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INCREASING COMPETITION BY REDUCING BID RIGGING IN LATIN AMERICA

Background note by the Secretariat

1. Introduction

1. Bid rigging involves conspiracies between competitors to fix prices, allocate markets or customers or otherwise harm competition. Typically bid rigging involves actions taken against federal state and local governments to inhibit the government's ability to obtain goods and services at the lowest possible price. Because procurement officials are frequently well positioned to detect signs of unlawful bidding arrangements, an OECD Council Recommendation recommends that more countries expand their awareness programmes, and work more extensively with procurement officials in an effort to fight bid rigging more effectively.¹

2. One reason for this recommendation is that public procurement generally accounts for a large share of public expenditure in the domestic economy. For example, a recent OECD publication estimates that in Brazil, Columbia, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Peru as well as in other Latin American countries procurement expenditures account for between 5-15% of GDP (depending on how it is measured).² And, if we assume that only 1% of all procurement expenditures in Latin American involve some sort of bid rigging then bid rigging increases public expenditures by roughly 40 million USD each year in Chile alone.³ Although this is clearly a rough estimate it does indicate that substantial efforts should be devoted towards reducing bid rigging.

¹ OECD, 1998 Recommendation of the Council concerning Effective Action Against Hard Core Cartels.

² See OECD paper on The Size of Government Procurement Markets (2002).

³ If we assume that Chile's GDP in 2006 was approximately 200 billion USD then one can estimate the impact of bid rigging on Chile as follows: 40,000,000 USD = 200,000,000,000 USD (Chile's GDP accounting for purchasing power of parity) * .1 (fraction of procurement) * .01 (fraction subject to bid rigging) * .2 (estimated price increase).

3. Another significant reason for focussing attention on the public procurement authority is that it typically has good knowledge of the relevant industry sector and it can observe patterns in bidding processes that could indicate unlawful collusive activity. Moreover, the procurement authority can take positive steps towards reducing bid rigging and in general increasing competition. Unfortunately, however, this Background Note finds that systematic efforts to educate procurement officials exist only in a few countries. This suggests that procurement authorities and officials in many Latin American countries are not yet sufficiently aware of the danger of cartels among firms participating in bidding procedures and of the important role they can play in preventing and detecting cartels.

4. The main objectives of this Background Note are to survey a variety of issues related to bid rigging and procurement as well as to offer some guidance to Latin American competition and procurement authorities on how to reduce the formation of cartels by designing tenders which maximise effective competition.

5. This Background Note also describes numerous advocacy efforts by Latin American competition authorities to increase competition in procurement through advocating changes in procurement rules or the design of auctions. It also details a successful instance in which a Latin American competition authority stopped firms from rigging bids.

6. This Background Note is structured as follows:

- The first part of this Note summarizes the types of bidding models which are more commonly used and the risks related to competition that these models may entail.
- The second part discusses efforts to reduce the risk of bid rigging. In particular, this part discusses how public procurement agencies can structure tenders to minimize or eliminate up-front the risks for competition and what competition authorities can do to help procurement agencies.
- Finally, it discusses the signs of bid rigging that public procurement officials should be aware of, in order to increase the effectiveness and timeliness of authorities' intervention against anticompetitive conduct.

2. Bidding models, public procurement and competition issues

7. "Procurement" is the purchase of goods and services by public or private enterprises. The bidder with the lowest price enters into an obligation to provide the goods or services which have been tendered. The primary objective of an effective procurement policy is the promotion of efficiency, i.e. the selection of the supplier with the lowest price or, more generally, the achievement of the best "value for money". It is therefore important that the procurement process is not affected by practices such as collusion, bid rigging, fraud and corruption.

8. Procurement is often, but not always, carried out through competitive "bidding" or "tendering" processes. There are, of course, many desirable economic efficiency features of competitive processes. In particular, a bidding process may both identify the most efficient supplier of a certain good or service and simultaneously determine the efficient price. Open, competitive processes may also ensure access to business opportunities for new suppliers and can be more easily defended against claims of discrimination or favouritism.

9. "Public procurement" is the purchase of goods or services by the public sector. Public procurement raises specific interests because of the peculiar situation that occurs when the public sector

acts as a buyer on the market. If the public purchasing entity faces a supply side that is made of a small number of suppliers, the resulting interaction can be described as one between a group of oligopolists and a very special buyer. In some cases, this very special buyer may also represent the largest (or even the only) buyer on the market, hence enjoying market power on the demand side (i.e. a monopsonist).⁴

10. The peculiarity of a public purchaser as compared to a private purchaser is that the government has more limited strategic options. Whereas a private purchaser can choose his strategic actions within a wider set of options, the public sector is subject to transparency requirements and generally is constrained by legislation and detailed administrative regulations and procedures on public procurement. While these rules are set as an attempt to avoid any abuse of discretion by the public sector⁵, the resulting lack of flexibility limits the opportunities for the public purchaser to react strategically when confronted with cooperation among potential contractors seeking to increase profits.

2.1 *Bidding models, bidding strategies and outcomes*

11. It is complex (and beyond the scope of this Note) to synthesise all the types of auction or procurement settings that are used by public authorities to sell or purchase goods and services on the market place.

12. Standard bidding models can be subject to a number of variations and details, which may include for example reserve prices and restrictions on bid increments and on bid timing. Further complications are introduced when multiple objects are being purchased, either simultaneously or sequentially.

Standard Bidding Models

There is a vast literature on bidding at auctions and procurement which identifies four main standard bidding models⁶. These four models can be classified into *open and dynamic* bid models (where participants can submit a series of bids up to reaching their own maximum value and the content of their bids is publicly known) and *sealed and static* bid models (where each participant simultaneously makes a single “best and final” bid, which is secret⁷):

- *Ascending auction*. In an ascending auction, the price is raised until only one bidder remains and the highest bid is the final price.

⁴ Buyer power of procuring entities may exist, for example, where the demand of the state and/or state-controlled enterprises represents a large part of the market and private demand is scarce or where procuring institutions cooperate for buying goods and services. However, reaching such a conclusion requires an in-depth analysis of the market structure. There could be private buyers competing with the public sector in attracting the supply of the same or substitutable goods, and other private or public buyers outside the territory of the public purchasing entity.

⁵ Transparency and non-discrimination obligations together with formal requirements with which procurement processes have to comply may limit the exercise of the public sector’s bargaining power. This is for instance the case in the European Union, where the Directives on public procurement define rules that have to be followed by all contracting authorities.

⁶ For a detailed discussion on auction and bidding models, see OECD, Roundtable on Competition in Bidding Markets, Background Note by the Secretariat, DAF/COMP(2006)27.

⁷ As it will be discussed further, transparency and availability of true information in the bidding process are, in various ways, key elements in auction and procurement design.

- *Descending auction.* In a descending auction, the price is lowered until a bidder cries out and that is the final price.
- *First-price sealed-bid auction.* In this model, each bidder submits a single bid without knowing the other bids; the highest bidder wins and pays his bid.
- *Second-price sealed-bid auction.* In this model, each bidder submits a single bid without knowing the other bids; the highest bidder wins but pays the amount of the second-highest bid.

Over the years a number of variations on these four basic bidding models have developed, including hybrid models, such as the *Anglo-Dutch auction*, which captures features of both the ascending model (often called “English”) and of the sealed-bid model (or “Dutch”)⁸. In an Anglo-Dutch auction the auctioneer begins by running an ascending auction in which price is raised continuously until all but two bidders have dropped out. The two remaining bidders are then each required to make a final sealed-bid offer that is not lower than the current asking price, and the winner pays his bid.

In each of the four models described above, if the value of winning the contract depends *only* on the bidder’s own characteristics, like its own costs, the auction is called a *private value auction*. Alternatively, if the value of winning the contract depends on factors affecting all bidders, such as the consumers’ willingness to pay and regulators’ future behaviour, the auction is a *common value auction*⁹.

Despite the apparent differences between the four standard bidding models, it is possible to group them in two very similar categories in terms of bidding strategies and outcomes.

Both in an *English auction* and in a *second-price sealed-bid auction*, each bidder stays in the bidding process until the price reaches the bidder’s own value. After the bidder with the second-highest valuation drops out, the only remaining active bidder is the one with the highest valuation. It wins at the price equal to (or perhaps just slightly higher than) the second-highest valuation. The difference between the two models is that in a *second-price sealed-bid auction* the winning bidder pays the second-highest valuation.

In a *Dutch auction* and in a *first-price sealed-bid auction*, bidders must trade off bidding higher, thus increasing the probability of winning, against bidding lower and increasing the value of winning. The bidder with the highest bid wins and pays his bid, but he is not necessarily the bidder with the highest valuation. His bid is less than his valuation.

13. The various standard bidding models are very similar in terms of outcomes. They yield the same expected revenue under certain conditions and result in each bidder making the same expected payment as a function of his information about the value of the object. This is the so-called *revenue equivalence theorem*.

14. But the “revenue equivalence theorem” does not mean that all auction models are equal from the point of view of competition policy. As will be discussed later, *open tenders* are more susceptible to collusion than *sealed-bid tenders*. Similarly, *private negotiations* with potential suppliers are less likely to lead to collusion than public tender processes.

⁸ This model was proposed the first time in Klemperer (1998).

⁹ *Affiliated values* refer to the intermediate situation between pure private values and pure common values (which could be considered special cases of the general concept of affiliated values).

Auction Design and Competition in Mexico

Recently the Federal Competition Commission (CFC) in Mexico undertook strong advocacy efforts to increase competition in the procurement of pharmaceuticals. After forming a multidisciplinary team, and reviewing past purchasing strategies of public health institutions, it reached two key conclusions:

1. Prices paid for equivalent pharmaceutical products vary significantly among institutions, which indicates that important savings can be captured by implementing purchasing strategies that allowed all institutions to purchase at the lowest paid prices; and
2. Auction designs are not taking full advantage of competition among alternative suppliers; this is even true for institutions paying the lowest price.

Based on these findings the team is now focusing on designing and implementing specific purchasing strategies and auction designs to boost the level of competition in this sector. Indeed, these efforts seem especially significant given that public expenditures on pharmaceuticals in Mexico in 2006 were approximately 2.3 billion USD.¹⁰

2.2 Competition concerns arising in public procurement

15. Generally, the competition concerns that may arise from public procurement are the same that can arise in an “ordinary” market context.

16. The overarching concern with public procurement is that, because formal rules governing public procurement make communication among rivals easier, they can promote collusion among bidders and therefore reduce rivalry, with detrimental effects on the efficiency of the procurement process¹¹. In particular in those instances where entry is difficult and when bidding is not based on a “winner-takes-all” competition¹², collusion can emerge as easily in auctions and bidding processes as in “ordinary” economic markets¹³.

17. In order to achieve and maintain over time a collusive equilibrium, a number of cumulative conditions must apply.

- The colluding parties must be able to agree on a “common policy” (i.e. a common bidding strategy).
- The colluding parties must be able to monitor whether the other firms are adopting such a common policy.
- The consequences of deviations from the common policy (i.e. punishment and retaliation) must be sufficiently severe and credible.

¹⁰ OECD, Roundtable on Public Procurement – The Role of Competition Authorities in Promoting Competition – Mexico, DAF/COMP/WP3/WD(2007)40.

¹¹ For a general overview of collusion in procurement see Albano et al. (2006) and literature cited therein.

¹² Competition is “winner-takes-all” when each participant wins all or none of the order.

¹³ OECD, Roundtable on Competition in Bidding Markets, Note by Prof. Klemperer, DAF/COMP/WD(2006)72.

- The foreseeable reactions of both customers and current and future competitors must not be such as to undermine the common policy.

18. The standard checklists of factors used to detect the risk of emergence of a collusive outcome (i.e. the fulfilment of the cumulative conditions mentioned above) are also appropriate for predicting the likely emergence of a collusive outcome in public procurement markets. Various factors may facilitate the formation of a collusive outcome, although not all of these factors must necessarily be present for collusion to be likely.

19. The main factors are briefly discussed below.

2.2.1. *Market structure and market concentration*

20. Intuitively, the fewer the suppliers, the easier it is for them to collude. A rule of thumb in any market is that more suppliers make for more intense competition, resulting in lower prices and better quality.

21. Similarly, if participation in a tender is limited to a small number of bidders, the costs of organizing a sustainable cartel will be lower; it will be easier for them to find terms of coordination and to monitor whether those terms are actually respected by each bidder; punishment mechanisms will be more effective since cheating firms will be exposed to much higher losses. Generally, a tender with few bidders risks being unprofitable for the procurement entity and potentially inefficient¹⁴.

22. Conversely, if participation in the procurement process is broad, bidders will have greater incentives to deviate from any collusive understanding in order to try and win the tender. Monitoring such deviations will be much more difficult. Incentives to *cheating* will be higher and stability of bidders collusion weaker.

2.2.2. *Market transparency*

23. Collusion can be reached and sustained if firms have complete and perfect information on the main variables of competition. Market transparency allows firms to align their strategies more easily and to promptly detect and punish any deviation from the agreed collusive terms.

24. This means that increased transparency in tenders, such as information about the terms and conditions offered by winning and losing bidders may increase the risk of collusion. As will be discussed further below, there is a clear trade-off between reducing transparency to keep collusion under control and increasing transparency to control corruption and favouritism.

2.2.3. *Entry barriers and participation*

25. Generally, if barriers to entry are low or if substitute products exist, collusion will not be successful. If, on the contrary, high entry barriers protect market incumbents from competitive pressure from potential new entrants, it is more likely that the collusive outcome will be reached and maintained sufficiently stable over time¹⁵.

¹⁴ Bulow and Klemperer (1996).

¹⁵ In procurement markets, for example, if entry barriers are low or absent, then it would not matter if unsuccessful bidders for a public tender were forced to leave the market – the threat of potential competition from new entrants would persist and would constrain the market power of firms in the market.

26. The public sector can raise barriers to enter a procurement market if it adopts procurement practices that have the effect of restricting participation in public tenders¹⁶. It is important that conditions for accessing the tendering process are not such as to unnecessarily restrict participation. If unjustifiably selective, those conditions may be viewed as a barrier to entry into the procurement market.

Collusion and Entry Barriers in Brazil

Although it is often said that high entry barriers make collusion more successful that does not always need to be the case. Instead, cartel participants may try to manipulate the requirements that companies need to meet in order to exclude competition as the following case from Brazil demonstrates.

In October 2003, the Secretariat of Economic Law (SDE) opened administrative proceedings against 21 companies, three trade associations and 30 individuals to investigate an alleged 16-year bid-rigging cartel involving security companies. The target of the cartel was a number of public tenders organized primarily by the Superintendência Regional da Receita Federal in Rio Grande do Sul and Secretaria Municipal de Saúde of Porto Alegre.

In October 2003, one of the members of the cartel decided to apply to the Brazilian Leniency Program, in order to obtain full immunity from administrative fines and criminal sanctions. It was the first leniency agreement signed by the Brazilian authorities. In order to obtain full immunity, the beneficiary of the Leniency Program submitted direct evidence of the bid-rigging, including employees' testimonies and audio records of telephone conversation, held between the beneficiary's employees and the other cartel participants.

Entry in the market at issue was apparently easy: there was a significant number of security companies with activities in Rio Grande do Sul (approximately 60), and no sophisticated service was involved. The investigation indicated that the defendants adopted a number of strategies to discourage other companies to participate in the public tenders for security service. For example, they built a reputation of practicing predatory pricing to eliminate potential competitors. What is interesting, however, is that even while entry in the traditional sense was easy, the bid-rigging participants tried to manipulate the requirements that a company had to meet in order to qualify for participation in the public tenders. Also notable was the fact that according to the beneficiary of the Leniency Program, the conspiracy also involved corruption.

In September 2006, the SDE completed its investigation and concluded that 12 companies, 12 individuals and three trade associations should be held liable for bid-rigging, and forwarded the case to Brazil's Antitrust Tribunal (CADE) for final judgment. Although no extensive research has been conducted so far, some evidence indicates that the prices in public tenders for security services in Rio Grande do Sul decreased after SDE's enforcement action.¹⁷

27. On the other hand, designing public tenders to merely increase the number of bidders may not necessarily increase competition where the additional bidders are known to be weaker. To increase

If the threat posed by new entry is not credible due to high entry costs, incumbents will be more likely to reach and maintain a collusive agreement.

¹⁶ This is because the public sector may be more risk averse than a private purchaser. Any failure of procurement that jeopardises the ability of the public sector to provide services to the public is highly visible, and may have significant detrimental effects. As a result, avoiding failures is a high priority for the public sector. This may lead to an overly strong incentive to limit participation in public tenders to large and reputable firms, or to stick with incumbent suppliers.

¹⁷ OECD, Roundtable on Public Procurement – The Role of Competition Authorities in Promoting Competition – Brazil, DAF/COMP/WP3/WD(2007)18.

competition, procurement processes should be designed to ensure participation by the “right” bidders for the goods or services tendered, rather than by “any” bidder¹⁸.

2.2.4. *Residual competition*

28. For collusion to be sustainable over time it is necessary that participants are in a position to jointly raise prices on the market to the monopoly level. The number and the strength of the *outsiders* to the collusive understanding is an important factor in assessing if collusion is a likely market outcome.

29. In this respect, the public sector may structure public tenders to affect market structure by awarding contracts to a larger number of firms and therefore maintaining diversity on the supply side. Or, even without rotating the suppliers in the market, public procurement should not increase the gap between market leaders and other suppliers, or create incumbency advantages for contractors in future tenders.

2.2.5. *Buyer power*

30. If the purchaser enjoys some degree of market power, it can use it to destabilise any possible collusive understanding amongst the sellers. Therefore, buyer power can be used to make suppliers compete more vigorously, jeopardizing attempts to collude.

31. In the case of public procurement, because the purchasing entity is the public sector, it may enjoy purchasing power by virtue of the size of its demand or because of its importance as a customer. Where the public sector, through its procurement, exercises countervailing buyer power, it keeps a check on suppliers’ market power, making suppliers compete more vigorously for public contracts than they otherwise would. The exercise of countervailing buyer power may sustain a competitive market in the long-term, or even help new suppliers overcome entry barriers.

32. However, because public procurement decisions may not be necessarily driven by a desire to maximise profits¹⁹, the public sector may be considered less likely to engage in the exercise of buyer power with the objective of gaining advantages over other buyers of similar goods and services. In this respect, it is also important that the regulatory framework applicable to public procurement leave sufficient flexibility to the procurement entity to exercise its countervailing buyer power.

2.2.6. *Stability of market conditions*

33. It is easier to coordinate the respective strategies in a market whose conditions (i.e. the demand and supply functions) are relatively stable.

34. If such variables tend to change frequently, i.e. the demand is unpredictable, volatile or lumpy and the supply conditions are constantly changing, it will be difficult to know if deviations from the agreed collusive terms are due to a maverick attempt to gain market shares (and therefore should be punished) or if they are mere reactions to a demand shock in order to find a new equilibrium.

¹⁸ This may be particularly important with regard to setting prequalification criteria for restricted tenders, which determine not just the likely number of bidders, but also their characteristics.

¹⁹ The public sector may pursue a variety of policy objectives through its procurement, such as environmental, affirmative action or industrial policy objectives. Such objectives could potentially lead to an adverse impact on competition or perhaps even require a restriction or distortion of competition amongst suppliers. This could be for example the case if the procurement process were to increase the gap between large and small firms within a market or force some firms to leave the market altogether.

35. In a public procurement context, the incentives to under-bid competitors are larger if demand is large at present, but expected to fall in the future. This means that a constant, predictable flow of demand from the public sector may increase the risk of collusion.

2.2.7 Repeated interaction and multi-market contacts

36. A collusive equilibrium is only possible if the same firms regularly meet and interact in the market place. Only in this case, are firms capable of adapting their respective strategy by acting and reacting to competitors' strategies.

37. Therefore, collusion in public procurement is more easily sustained when bidders interact repeatedly, either in the same market over time, or in different markets (so-called *multi-market contacts*), because repeated interaction allows bidders to observe their respective patterns in bidding and it allows for more effective punishment of firms trying bidding below the collusive level. Splitting up a requirement across multiple tenders, for instance, can increase the risk of collusion.

2.2.8 Symmetry among firms

38. Intuitively, it is easier to collude if firms are similar.

39. If there are significant differences in the size, market share and cost structure of the colluding firms, the collusive strategy is unlikely to be sustained over time. Asymmetries, which are likely to result in differences in market shares, can in fact prevent firms from correctly allocating the reduction in output required to obtain the expected price increase.

2.3 Other considerations related to procurement policy and competition

40. Public procurement policy can affect competition in a number of ways²⁰. Short-term effects on competition amongst potential suppliers, i.e. effects on the intensity of competition amongst existing suppliers in a particular tender is just one possible effect, but it is not the only one. Public procurement can have other, longer-term effects on competition as public procurement can affect important features of an industry sector (such as the degree of innovation, the level of investment, vertical integration, etc.). This in turn would be reflected in the level of competition in future tenders.

41. Fighting and preventing fraud and corruption in public procurement is another important consideration. While ideally there would be no trade-off between enhancing competition and reducing corruption, some of the possible approaches that will be discussed below for reducing collusion in public procurement may enhance corruption. The intersection between these two policy objectives is therefore delicate and Latin American countries should explore ways to enhance competition without jeopardising efforts to control corruption and favouritism.

2.3.1 Long-term effects of procurement on the level of competition

42. Through its public procurement policy, the public sector can affect the structure of the market and the incentives of firms to compete more or less fiercely in the long run. Procurement policy therefore may be used to shape the longer term effects on competition in an industry sector.

43. Public procurement policy, for instance, can have significant long-term effects on the level of private or public investment, on the speed and quality of innovation and generally it can affect the overall

²⁰ Econ Report (2004).

competitiveness of a market, i.e. effects that capture changes in market structure and technology caused by public procurement, which would be reflected, for example, in the level of competition in future tenders.

- *The level of investment in the market.* An overly strong focus in public tenders on price as awarding criteria may discourage new investments to improve the quality or the range of the products and services offered, because bidders might not be able to recoup their costs. At the same time, significant public sector demand can be used to provide incentives for investment, not least in order to ensure that capacity in the long-term is sufficient to meet the public sector's needs.
- *The pace and quality of innovation.* Where procurement is used to promote innovation, it may also reduce the risk of collusion as it increases the incentives to deviate from a collusive understanding. In markets where innovation is important, coordination may be more difficult since innovations, particularly significant ones, may allow one firm to gain a major advantage over its rivals.
- *Vertical integration.* Through tenders of bundles of vertically related products or services, the public sector favours long-term decisions of firms to integrate vertically²¹. Conversely, by insisting on purchasing services unbundled, the public sector might remove or weaken incentives for vertical integration. This is a policy decision which may have a significant impact on the structure of supply, i.e. it can limit the number of competitors that can be sustained long-term and it might eventually force smaller (non-vertically integrated) firms out of the market, despite the fact that they may offer specific goods or services within the chain more efficiently.

44. The long-term consequences on rivalry and competitiveness of these choices in a certain industry sector are obvious.

2.3.2. Procurement policy, competition policy and corruption

45. In many countries there is a perception that corruption and favouritism are a more important problem in public procurement. This is because public procurement tends to involve large orders and this increases the temptation of public officials (particularly in countries where the level of compensation for public servants is low) to engage in corrupt practices²².

46. Corruption arises in procurement when the agent of the procurer in charge of the procurement is influenced to design the procurement process or alter the outcome of the process in order to favour a particular firm in exchange for bribes or other rewards²³. Public procurement policy therefore has to be particularly careful to avoid instances where corruption may occur.

47. Corruption of public officials is not just a regrettable thing as such, but it has an impact on the efficient allocation of procurement. By definition, corruption in procurement involves an allocation of contracts which is not the same as that that would have been obtained through the competitive process.

²¹ In the short term, non-vertically integrated firms can deal with tenders of bundled product by forming bidding consortia. This possibility and its effects on competition are discussed further in section 3.4.

²² See Jenny, F. "Competition and Anti-Corruption Considerations in Public procurement", in OECD (2005), "Fighting Corruption and Promoting Integrity in Public Procurement".

²³ Examples might include drawing up the specifications in a way that excludes other firms from competing for the contract or cutting short the period for responses to limit the number of likely bidders.

Corruption either leads to the allocation of the contract to a firm which was not the bidder with the lowest price but rather to the firm who has offered the bribe. In this sense, corruption in public procurement implies a distortion of competition. Thus the fights against corruption and anti-competitive practices are highly complementary policies.

48. However, it is true that some of the possible approaches for reducing collusion, which will be discussed in more detail below, may not facilitate the fight against corruption and favouritism. For example:

- We will conclude that full transparency of the outcomes of tenders may facilitate collusion and we will suggest that procurement agencies should not disclose information such as the identity of the bidders and the terms and conditions of each bid. However, reducing the degree of transparency of the tender process may affect the likelihood of corruption, as less transparency provides opportunities for discriminatory treatment.
- Similarly we will discuss the possibility of holding fewer, larger tenders as a way of increasing competition and rivalry. However, this means that the amounts at stake will be higher and therefore the incentives for corruption may increase.

49. In practice, therefore, there are trade-offs between enhancing competition and the desire to minimise collusion. However, it may be possible to control corruption and favouritism without full transparency by limiting disclosure to designated procurement-oversight agencies. This may involve the creation of a separate monitoring body to monitor the procurement official's conduct while limiting the publicly available bidding information.

The German Bundeskartellamt Acting as Public Procurement Tribunal

In Germany, for example, the competition authority has three public procurement chambers which act as a public procurement review body (i.e. as an appeal court against decisions of public procurement agencies). The guiding principles of the Bundeskartellamt's public procurement tribunals are competition, transparency, non-discrimination and fair tendering procedures.

In Germany, public contracts principally have to be awarded under competitive conditions through a public tender in a transparent and non-discriminatory way. In principle the contract is awarded to the bidder submitting the economically most advantageous offer.

The three public procurement tribunals set up at the Bundeskartellamt, review, upon request, whether public contracting entities have met their obligations in the award procedure. The tribunals are entitled to take suitable measures to remedy a violation of rights and to prevent any impairment of the interests affected.

50. Some countries have enacted specific legislation aimed at fighting collusion when public procurement officials are directly involved in orchestrating the bid rigging. While the anticompetitive conduct of the firms involved is caught by the provision in the competition laws, the competition authorities are generally harmless against the illegal conduct of the public officials involved²⁴. Japan is an example of a country where the competition authority has some enforcement powers against the public officials involved in the bid rigging.

²⁴ This is often the case as corruption is considered in many countries a criminal offence, which is prosecuted under the general criminal law enforcement system.

The Japanese Involvement Prevention Act

In order to solve the recurring problem of the involvement of procurement officials in bid rigging, in 2002 Japan enacted a new law (the Act Concerning Elimination and Prevention of Involvement in Bid Rigging) which allows the Japanese Federal Trade Commission (JFTC) to take actions against the public officials involved in bid rigging.

The new law allows the JFTC to request the head of procurement institutions involved to investigate the alleged misconduct by their employees and to take all necessary measures to eliminate their involvement in bid rigging. The adopted measure must be made public.

In addition, after the investigation has confirmed the involvement of public officials in bid rigging, under the new law the administration is entitled to demand from the involved employees, compensation for the damages caused.

51. Other countries, finally, have enacted specific legislation aimed at increasing transparency in public tenders expressly to prevent discriminatory behaviour by the public entity. Such legislation may have other policy objectives in mind and may not necessarily be designed to prevent or deal with anti-competitive behaviour. This is for instance the case of the European regulatory framework on public procurement, which is principally designed to ensure open participation to tenders by any interested EU bidder and complies with the general principles of transparency, non-discrimination, equal treatment, mutual recognition and proportionality, as follows from the EC Treaty and the jurisprudence of the European Court of Justice.

3. How to reduce risks of bid rigging and to maximise competition in public procurement

52. We have noted that domestic legislations governing public procurement may limit the strategic options of the public sector when confronted with anticompetitive conduct in a procurement setting. It is often the case that the public sector is subject to transparency requirements and its decisions generally are constrained by legislation and detailed administrative regulations and procedures. As just discussed, while these rules are set to avoid discriminatory treatment and favouritism, they may limit the opportunities for the public sector to react strategically when confronted with unlawful cooperation among potential contractors seeking to increase profits.

53. It is therefore important that the legislative and regulatory framework on public procurement be designed to allow sufficient flexibility on the purchasing side. In this respect, an excess of standardization may be a negative thing. Conversely, an enhancement of flexibility for procuring entities, for example introducing new and different procurement procedures (e.g. reverse auctions or direct negotiations) or allowing the procurement entity to adapt the standard procurement procedures according to the market situation with which it is confronted, may be a positive thing.

Mexican Advocacy and Public Procurement Regulation

Public expenditures on pharmaceuticals, as well as other public expenditures on goods and services, are regulated by the Law of Public Sector Acquisitions, Leasing and Services (Acquisition Law or AL), its Regulations (ALR), and associated provisions under free trade agreements (FTAs).

The AL establishes that, as a general rule, public expenditures on pharmaceuticals must be allocated through public auctions and that all providers must face similar terms and conditions.

Among other rules, the AL and its Regulations set out the following general auction rules:

- Bids are secret (sealed-bid) and contracts are awarded to the lowest bids.
- Contracts may be granted to two or more bidders (multiple provision) if their bids do not differ by more than 5% with respect to the lowest bid. The winning bidder would be awarded a 50% share or more of the contract and the other participants would be granted shares previously specified in the auction rules.
- Two or more persons or firms may offer joint bids without needing to incorporate into a single firm.
- Government entities may set a maximum price, as a reference for bidders to offer discount percentages.
- Entities calling auctions must verify that prices offered are not below costs, and may dismiss tenders on insolvency grounds.
- Most public procurement contracts are reserved for Mexican nationals and goods with a minimum domestic content of 50 percent.

The CFC issued several opinions concerning particular features of the regulatory framework that foster collusive conduct, as explained below.

- The multiple provision feature limits price competition and lays the groundwork for agreements (implicit or explicit) on market sharing. In extreme cases, bids are identical and the procurement contract is allocated among the lowest bidders in equal parts.
- Joint bids may be a simple mechanism to collude. These bids should only be allowed insofar as they do not have a negative effect on the competitive process.
- The regulatory framework does not set out a criterion to ensure reference prices are set at a sufficiently low level; hence maximum prices may be used as an easy reference for bidders to collude on prices.
- The prohibition of bids below cost may eliminate competition from low price bidders, and limits the power of auctions as an efficient mechanism to discover market information. This prohibition entails a more stringent approach than the predatory price prohibition envisaged under the competition legislation, which is subject to a rule of reason analysis.²⁵

54. In practice, the risks for competition in public procurement can be reduced by careful consideration of the various auction features and their impact on the likelihood of collusion. Designing auction and procurement tenders with collusion in mind may significantly contribute to the fight against anticompetitive behaviour, as it allows the creation of an environment where the bidders' ability and incentives to reach collusive arrangements are significantly reduced, if not eliminated.

55. Within the limits set by the domestic laws and regulations on public procurement, procurement agencies can to some extent influence how bidding procedures are organised and carried out. Therefore they are in a privileged position to make the formation of cartels more difficult. Frequently, procurement agencies are also the best placed authorities to detect signs of illegal activities as they can observe patterns in bidding processes that could indicate unlawful collusive activity.

²⁵ OECD, Roundtable on Public Procurement – The Role of Competition Authorities in Promoting Competition – Mexico, DAF/COMP/WP3/WD(2007)40.

56. In many instances, however, procurement officials are not sufficiently alerted to the factors that favour collusion, so that they cannot effectively prevent these conditions from arising. Similarly, most procurement officials are not sufficiently alerted to suspicious behaviour which occurs during the tender, so that they cannot intervene to block it. This is an area where competition authorities can (and should) play an extremely beneficial role if they closely cooperate with procurement agencies at all stages of the procurement process and expand their awareness programmes in an effort to fight against bid rigging more effectively.

3.1 Raising awareness of public procurement officials and of bidders to the risks and consequences of bid rigging

57. Many public procurement tenders are carried out by municipalities or small agencies which may not have the knowledge of how to design an efficient procurement process, how to minimise collusion and how to detect it. A process of education for public procurement bodies can therefore be important.

58. In the overall context of fighting cartels, many competition authorities are directly or indirectly involved in advocacy efforts to raise the level of awareness of the risks of bid rigging in procurement tenders. Some authorities have bid rigging educational programs for procurement agencies. This education, at a minimum, could be a document written by the antitrust authority describing collusion and bid rigging, the forms it can take and how to detect it. Competition authorities could also develop a sort of operational guide for procurement agencies and officials, i.e. a common set of procurement rules which could then be applied across auctions and procurement tenders.

Portuguese Efforts to Educate Procurement Officials

The Portuguese Competition Authority (PCA) has approved and published a document containing what it considers to be best practices for promoting competition in procurement. The document enumerates and describes the most common forms of collusive practices. Moreover, the Best Practices document identifies circumstances which could indicate that firms have engaged in anticompetitive behaviour as well as a check-list that can be used by procurement officials to assess a situation. The check-list has been divided into four parts which deal with issues related to the number of firms bidding, the terms of the proposals, the cost of providing the good or service, and relationships among the bidders.²⁶

59. Latin American countries should also consider reinforcing national networks to combat collusion in public procurement by exchanging information between agencies involved in public procurement and competition authorities. Both the competition and procurement authorities would benefit from enhanced interactions between them. This would be the case, for example, of markets where competition authorities have already found instances of bid rigging, particularly if there is evidence that the ring members obtain a significant part of their business from public authorities and therefore that there is a risk of recidivism.

60. Competition advocacy by competition authorities (and indeed by procurement agencies) can also address private companies, particularly those who are frequently active in bidding markets. While this effort could be costly in terms of resources and time, it may have beneficial effects long-term. One could envisage different ways in which this could be achieved, including the following:

- Firms could be required by the tender notice to adopt internal procurement compliance programs as a condition to bid in public procurement tender. Such compliance guidelines could be written in cooperation with or approved by the competition authority.

²⁶ OECD, Roundtable on Public Procurement – The Role of Competition Authorities in Promoting Competition – Portugal, DAF/COMP/WP3/WD(2007)30.

- Another condition that could be included in the tender notice could be to require individuals within firms who are responsible for bidding to have attended regular briefings and programs ensuring knowledge of the penalties for collusion and bid rigging. Those programs could be held by officials of the competition authority or of the procurement agencies or of both agencies together.
- The tender notice could introduce supplementary penalties disallowing firms found guilty of collusion in past procurement from re-bidding for a certain period of time²⁷. In case there are limited possible suppliers on the market, the tender notice could provide for an automatic adjustment of the bids from firms found guilty of collusion in order to penalise them by increasing their bid cost.

3.2. *Choosing the most suitable bidding model*

61. There are numerous different forms of tenders that might be adopted in the procurement context but, as anticipated above, not all bidding models are equal from the point of view of competition. The choice of the right bidding model (or, better, the most suitable bidding model given the circumstances of the procurement) is therefore the starting point of any attempt to prevent collusion in public procurement.

62. Intuitively, *open tenders* are more susceptible to collusion than *sealed-bid tenders*. Similarly, *private negotiations* with potential suppliers are less likely to lead to collusion than public tender processes.

63. Open tenders allow ring members to communicate during the course of the tender²⁸ and therefore make it easier for them to reach a collusive understanding at the auction (so called *in-auction collusion*)²⁹. A bidding system where bids are publicly opened with full identification of each bidder's price and specifications is the ideal instrument for the detection of price-cutting³⁰. Open (ascending or descending) tenders, however, are more likely to allocate the contract to the bidder who values it the most, since the bidder with a higher value always has the opportunity to re-bid to top a lower-value bidder. While there are measures that can be taken to reduce the exposure to collusion in an open tender³¹, if the risk of anticompetitive conduct is significant, procurement officials should consider alternative bidding models.

²⁷ In some countries (e.g. Mexico), it is the domestic legislation regulating public procurement which includes provisions disqualifying bidders from auctions if they are found to have agreed on prices or obtained any illegal advantage over the other bidders.

²⁸ The clarity of bidding rules makes communication easier than in ordinary markets. Bidding rules tightly constrain rivals' conduct as compared with ordinary markets. In ordinary markets, firms can vary quantities, prices, varieties and the like. In public tenders, by contrast, the only communications are prices. With less "noise," public tenders can allow clearer communications via bids (so called *signalling*). Signalling allows bidders to announce what they wish to win, to threaten retaliation if thwarted, and thereby to reach an understanding of who will win what.

²⁹ At an open tender, the cartel can use a very simple rule: if a cartel member is actively bidding, this signals its intention to win the tender and the cartel member can tacitly agree not to push their bids down. If a cartel member withdraws from the tender, then another can bid, but no other cartel member bids against it. Intra-cartel competition is therefore eliminated during the tender and there is no need for express ex-ante communication or coordination between the cartel members. See Kovacic et al. (2006); Klemperer (2004).

³⁰ Stigler (1964).

³¹ See discussion further in section 3.3.

Reducing Competition through Signalling

Bidding rules tightly constrain rivals' conduct as compared with ordinary markets. In ordinary markets, firms can vary quantities, prices, varieties and the like. In auctions, by contrast, the only communications are prices (if the object is defined) or price-quantity pairs (e.g., in some multi-unit auctions). With less "noise," auctions can allow clear communication via bids. This is a key distinction between bidding and ordinary markets.

Signalling allows bidders to announce what they wish to win, to threaten retaliation if thwarted, and thereby to reach an understanding of who will win what. Signalling can be done in media such as newspapers in both auction and ordinary markets,³² but in auctions bidders can also use the bidding process to signal.

An example of signalling during the bidding process is the DEF telecommunications license auctions in the United States in 1994. These were simultaneous ascending auctions, so communication was analogous to negotiation among the bidders. The signalling was done by encoding into the last digits of a bid amount the name of other licenses in which either the bidder or the standing high bidder was interested in winning. The signals could be used to indicate which licenses others should quit competing for, or on which licenses retaliation would occur, or, if the bid was made and then withdrawn, proposing an amicable split.³³

³² One example goes as follows:

--"I'll be satisfied with just two of the 12 blocks of frequency on offer."

--"If the [five other bidders] behaved similarly it should be possible to get the frequencies on sensible terms," but "[I] would bid for a third frequency block if one of [my] rivals did". (Klemperer, p. 136 citing Crossland 2000) In the instance, six firms won two licenses each at low cost.

³³ Example of Coded Bidding from Cramton and Schwartz 2002, Table 1, p. 4.

Round	Marshalltown, IA 283 E		Rochester, MN 378 D		Waterloo, IA 452 E		
	McLeod	USWest	McLeod	USWest	AT&T	McLeod	USWest
24	56,000					287,000	
...					
46				568,000			
52			689,000				
55				723,000			
58			795,000				
59				875,000			313,378
60						345,000	
62			963,000				
64		62,378		1,059,000			
65	69,000						
68						371,000	

This signalling had an effect. Six of the 153 bidders in the auction regularly signalled. These six won about 40% of the available spectrum in terms of population covered. For the licenses where any bidder could bid, the signalling bidders paid \$2.50/person compared to the \$4.34/person paid by the nonsignalling bidders. Even for the licenses set aside for small bidders, signalling bidders paid significantly less than the nonsignalling bidders. (Cramton and Schwartz 2002) The Antitrust Division brought suit against the colluders.

The auctioneer, the Federal Communications Commission, subsequently changed the auction design to block the signalling. In particular, it specified the bid increment(s) and limited withdrawals to two rounds per bidder.

64. In a sealed-bid tender, in which each bidder simultaneously makes a single “best and final” offer, collusion is much harder. The ability to punish deviations is reduced and incentives to cheat on a collusive understanding are therefore significantly higher³⁴. From the perspective of encouraging entry, sealed-bid tenders have the merit of making the selection much more uncertain than in an open tender. “Weaker” or smaller participants therefore have a chance of winning the tender if the highest-value bidder is seeking a bargain and does not bid the maximum amount it would have in an open tender.

65. In general, prosecution of collusion may be easier in a sealed-bid tender than in an open tender. A sealed-bid tender leaves a paper trail that identifies all of the bidders and their bids. In sealed-bid auctions, bidding rings must meet before the auction to determine who places the highest value on the object, what he should bid, and then what the others should bid. These “complementary” or “cover” or “courtesy” bids may be “competitive” on price but contain clauses unacceptable to the auctioneer. According to the United States Department of Justice, “Complementary bidding schemes are the most frequently occurring forms of bid rigging and they defraud purchasers by creating the appearance of competition to conceal secretly inflated prices.”³⁵ By contrast, in ascending auctions, the corresponding practice is to meet in advance, designate who will win, and instruct the others either to refrain from bidding or, in order to disguise the bid rigging, submit low bids and then drop out. Thus, an open tender may not formally record all of the bids and, since participants may not have an opportunity to submit their bids before the price becomes too high, there may be no record of who participated. If a cartel depends on non-

“Table 1 shows all of the bids that were made on Marshalltown, block E and Waterloo, block E after round 24, and all of the bids on Rochester, block D after round 46. USWest and McLeod were contesting Rochester, trading bids in rounds 52, 55, 58, and 59. Rather than continue to contest Rochester, raising the price for the eventual winner, USWest bumped McLeod from Waterloo in round 59 with a code bid, \$313,378. The “378” signified market 378—Rochester. USWest’s bid revealed that McLeod was being punished on Waterloo for bidding on Rochester. In round 60, McLeod retook Waterloo, bidding \$345,000, \$58,000 more than its round 24 bid. But McLeod did not yet concede Rochester—it placed another bid on Rochester in round 62. USWest then used the same technique in round 64, punishing in Marshalltown instead. USWest’s bid in round 64 on Rochester won the license. (We have shown only two of the markets on which USWest punished McLeod; USWest had actually punished McLeod on several markets contemporaneously.)” (Cramton and Schwartz 2002, pp. 5-6)

³⁴ In order to secure a supra-competitive gain, the cartel must drop the bid of its highest valuing member to a level below the level of a non-cooperative bid, and the other bidders must refrain from bidding. This reduction in his bid opens the door for deviant behaviour. By slightly overbidding this reduced bid, a ring member could achieve a gain that it would have never realized if all bidders had acted non-cooperatively. Sealed-bid tenders are nevertheless not immune to coordination. Repeated interaction over time and over a number of tenders can allow the development of signalling, particularly if the procurement official provides information about past behaviour.

³⁵ Antitrust Division, US Department of Justice (2005), *Price Fixing, Bid Rigging, and Market Allocation schemes: What They are and What to Look For*, at <http://www.usdoj.gov/atr/public/guidelines/211578.htm>.

participation, it would be difficult for prosecutors to identify those who did not participate in an open tender³⁶.

66. Indeed, empirical work suggests that the effect on collusion of using an ascending rather than a sealed-bid format can be large. For the auctions studied, the effect on collusion of switching from an ascending to sealed-bid auction dwarfs the effect of bidder participation.³⁷

67. Another approach to reduce collusion in procurement is the introduction of a certain degree of uncertainty (or randomness) in the outcome of the procurement process. We mention two possibilities:

- The procurement official might decide not to disclose in advance the precise mechanism by which competing bids are compared. In practice, however, tender offers often include a precise weighting scheme for each of the components deemed important to the buyer. While this is generally done to reduce discriminatory behaviour in the selection, one should be aware of the fact that this practice may increase the risk of collusion.
- The procurement official might decide to select randomly or through individual negotiations from among those firms whose price was within a certain percentage of the winning bid. This degree of uncertainty, combined with a degree of secrecy over the terms and conditions of the winning bid, may make collusion harder as cartel members cannot tell, when the winning firm is not the firm selected by the cartel, whether the firm was undercutting the cartel, or was simply selected randomly.

68. Another possibility is to structure the procurement process in such a way as to increase the bidders' exposure to the consequences of bid rigging. For instance, procurement agencies could require participants to attest to the fact that they did not engage in collusive (or other illegal) practices or agree with other firms as to the price or other conditions of the bid. This attestation has a double purpose. First, it would ensure that firms and their managers are aware of the penalties for collusion. Second, once having signed such a certificate, a firm and its managers, if they do engage in bid rigging, face stiff competition penalties and could be exposed to further liabilities such as sanctions for perjury, which in many jurisdictions is a criminal offence.

69. Finally, one has also to consider that it may not always be efficient to adopt some form of bidding process, but that an *individual negotiation* with a limited number of suppliers may yield the most efficient outcome. This may be the case in the following circumstances:

- If the costs of organising and holding an auction are high. Each potential bidder must incur costs analysing the requirements, assessing its own ability to fulfil the requirements and

³⁶ In support of possible later prosecution, “all” aspects of an auction should be retained for a long period of time and, to enhance deterrence, this practice should be publicly announced. Kovacic et al. (2006).

³⁷ See Athey, Susan, Jonathan Levin and Enrique Seira (2004). In this paper the authors studied timber auctions. To provide a sense of scale, they found that, if they ignored bidder participation effects, sealed-bid auctions would generate \$651 (northwestern United States) or \$1018 (California) more revenue than ascending auctions would generate. Higher bidder participation (about 3-6 more per 10 sales) increased revenues from sealed-bid auctions by an average of \$5300 (4% in northwestern United States) and \$26,000 (13% in California). If mills “engage[d] in a mild amount of cooperative competition” in ascending auctions then this generates about \$22,000 less revenue than competitive sealed-bid auctions, or over \$27,000 if participation effects are taken into account. (pp. 36-7) This work was based on timber auctions in the Lolo and Idaho Panhandle National Forests (here called “northwestern United States”) and national forests in the Pacific southwest (here called “California”) in 1982-1990.

determining an appropriate bid. These costs of preparing bids may be significant. The bids must, in turn, be considered by the procurer. The total cost involved for a complex project may be substantial;

- If the likely bidders and, indeed the likely least-cost bidder, may already be known to the procurer. In this context, it may be more efficient for the procurer to approach the least-cost bidder directly to negotiate a price (perhaps with the threat of competitive tendering if it is felt necessary);
- If it is not possible to contractually specify in advance all the elements of the services to be supplied;
- If other policy reasons or other explicit reasons exist, which do not require the procurer to select the least-cost supplier, i.e. if diversity of supply is essential to ensure continuity of service;
- If secrecy considerations prohibit the public solicitation of bids;
- If the number of potential bidders is very small, a single bidder may have very significant market power; in this case, a simple tender will not yield an efficient outcome and it may be appropriate to adopt more sophisticated contracting approaches to procurement.

3.3 *Designing procurement tenders to reduce risks of collusion*

70. The efficiency of the procurement process will depend upon the bidding model adopted but also on how the tender is designed and carried out³⁸. The design of the precise features of the competitive bidding process can also have a strong influence on the efficiency of the outcome. For example, the number of bidders may be reduced where the initial specifications are drawn up unnecessarily tightly³⁹, the tender is not widely advertised or the time for responses is inappropriately short.

71. Unfortunately, there is no check list for how one should design an auction or procurement tender. Auction design is not “one size fits all”, but one has to design tailored auctions to fit the situation. So really one must look at the specifics of the situation. In general, however, the risk of collusion can be reduced by ensuring that the procurement activity is designed and carried out to ensure that three main objectives are achieved:

3.3.1. *Reducing barriers to entry and increasing bidders’ participation*

72. Competition may be enhanced not merely by attention to the demand side of the market (the number of potential substitutes) but also to the supply side of the market. In particular, it may be possible to enhance the number of competitors by reducing barriers to entry.

³⁸ It is possible to suggest that auction/procurement design may not matter very much when there is a large number of potential bidders for whom entry to the procurement process is easy. See Klemperer (2004).

³⁹ The procurer, in defining the goods or services that it wishes to purchase, defines the scope of the market in which competition will occur. In order to enhance competition, therefore, it is important that the procurement requirements are carefully specified so as not to exclude any goods or services that might be effective substitutes. Therefore, the procurement specifications should, in preference, specify the outcomes desired and leave it to the bidders to suggest possible mechanisms for meeting those outcomes.

73. We have seen above how the choice of the bidding model can also impact the participation rate in the tendering process. If attendance to the tender is an issue, participation can be promoted by adopting a sealed-bid tender rather than an open tender⁴⁰. In an open tender, the weaker bidders know that only the strongest bidders will remain near the end of the bidding process and are likely to conclude that, if they are going to drop out of the bidding late, they are better off not bidding at all and saving the bid preparation cost⁴¹. Surprisingly, this effect holds even when the difference between the “weak” and the “strong” is small. By contrast, with a sealed-bid auction, weaker bidders may win at a price that the stronger bidder could have beaten, but did not. In a sealed-bid auction, the stronger bidder cannot change his bid once he sees the weaker bidders’ bids, as he can in an open auction.

74. When it comes to designing the public procurement process, the selection process itself should not deprive firms of the right to submit a bid on the basis of criteria which are not directly relevant to the procurement (for example, an experience or financial strength requirement may unnecessarily reduce the number of competitors), neither should the process exclude firms from other geographic areas.

75. There are several ways in which barriers to entry can be lowered in procurement markets:

- Regulatory barriers to entry could be removed, such as controls on the number, size, composition or nature of firms which may submit a bid or policies which favour firms on the basis of economically irrelevant criteria in the industry.
- Barriers to foreign trade could be removed, by removing constraints on foreign participation in procurement.
- Sunk costs as a barrier to entry may be tackled directly. For example, where entry into a competing market requires a specialised piece of equipment, the procurer could purchase the equipment and lease it to the successful bidder, thus reducing the sunk costs of entry.

76. Participation can also be favoured by a reduction of the bid preparation costs. In some cases these costs can represent a substantial entry barrier, particularly for smaller suppliers. This can be accomplished in a number of ways:

- By standardising tendering procedures, including across time and jurisdictions. For some but not all aspects of a tender, this may involve a certain trade-off with designing tenders specific to their circumstances.
- By packaging tenders to spread fixed bid preparation costs across more tenders or splitting objects into several smaller parts; this may attract more bidders.
- By allowing adequate time for firms (who may not have had advance notice of a tender) to prepare and submit a bid.
- By using an electronic bidding system, which also reduces the cost of tendering⁴².

⁴⁰ There are tradeoffs, however, since a sealed-bid model may favour entry but it makes collusion between the bid taker and the bidders more problematic.

⁴¹ Klemperer (2004).

⁴² On electronic tendering see examples mentioned below in section 4.3.

Increasing Competition by Increasing Information to Bidders

Procurement authorities can potentially increase competition by making each bidder's estimate of the value of the project more reliable. A study of highway construction procurement auctions provides empirical support for this result from auction theory. These auctions took place in Oklahoma and adjacent parts of Texas in 1998-2003. Oklahoma changed its information disclosure policy in April 2000, allowing potential bidders to see the state engineer's cost estimate for the projects. Texas had no change in policy and serves as a control. For bridge-related projects, where uncertainty about common costs was seen as greater, average bids and winning bids declined by nearly 10% after the change in information policy. For asphalt work, where uncertainty about common costs is smaller, there was no significant change in average or winning bids. A number of states have recently or are considering a policy change toward releasing state engineer's cost estimates.⁴³

77. Another way to increase participation is to "strengthen" weaker bidders. Promoting participation, particularly by smaller firms, also reduces the *incumbency effect*⁴⁴. This also can be done in a number of ways. One possibility is the so-called *set-aside*, i.e. allowing only small enterprises to bid on certain licenses⁴⁵. Another possibility is to *split objects or lots*⁴⁶.

3.3.2. Reducing transparency and the flows of information

78. It was noted earlier that a high degree of transparency over market transactions may facilitate collusion as it may facilitate the detection and punishment of deviations from a cartel agreement. This is particularly true for open tenders which allow bidders to communicate during the bidding process. A number of methods could be used to make collusion harder at an open tender:

- Bidders could be forced to bid 'round' numbers and the exact amount can be pre-defined in the tender offer; this would prevent signalling⁴⁷.
- Bids could be made anonymous and the number of bidders remaining in the bidding process could be kept secret⁴⁸.

79. Because of the potentially destabilizing effect of non-identifiable bidders⁴⁹ on bidding rings, the procurement official might consider keeping undisclosed the identities of the bidders, perhaps referring only to bidder numbers. The procurement official might, for instance, allow bids to be telephoned in or mailed in, rather than requiring that bidders turn in their bids in person at a designated time and place

⁴³ See DeSilva, Dakshina G., Timothy Dunne, Anuruddha Kankanamge and Georgia Kosmopoulou.

⁴⁴ That is when winning one tender provides advantages in another. For example, the winner of a first tender, now the incumbent, may be advantaged in subsequent tenders for the same product due to the information that it was obtained by winning in the first tender.

⁴⁵ An example of a set-aside, though perhaps aimed more at restricting market power later, would be to prohibit the incumbent from bidding.

⁴⁶ Grimm et al. (2006); Dimitri et al. (2006).

⁴⁷ Klemperer (2004).

⁴⁸ Crampton and Swartz (2000).

⁴⁹ These are also known as 'shell bidders', i.e. when an agent of a given bidder is not recognizable as such by the procurement official and by the other bidders.

where all can observe. And, the procurement official can allow a bidder to submit more than one bid under different bidder numbers, or under different identities.

80. Future competition may be enhanced if, after a tender is awarded, the procurement agency simply does not reveal the identity of the winning bidder and the terms and conditions of the winning contract. If bidders know other bidders' identities and the terms of their respective bids, then they can monitor compliance with the collusive arrangement, retaliate against deviations and cooperate better across tenders.

81. This highlights a sharp contrast between public and private procurement activities.

82. In public procurement, there is a need for transparency in announcing the winner and the price even if this facilitates collusion. It is clear that increased transparency helps to diminish corruption, as transparency helps to monitor the fairness of the selection process. In public procurement, a sufficient degree of transparency in the selection process is crucial especially when foreign firms are involved or potentially involved⁵⁰.

83. In the case of private procurement, large industrial buyers typically rely on secret negotiations in their procurement operations. Private negotiations encourage price-cutting by individual bidders without fear of being detected by the other members of the cartel. A similar effect could be achieved in public procurement if the procurement process allows for a final round of individual negotiations after the procurement process has short listed the most efficient suppliers.

3.3.3. *Reducing the frequency of procurement opportunities*

84. It was noted earlier that collusion is facilitated when competing firms meet each other frequently in different markets. The reason is that repeated, frequent interaction facilitates punishment strategies among competing bidders which is necessary for sustained effective collusion. By changing the size and timing of tenders, procurement officials may encourage bidding ring break-up through cheating.

85. Reducing the number of opportunities in which these firms meet may reduce the opportunities for punishment and therefore may facilitate competition. This might be achieved, for example, by holding fewer, larger tenders, such as tenders for the right to provide certain services over the next five or ten years, rather than organizing a tender every year. If the period of time is long enough, the individual firms need not fear retaliation in future for undercutting the cartel price today. On the contrary, holding tenders at short and regular time intervals may favour collusion.

86. More predictable auction or procurement schedules and unchanging quantities sold or bought can facilitate bid rotation schemes by helping the bid-riggers find a focal point, a "natural" way to share winning. Lower value and more frequent auctions or procurement reduce the incentives to cheat on a cartel. In this respect, if collusion is a significant threat, procurement officials should consider bundling smaller tenders⁵¹ and refraining from announcing the schedule of future tenders.

⁵⁰ For instance, the European Union and the World Trade Organisation have rules requiring public notification of winning bids so as to minimise the potential for foreign claims of an unfair process. The WTO multilateral Agreement on Government Procurement ("GPA") binds those countries which have signed up to the agreement to use open, transparent and non-discriminatory procurement procedures for all government procurement above a certain size.

⁵¹ Grimm et al. (2006); Dimitri et al. (2006). We must note, however, that bundling of smaller tenders may reduce the number of potential bidders (and therefore increase the risk of collusion) because smaller firms may be prevented from bidding for large procurement contracts, unless they join bidding consortia.

3.4 Other considerations on effective procurement design

87. There are other considerations that procurement officials should keep in mind when designing public tenders. Depending on the facts of each procurement activity, these considerations may affect the efficient outcome of the procurement. They include the possibility for several firms of bidding jointly, the right for the winner to sub-contract all or part of the awarded supply and the imposition of a reserve price by the procurement official.

88. Allowing firms to participate jointly to the tender, so-called *joint bidding* or *bidding consortia*, may have a number of effects on the outcome of the procurement activity, some of which go in opposite directions.

- Joint bidding is competition-enhancing if it allows firms that are not able to supply complementary products to join with other firms to jointly supply those complementary products.
- However, when competing firms bid jointly, this usually reduces competition as joint bidding reduces the number of participants.

89. Some jurisdictions allow joint bidding by firms in the same market only if it is costly to make a bid or the contract would require a certain size. In these circumstances, joint bidding is a way to enable smaller firms to participate in larger tenders, from which they would otherwise be excluded. It is not always obvious, however, that small firms working together would really have the organisational structure to perform the work a large firm can. If they do not, then it is not clear why joint bidding should be allowed as it increases the risk of collusion. A bidding consortium should not be considered admissible if each single firm in the consortium has the economic, financial and technical capabilities to supply the procured products⁵².

Some Procompetitive Reasons for Joint Bidding

Early empirical studies claimed that joint bidding did not, in fact, reduce the number of bids. Indeed, joint bidding was seen as a way to diversify risk, weaken liquidity or capital constraints, and allow the sharing of private information.⁵³ If bidders share private information about an object of unknown but common value (i.e., a pure common values context), then their estimates are more accurate and they will bid more

⁵² Albano et al. (2006)

⁵³ Perhaps perspective is improved by learning that much of the early work was related to auctions for petroleum leases in the Gulf of Mexico when there had been little drilling and seismic surveys were relatively primitive. In this environment of great uncertainty with common values, oil companies would form bidding consortia to take on these large, risky projects. (On the history of the technology of seismic surveys, see Society of Petroleum Engineers http://www.spe.org/spe/jsp/basic/0,,1104_1714_1004089,00.html)

Much more recently and with respect to much smaller projects, Felsö, Baarsma and Mulder (2006) surveyed winning joint bidders and procurement authorities in a sample of Dutch construction procurements. They found that about three-quarters of the reasons for “combinations” (two or more companies agreeing to carry out a project together and therefore bid jointly) related to firms being unable to fulfil the contract separately, including not having special expertise or not having sufficiently large capacity. While bidders and procurement authorities disagreed on the relative weightings among the specific reasons, the three-quarters figure holds for both types of respondents. For further information see Felsö, Flóra, Barbara Baarsma and José Mulder (2006).

aggressively. The influential paper by DeBrock and Smith in 1983 focused on auctions for petroleum leases, for which pure common values and information pooling were reasonable assumptions.⁵⁴ But they also noted that joint bidding could be carried so far that the reduction of competition effect would dominate. In other words, this work found that, in a pure common values context, joint bidding—up to point—can have positive effect.

90. Allowing the winning bidder to enter into *sub-contracting arrangements* has potentially an important effect on the likelihood of bid rigging. In particular, the mechanisms of the cartel may be such that bidders who agree not to lower their bid or not to participate at all might be compensated by being awarded a subcontract by the winning bidder. Hence, if possible, bids should be free of sub-contracting.

91. Imposing an *aggressive but credible reserve price*, i.e. a maximum price above which the procurement tender is not awarded may reduce collusion⁵⁵. An aggressive reserve price reduces the gains from collusion⁵⁶. In addition, reserve prices can reduce the number of rounds in an open auction, thereby reducing the opportunity for signalling.

3.5. *Enforcing competition law rules in public procurement*

92. In addition to the above possibilities, collusion in public procurement may of course be reduced through strict, effective competition law enforcement. Many jurisdictions have specific prohibitions in their competition laws forbidding bid rigging or considering bid rigging as a *per se* violation of the competition rules. Other Latin American countries simply base their enforcement practice against bid rigging on the general antitrust laws against anti-competitive agreements.

93. While actively enforcing competition rules against bid rigging and mostly ensuring strong publicity to such enforcement activity is an important deterrent, many countries have introduced a number of systems to deter the formation of rings in auctions or procurement.

94. While a detailed analysis of these systems goes beyond the scope of this Note, we think it useful to mention them because if implemented they help to reduce the likelihood of collusion in public tenders.

- Withdrawal of all or part of the benefit of the amnesty and leniency programs to ring leaders and/or other active members of the ring.
- Increased incentives for whistle-blowers who help uncover a bid rigging practice (e.g. bounty systems).
- Increased fines (or limited reductions of fines) for ring leaders and/or other active members of the ring.
- Enhanced effectiveness of the so-called coat-tail actions by private entities, i.e. provide incentives for private actions and damages actions to recover losses incurred as a consequence of a bid rigging (e.g. treble damages, class actions, plaintiff's extended discovery powers, lower standard of proof, etc.).

⁵⁴ DeBrock, Larry M. and James L. Smith (1983).

⁵⁵ Kovacic et al. (2006).

⁵⁶ Reserve prices need to be credible to be effective. A reserve price which is too low may increase the risk that an insufficient number of bidders participate. A reserve price at the opportunity cost (such as the cost of self-provision or extending an existing contract or adapting a substitute) would be credible.

- Criminal prosecution of ring members, also in Latin American countries where antitrust infringements are not a criminal offence.

4. How to detect anticompetitive conduct in public procurement

4.1 *Forms in which bid rigging manifests itself*

95. As with horizontal agreements more generally, bid rigging or collusion in procurement may take several forms:

- Simple price-*fixing*, whereby a winning bidder and a winning bid is chosen and the other bidders are instructed to bid a certain amount higher. In order for this arrangement to be sustainable, the rents earned by the winning bidder need to be shared with the other cartel members. This could be achieved, for example, through changing the identity of the winning bidder according to some preset formula (such as a formula which preserved existing market shares).
- *Market-sharing* agreements, whereby customers are divided according to type or geographic location and competitors agree to submit higher bids in markets assigned to other firms. This may also be linked with a scheme for sharing the rents if demand in the different markets is variable.
- “*Bidding fees*”, whereby the ring charges the ring members a fee for submitting a bid and the bidders simply add this fee to their bid price. The accumulated funds are later returned to the members through some mechanism.
- “*Sharing the spoils*”, whereby the winning bidder agrees to compensate the losing bidders “for the costs of submitting their bids”. This extra charge is then added to each firm’s bid price. In a variant of this approach, the winning bidder may agree to subcontract work to the losing bidders, again, in order to share some of the rents.

96. These infringements can be achieved in various ways, but usually one or more of the following techniques are used.

- Bid suppression. In “bid-suppression” or “bid-limiting” schemes, one or more firms who otherwise would be expected to bid, or who have previously bid, agree to refrain from bidding or withdraw a previously submitted bid so that the designated winner's bid will be accepted. Sometimes, one or more conspirators may file fabricated bid protests in order to try to deny an award to non-conspirators. After the bid is let, the winning bidder may pay off the co-conspirators through cash payments or subcontracts.
- Complementary bidding. “Complementary bidding” (also commonly called “protective” or “shadow” bidding) occurs when some firms submit bids that are too high to be the winning bid or, if the bids are seemingly competitive in price, then they are unacceptable because of other non-price terms. Such bids are not intended to secure the buyer’s acceptance, but are merely designed to give the appearance of genuine bidding. This enables the designated winning competitor’s bid to be accepted when the agency requires a minimum number of bidders.
- Bid rotation. In a “bid rotation” scheme, all members of the ring submit their bids, but take turns being the winning low bidder.

- Subcontracting. In subcontracting arrangements competitors who agree not to bid or to submit a losing bid frequently receive subcontracts or supply contracts in exchange from the successful low bidder. In some schemes, a low bidder will agree to withdraw its bid in favour of the next low bidder in exchange for a lucrative subcontract that divides the illegally obtained higher price between them.

4.2 *Checklist for possible collusion – What factors and suspicious behaviour should be monitored during the auction process*

97. Bid rigging, price fixing, and other collusion can be very difficult to detect. Collusive agreements are usually reached in secret, with only the participants having knowledge of the scheme. However, suspicions may be aroused by unusual bidding or pricing patterns or something a vendor says or does.

98. A number of countries (such as Canada, Switzerland, Sweden and the U.S.) have developed check lists to help procurement agencies to spot instances of possible collusion. These check lists contain mere indications of potentially collusive conduct. For example, the fact that the level of bids is too high compared to the estimate should not be viewed as evidence of collusion as it may simply reflect an incorrect estimate. Thus, these indicators should simply alert the agencies that further investigation is required to determine whether collusion exists or whether there are other plausible explanations for the events in question.

U.S. Guidelines to Procurement Officials

As an example, the indicators of bid rigging which are contained in a recent pamphlet from the Antitrust Division of the Department of Justice aimed at auctioneers are reported below⁵⁷. The pamphlet distinguishes between indicators which relate to bid and bid patterns, prices and other suspicious statements or behaviour.

Bids

- The same company always wins a particular procurement. This may be more suspicious if one or more companies continually submit unsuccessful bids.
- The same suppliers submit bids and each company seems to take a turn being the successful bidder.
- Some bids are much higher than published price lists, previous bids by the same firms, or engineering cost estimates.
- Fewer than the normal number of competitors submit bids.
- A company appears to be bidding substantially higher on some bids than on other bids, with no apparent cost differences to account for the disparity.
- Bid prices drop whenever a new or infrequent bidder submits a bid.
- A successful bidder subcontracts work to competitors that submitted unsuccessful bids on the same project.
- A company withdraws its successful bid and subsequently is subcontracted work by the new winning contractor.

Prices

- Identical prices may indicate a price-fixing conspiracy, especially when:
- Prices stay identical for long periods of time.
- Prices previously were different.
- Price increases do not appear to be supported by increased costs.
- Discounts are eliminated, especially in a market where discounts historically were given.

⁵⁷ See Antitrust Division, US Department of Justice (2005), Price Fixing, Bid Rigging, and Market Allocation Schemes: What They Are and What to Look For.

- Vendors are charging higher prices to local customers than to distant customers. This may indicate local prices are fixed.

Suspicious Behaviour

- The proposals or bid forms submitted by different vendors contain irregularities (such as identical calculations or spelling errors) or similar handwriting, typeface, or stationery. This may indicate that the designated low bidder may have prepared some or all of the losing vendor's bid.
- Bid or price documents contain white-outs or other physical alterations indicating last-minute price changes.
- A company requests a bid package for itself and a competitor or submits both its and another's bids.
- A company submits a bid when it is incapable of successfully performing the contract (likely a complementary bid).
- A company brings multiple bids to a bid opening and submits its bid only after determining (or trying to determine) who else is bidding.

4.3 Permanent monitoring of bidding markets as a way to detect possible collusive conduct

99. Another possible way of detecting and preventing bid rigging in public procurement is to monitor constantly the bidding activities and perform quantitative analyses on the bid data. This could allow procurement agencies (with the support of competition authorities) to identify up-front those sectors where infringements of antitrust rules are potentially more likely.

100. In order to do so, however, it is crucial to examine the bids that have been submitted in the past to determine if the patterns are consistent with a fully competitive process. These analyses would allow procurement agencies to maximise their efforts in optimising tender design in those industry sectors which are at risk and they would allow competition agencies to efficiently allocate enforcement resources to detecting collusion in these sensitive sectors.

101. This exercise is easier in Latin American countries where public procurement activities are centralised and the procurement process is electronic.

The Korean electronic procurement system and centralised monitoring of procurement outcomes

Korea has recently introduced a mandatory electronic procurement system, called KONEPS. The Korean electronic procurement system is a web based system which processes electronically the entire procurement process (including registration, bidding, contract, inspection and payment) and it provides related information on a real time basis. The Public Procurement System (PPS) introduced KONEPS in 2002 and all the public organizations are mandated to notice procurement tenders through KONEPS.

Today, over 90% of public tenders in Korea are conducted electronically. According to the latest annual report of KONEPS⁵⁸, the introduction of the electronic procurement system has increased participation to public tenders and has significantly improved transparency in procurement administration, eliminating all

⁵⁸ Available on line at www.pps.go.kr/english/

instances of corruption⁵⁹. In addition, the system has boosted efficiency in procurement, increasing the number of transactions and significantly reducing transaction costs.

Thanks to the data generated by the electronic tendering process, the Korean Fair Trade Commission (KFTC) is able to screen for bid rigging. The screening program (called BRIAS, Bid Rigging Indicator Analysis System) was introduced by the KFTC in 2006 and automatically carries out statistical and empirical analyses for the possibility of collusive biddings based on the information on bidding for public projects of the state, local governments, and government financed institutions.

The Brazilian electronic procurement system

The Brazilian Federal Government has also set up a government e-procurement system, called COMPRASNET⁶⁰. The system is a web-based on-line procurement system used by all Federal Government procurement units.

COMPRASNET is a system where the public purchasing organisation registers its procurement needs. The system then automatically informs registered suppliers by e-mail and the supplier may download the bidding documents. For goods classified as commodities, the whole process may be done on line, using a price quoting system⁶¹. For larger procurement, a reverse auction procedure is used. In the reverse auction the bids are submitted on line and each supplier can reduce its bid price during the auction and the one offering the lowest price at a pre-agreed end time for the auction will be awarded the contract.

Auctions and prices are open for inspection by the public, and auction results are posted immediately. The system therefore enables better and more transparent procurement, as well as reducing the length of the process. For example, a normal procurement process takes more than two months. The on-line reverse auction may be completed in less than 15 working days. The use of on line procurement has also increased the participation of small businesses in government tenders. In terms of effect on rivalry, it is estimated that the system brought an estimated average 20% reduction of final price for goods and services acquired through reverse auction and price quoting.

102. It is evident that this tool may not lead to useful result in Latin American countries where there are many and small procurement agencies and they may not have the necessary resources to undertake such analyses. The size of public procurement as a share of OECD GDP is large and monitoring the results of procurement processes would be a major undertaking. However, an official policy to review a certain percentage of public procurement tenders would certainly act as a deterrent for a number of potential conspiracies.

5. Summary and conclusions

103. Public procurement is the purchase of goods and services by the public sector and in most, if not all, Latin American countries constitutes a substantial part of the domestic economy. Practices such as collusion, bid-rigging, fraud and corruption prevent the efficient outcome of the procurement process. The

⁵⁹ Before the launch of KONEPS, reports on the number of corruption cases in procurement recorded more than 100 cases per year. Since 2004, when the system had settled in, there has been no case of disciplinary measures for corruption in procurement. In general, on the effect on corruption of electronic procurement systems, see Lengwiler and Wolfstetter (2006).

⁶⁰ More information are available on line (in Portuguese) at the following link:
<http://www.comprasnet.gov.br/>

⁶¹ This is a two- to three-day purchase posting site.

most common forms of procurement involve some form of tender or auction, although other practices (e.g. individual negotiations) are used, especially where the number of potential tendering firms is small.

104. Many OECD countries have explicitly focused their antitrust enforcement efforts on fighting and preventing bid rigging. Bid rigging is almost universally condemned as a violation of antitrust rules and in some Latin American countries it is prosecuted as a criminal offence, such as in Brazil. Moreover, a number of Latin American competition authorities have taken positive specific steps towards reducing bid rigging by advising governments on auction processes, designs and procurement rules. In addition, competition authorities in several countries have designed educational programs for procurement agencies in order to alert them to the signs and risks of bid rigging, as was done in Portugal.

105. The note described in detail that collusion in procurement markets can also be reduced by careful choice of the bidding model and by careful design of the bidding process. Unfortunately, there is no ideal bidding model which fits all situations, but one has to design tailored auctions to fit the specifics of each procurement opportunity.

106. In general, however, the risk of collusion can be reduced by ensuring that the procurement activity is designed and carried out to ensure that three main objectives are achieved: (i) lowering barriers to entry and increasing participation; (ii) limiting the amount of information available about the outcomes of the tenders; and (iii) reducing the frequency of procurement opportunities.

107. Some of the possible approaches for reducing collusion suggested in this Note, however, may not facilitate the fight against corruption and favouritism. There may be a trade-off between controlling collusion and controlling corruption and Latin American countries should explore ways to enhance competition in procurement without jeopardising efforts to control corruption.

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