TFBA. The point advanced in TFBA is that where the number of bids drops below four, then it is almost certain that the contract competition will not go well for the Government, since at less than four bids, the Government will be contracting in a very concentrated market—and likely will be paying close to the monopoly price.
- 93 It is interesting to note that most Government agencies will secure between three and seven price quotes (most use from three to five) when engaging in a limited competitive procurement. However, such perceptions have no necessary relationship with the question of whether they are getting a competitive market price. In the marketing field, it has been found that for low-price purchases, consumers perceive they are provided with a fair price when they have a choice of between three and seven price offerings. Sarah Maxwell, "Hyperchoice and high prices: an unfair combination," (2005), 14 *Journal of Product & Brand Management* 448
- 94 Reza Saidi, James R. Marsden, "Number of bids, number of bidders and bidding behaviour in outer-continental shelf oil lease auction markets," (1992), 58 *European Journal of Operational Research* (No. 3) 335
- 95 Antonio Estache, "Bidder Asymmetry in Infrastructure Procurement: Are there any Fringe Bidders?" (2008), ECARES Working Paper No. 20

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- 96 D.S. Drew, M.R. Skitmore, "Prequalification and c-competitiveness," (1993) , 21 *International Journal of Management* (Pt. 3) 363
- 97 In some cases, there is a significant cost to prospective bidders from participation in a tender (which is rare) or RFP (which is quite possible). A practice of overly open competition for Government/BPS contracting would be likely to result in the inclusion of higher allowances for overhead in the bid price (estimated by one authority to be in the range of 0.7 to 1.0 per cent of contract value per bidder). R. Flanagan, G. Norman, "Pricing Policy," in P.M. Hillebrandt and J. Cannon (eds.), *The Management of Construction Firms*, (Intl Specialized Book Service, 1989) at 129. This additional cost arises where contractors perceive that the number of other bidders against which they must compete will materially increase the number of bids required to reach their target turnover; the extent of their control over the choice of work; the accuracy of the coverage against risk incorporated into their tender pricing.
- 98 Except for the waste treatment plant, the contracts in question here for Town "A" and "B" are drawn from published contracts of two Southern Ontario municipalities open for bidding at the time when we prepared this Report.
- 99 The standard deviation of a statistical population, a data set, or a probability distribution is the square root of its variance. The variance is the average of the squared differences from the mean. It is obtained by working out the mean, and then for each member of the sample subtracting the mean and then squaring the result (the squared difference). Squaring each difference makes them all positive numbers.
- 100 These began with W. Vickrey, "Counter-speculation, Auctions and Competitive Seal Tenders," (1961), 16 *Journal of Finance* (No. 1) 8
- 101 As noted above, one important exception to this general rule applies where the nature of a contract competition, such as an RFP, entails a significant amount of preliminary work. In such cases, the owner may be well advised to keep the number of bids at a reasonable level, rather than to seek out all comers. However, even in such cases, receipt of four or fewer bids is unlikely to result in competitive pricing.
- 102 See, generally, Joseph T. L. Ooi, Geoffrey K. Turnbull, C.F. Sirmans, "Price Formation under Small Numbers Competition: Evidence from Land Auctions in Singapore," (2006), 34 *Real Estate Economics* (No. 1) p. 51. This particular study looks at tender sales, but the conclusions are readily applied in the tender purchase context.
- 103 R.M. Skitmore, "Raftery curve construction for tender price forecasts," (2002), 20 *Construction Management and Economics* (Part 1) 83
- 104 There are more sophisticated measures, such as the Herfindahl-Hirschman Index (or HHI), but they do not affect the validity of the analysis here, and therefore need not concern us.
- 105 Lawrence White, "Economics, Economists & Antitrust: A Tale of Growing Influence," in J.J. Siegfried (ed.) *Better Living Through Economics*, (Cambridge: Harvard Univ. Press, 2010) at p. 230

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- 106 Willard F. Mueller “The New Attack on Antitrust,” in A.A. Heggestad (ed.), *Public Policy Towards Corporations*, (Gainesville: Univ. Presses of Florida, 1988) at p. 64. For readers who note the apparent contradiction in this quotation, it may be explained as follows: Tenders are of two kinds. A tender conducted by a seller tends towards a lower selling price as the number of bids declines (this being the opposite of what the seller wants). A tender conducted by a buyer tends to a higher purchase price as the number of bids declines (this being the opposite of what the buyer wants).
- 107 Wayne D. Purcell, *Pricing And Coordination In Consolidated Livestock Markets Captive Supplies, Market Power, IRS Hedging Policy*, (Blacksburg, Virginia: Research Institute on Livestock Pricing, 1992) at p. 14
- 108 i.e. control less than 40% of the value of the contracts awarded
- 109 Wayne D. Purcell, *Pricing And Coordination In Consolidated Livestock Markets Captive Supplies, Market Power, IRS Hedging Policy*, (Blacksburg, Virginia: Research Institute on Livestock Pricing, 1992) at p. 14
- 110 C.E. Ward, “A Review of Causes for and Consequences of Economic Concentration in the U.S. Meatpacking Industry,” [2002] *Current Agriculture, Food & Resource Issues* (No. 3) 1
- 111 G.W. Brewster, D. Musick, “The Effect of Market Concentration on Lamb Marketing Margins,” (1995), 27 *J. Agr. & Applied Economics* 172 at p. 180
- 112 See, for instance, Barbara Wake Carroll, “Market Concentration in a Geographically Segmented Market: House-building in Ontario, 1978-1984,” (1998), 14 *Canadian Public Policy* (No. 3) 295
- 113 At p. 9
- 114 Information obtained from the Infrastructure Ontario Website at:
<http://www.infrastructureontario.ca/en/projects/index.asp>
- 115 Market concentration in PFI contracting has been documented in other countries as well. In the UK, for instance, the top ten participants hold 51% of the market. However, the Ontario experience dwarfs anything seen in Great Britain. See Frederic Blanc-Brude, Olivia Jensen, “Competing for Public Sector Procurement Risk Evidence from PFI School contracts in the UK,” Paper presented at the Chaire EPPP International Conference on “Contracts, Procurement, and Public-Private Arrangements”, Paris, June 14-15, 2010
- 116 See, for instance, David Hirshleifer, Sheridan Titman, “Share Tendering Strategies and the Success of Hostile Takeover Bids,” (1990), 98 *Journal of Political Economy* (No. 2) 295; John W. Byrd, Kent A. Hickman, “Do outside directors monitor managers? Evidence from tender offer bids,” (1992), 32 *Journal of Financial Economics* (N. 2) 195; Richard S. Ruback, “Assessing competition in the market for corporate acquisitions,” (1983), 11 *Journal of Financial Economics* 141

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- 117 See, for instance, Patrick Bajari, Ali Hortaçsu, “The Winner’s Curse, Reserve Prices, and Endogenous Entry: Empirical Insights from eBay Auctions,” (2003), 34 *RAND Journal of Economics* (No. 2) 329. James H. Gilkeson, Kristy Reynolds, “Determinants of internet auction success and closing price: An exploratory study,” (2003), 20 *Psychology and Marketing* (No. 6) 537
Most of these studies have implications well outside the context of eBay itself.
- 118 See, generally, Kenneth R. French, Robert E. McCormick, “Sealed Bids, Sunk Costs, and the Process of Competition,” (1984), 57 *Journal of Business* (No. 4) 417: In an auction sale, buyers often pay less for an asset than they think it is worth, even when there is vigorous competition. Kenneth Hendricks, Joris Pinkse, Robert H. Porter, “Empirical Implications of Equilibrium Bidding in First-Price, Symmetric, Common Value Auctions,” (2003), 70 *Review of Economic Studies* (No. 1) 115: Bidders in the sale of Government assets often under-bid the price out of their concerns relating to the winner’s curse.
- 119 Lawrence Friedman, “A Competitive-Bidding Strategy,” (1956), 4 *Operations Research* (No. 1) 104
- 120 See, for instance, Paul Milgrom, “Auctions & Bidding: A Primer,” (1989), 3 *J. of Economic Perspectives* (No. 3) 3
- 121 D. Lucking-Reiley, D. Bryan, N. Prasad, D. Reeves, “Pennies from E-bay: The Determinants of Price in Online Auctions,” (2007), 55 *Journal of Industrial Economics* (No. 2) 223: “A 1% increase in the seller’s positive feedback ratings yields a 0.03% increase in the auction price, on average. The effect of negative feedback ratings is much larger, and in the opposite direction: a 1% increase causes a 0.11% decrease in auction price, on average.” Based on a study of 20,000 online auctions. See also: Paul Resnick, Richard Zeckhauser, John Swanson, Kate Lockwood, “The Value of Reputation on eBay: A Controlled experiment,” (2006), 9 *Journal Experimental Economics* 79, which identified an even stronger relationship between price and a positive reputation.
- 122 Bernard Elyakime, Jean-Jacques Laffont, Patrice Loisel, Quang Vuong, “Auctioning and Bargaining: An Econometric Study of Timber Auctions with Secret Reservation Prices,” (1997), 15 *Journal of Business & Economic Statistics* (No. 2) 209
- 123 See, for instance, Richard Tonge and Caroline Willett, “Cost Saving Through Competitive Tendering: The Case of Refuse Collection Revisited,” 5 *Journal of Finance and Management in Public Services*. (No. 2) 53; Andrés Gómez-Lobo, Stefan Szymanski, “A Law of Large Numbers: Bidding and Compulsory Competitive Tendering for Refuse Collection Contracts,” (2001), 18 *Journal Review of Industrial Organization* (No. 1) 1 See also J. Ernest Tanner, “The Determinants of Interest Cost on New Municipal Bonds: A Reevaluation,” (1975), 48 *Journal of Business* (No. 1) 74
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- 125 Dan Ariely, Itamar Simonson, “Buying, Bidding, Playing, or Competing? Value Assessment and Decision Dynamics in Online Auctions,” (2003), 13 *Journal of Consumer Psychology* (No. 1) 113

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- 127 Esther Cheung, Albert Chan, Stephen Kajewski, "Enhancing value for money in public private partnership projects: findings from a survey conducted in Hong Kong and Australia compared to findings from previous research in the UK," (2009), 14 *Journal of Financial Management of Property and Construction* (No. 1) 7
- 128 See "Construction Firms Fined for Illegal Bid-rigging," on-line at: <http://www.oft.gov.uk/news-and-updates/press/2009/114-09>
- 129 See, for instance, A.N. Kleit, H.P. Palsson, "Horizontal concentration and anticompetitive behaviour in the central Canadian cement industry: testing arbitrage cost hypotheses," (1999), 17 *International Journal of Industrial Organization* (No. 8) 1189
- 130 P. Bajari, R. McMillan, S. Tadelis, "Auctions versus Negotiations in Procurement: An Empirical Analysis," (2002), Stanford University, Department of Economics Working Paper No. 02007, available on-line at: <http://www-econ.stanford.edu/faculty/workp/swp02007.pdf>
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- 132 <http://www.oecd.org/dataoecd/27/19/42851044.pdf>
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- 134 "Construction scandal dogs Quebec premier," Daily Commercial News, December 9, 2009; "Tory senator linked to key players in Quebec scandal," Canadian Press, October 27, 2009
- 135 "The New Toronto: More Potholes, Dirtier Streets And Longer Snow Removal Waits/List Of Cuts," (August 10, 2007), CityNews.ca . For some the process began earlier, see: Rob Faulkner, "Catholic board puts off costs to balance budget," The Hamilton Spectator April 8, 2006. Rick Hughes, "Staff told to find more tax cuts in budget; Hamilton mayor says 5.75% increase is 'not acceptable,'" *The Hamilton Spectator* (March 28, 2002) : "... corporate secretariat, which last year had a budget of \$5.8 million would be trimmed by \$1.4 million by eliminating various auditing, training, support and communication functions."
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- 137 *Procurement Practices Review: Directed contracts under \$25,000 – a risk-based study: Strengthening the confidence of Canadians in public procurement*, Ottawa, Ministry of Government Services, July 2010, p. 11
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- 139 Andrew Smith, “Return on Investment in Staff Training—An Introduction,” in A. Smith (ed.) *Return on Investment in Staff Training*, (Kensington Park, S. Aust.: National Centre for Vocational Education Research, 2001)
- 140 See, for instance, the syllabus for the Osgoode Professional Development “Intensive Public Procurement” for last November: http://www.pmac.ca/PDF/OPD%20Public%20Procurement_PM.pdf.
- 141 Not all Government construction procurement is by way of tender. At the Federal level, for large dollar (\$25,000+) contracts, approximately 60 per cent of the total contracts are awarded on a non-competitive basis. In addition, PFI contracting is carried out through a process of both competition (to identify a preferred proponent) and negotiation with the party so selected. Early studies of PFI suggested that it offered a mechanism for shifting most risk to the private sector. Li Binga, A. Akintoyea, P. J. Edwards, C. Hardcastle, “The allocation of risk in PPP/PFI construction projects in the UK,” (2005), 23 *International Journal of Project Management* (No. 1) 25. Current practice, however, is to share risk between the Government and project company, and the trend is strongly back towards the prevailing pattern of risk and reward allocation in contracts between private parties.
- 142 See Nooshin Mahalia, *Prevailing wages and Government contracting costs: A review of the research*,” (July 3, 2008). EPI Briefing Paper #215
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- 145 At p. 85; available online at: http://www.auditor.on.ca/en/reports_en/en09/302en09.pdf

RCCAO members include: Carpenters' Union • Greater Toronto Sewer and Watermain Contractors Association
• Heavy Construction Association of Toronto • International Union of Operating Engineers, Local 793
• International Union of Painters and Allied Trades, District Council 46 • Joint Residential Construction Council
• LIUNA Local 183 • Residential Carpentry Contractors Association • Toronto and Area Road Builders Association



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