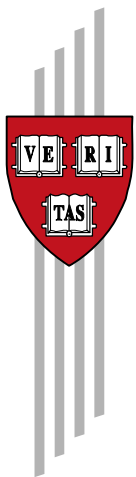


# **Procurement Issues in South Africa that Affect Growth and Development**

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## **Working Papers**

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# Procurement Issues in South Africa that Affect Growth and Development

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**Abstract:** This report discusses four issues with regard to government procurement in South Africa. These are: (1) contracting for municipal infrastructure delivery, (2) public-private partnerships (PPP's), (3) large capex procurements in Transnet and Eskom, and (4) the DPE "Competitive Supplier Development Program." Recommendations are made in each area. For example, for municipal infrastructure delivery, the report recommends that municipalities rated by National Treasury as "poor" in terms of capacity would continue to receive municipal funding from national government, and to determine priorities for local infrastructure spending, but they would no longer be allowed to contract for delivery of these services. Instead, they would be required to use either a sector-specific national organization or another national organization willing to provide the services in question. Regarding PPP's, the report suggests that, although there are reasons for concern about this approach, on balance South Africa should consider expanding use of PPP's, which often provide better quality, a pre-commitment to maintenance spending, and another remedy against corruption. Recommendations in other areas involving procurement are made as well.

**Keywords:** South Africa, structure, scope, and performance of government; public administration; intergovernmental relations

**JEL Codes:** O4, O14, O55

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DISCUSSION PAPER ON PROCUREMENT ISSUES IN SOUTH AFRICA THAT  
AFFECT GROWTH AND DEVELOPMENT

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The issues examined in this document, based on an initial briefing to Minister Manuel, are: (1) contracting for municipal infrastructure delivery, (2) public-private partnerships (PPP's), 3) large capex procurements in Transnet and Eskom, and 4) the DPE "Competitive Supplier Development Program."

This is more a consulting-type product than it is academic research, though in some areas, especially for thinking about the make-buy decision for local infrastructure projects and about some of the issues regarding PPP's ("public-private partnerships"), I rely on academic literature from transaction-cost economics and principal-agent theory analyzing these kinds of issues.

### 1. Municipal Government Contracting for Local Infrastructure Projects

Municipal governments are responsible for delivering water, wastewater and sewage treatment, electricity reticulation, local road, and housing projects that are central to improving the quality of life of disadvantaged people in South Africa.

ASGISA identifies municipal capacity as a constraint to growth. In a number of interviews, concern was expressed about significant problems in many municipalities with the delivery of these projects. The essential problem is the inability in low-capacity municipalities to establish requirements for what is being built, and to award and administer contracts. One senior official estimated in an interview that "about half of the municipalities probably can't do procurement." A non-government observer stated: "Too many consultants are getting away with murder in the municipalities because there's nobody to do quality control. Things are being built and falling down six months later."

I suggest a new approach. While continuing to give municipalities control over local infrastructure strategic decisions, it would recognize that low-capacity municipalities are probably incapable of organizing procurement and contract management for these projects. The proposal is as follows:

(1) Municipalities would continue to receive municipal infrastructure grants, equitable share grants, and any other funds currently received from national government, and to determine their priorities for local infrastructure spending. Municipalities would continue to have responsibility for strategy.

(2) Municipalities rated by National Treasury as “poor” in terms of capacity would no longer be allowed to contract for delivery of these services. Instead, they would be required to use either a sector-specific national organization (e.g. National Roads Agency for roads, Department of Water and Forestry or Water Boards for water reticulation/sewage treatment, ESKOM for electricity reticulation, possibly the Department of Public Works for housing<sup>1</sup>) or another national organization willing to provide the services in question (such as the Independent Development Trust, the National Roads Agency, which is willing to bundle other projects together with road projects, or possibly the Department of Public Works). These organizations would be paid by the municipality to run the requirements development (specifications), procurement, and contract management for these services, including repair/maintenance; the organizations might even deliver these projects themselves. Low-capacity

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<sup>1</sup> For reasons of time, no discussions were held with DPW. Other sources also indicated their performance was generally poorer than that of the other national organizations discussed here. One would hope that there would be other organizations, such as the Independent Development Trust or even National Roads Agency, willing to become involved in municipal housing provision, to provide an alternate source to DPW; it is conceivable that housing provision for an entire municipality, or if feasible several, could be bundled as a PPP to provide another source of competition to DPW. One may also ask whether mediocre service from DPW would be better than the status quo, for low-capacity municipalities, in this area.

municipalities would lose their freedom to organize delivery. Other municipalities could use these national entities if they chose to, but would not be required to do so.

(3) These entities would provide these procurement/contract management, or direct delivery, services at pre-established rates.

(4) These bodies would all be national public entities and thus entitled to hire staff (e.g. engineers) at market salaries, rather than being subject to civil service salary limitations.

The basic argument for contracting is that competition among vendors creates the high-powered incentives of the marketplace for lowering production costs and keeping up quality (vendors can make lots of money if they can successfully compete for business, and won't get business unless without keeping costs down and quality up). The basic argument against contracting is that contractors will do only what has been agreed to in a contract, and often even only that when carefully monitored, so, while it lowers production costs, contracting increases "transaction" costs (Williamson, 1985) -- the costs of negotiating, and renegotiating as time goes on, contracts; of potentially being taken advantage of as a customer during renegotiations; and of monitoring contractor performance). For these infrastructure projects, the most important transaction costs, given lack of capacity, are establishing appropriate contractual requirements (what should the infrastructure projects' performance and/or design specifications be) and monitoring performance (Alchian and Demsetz, 1972). In low-capacity municipalities, the mixture of the high-powered incentives of the marketplace with a lack of requirements and of monitoring is a recipe for theft. Buying these services from the outside can only work when procurement and contract management work well.

A second argument for this approach is that it provides an incentive for poor-capacity municipalities to improve. Most municipalities would prefer to have complete control over the infrastructure delivery process, and poor-capacity municipalities could regain this autonomy by improving their capacity. In this sense, the approach bears similarity to the idea of “earned autonomy” frequently practiced in the U.K.

Senior officials at ESKOM, the National Roads Agency, the Department of Water and Forestry, and the Independent Development Trust were interviewed regarding this proposal. All were sympathetic.

The approach being suggested is basically like what already exists in terms of electricity reticulation to municipalities, where ESKOM is currently responsible for delivery (but not strategic decisionmaking about priorities) in about 200 municipalities. In most of these cases, the municipalities for which ESKOM is responsible for electricity reticulation are not licensed by the national electricity regulator to reticulate electricity and therefore are required to work through ESKOM; some municipalities use ESKOM voluntarily – an arrangement like the one being recommended here. Based on requests from these municipalities, ESKOM takes responsibility for procuring local electricity network construction, while providing maintenance of these facilities using in-house staff. One National Treasury official interviewed stated that “overwhelmingly, the anecdotal evidence suggests that ESKOM does a better job [with local electricity installation] than do the municipalities [with local water provision].”

ESKOM procures local network construction from BEE firms that already exist in every province. Projects are generally bundled to make provision of engineering support from the firms, and contract management by ESKOM, easier. Firms are required to use

mostly local (municipal) labor for construction work; they bring in project engineers from outside. ESKOM provides a project manager who supervises each group of projects; these project managers work at local ESKOM offices (of which there are a large number) and can travel to villages to check construction work. ESKOM reports they have not experienced problems with municipal officials trying to influence contractor selection.

Maintenance of these facilities is done by ESKOM's engineering division, which has a large network around the country – ESKOM reports that an engineer in charge of maintenance of a local facility would never be more than 40 km from a village. ESKOM also has a customer service center that receives consumer complaints about service, which can drive maintenance activity. (Telephone contact is now feasible because of cellphone penetration into villages.)<sup>2</sup>

The National Roads Agency currently does a fair amount of provincial road construction work on a fee-for-service basis for some of the provinces, so they have experience in organizing third-party delivery. They have also done a very limited amount of work for rural municipalities. The organization procures road construction from private contractors; contract management (e.g. quality control) of these contracts is performed in-house, using engineers who are in-between other work for the organization rather than a specific corps of contract managers. The organization would be very willing to take responsibility for municipal road procurement for low-capacity municipalities, assuming they were paid for this and that there would be no local political

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<sup>2</sup> Some changes in organizational location for these activities may be possible with the rollout of the new RER's, but some version of this kind of provision is likely; it is also likely that construction of local electricity facilities will be almost complete by the time the RER's have been rolled out, though ongoing maintenance will still be an issue.



interference with the procurement process. The National Road Agency currently employs engineers in their provincial offices, and do not believe they would have trouble getting engineers to go to rural areas to supervise projects; they believe this would be attractive work for young engineers, and they believe the organization is seen as an attractive place to work, so they believe they could hire additional engineers they would need for any new work for municipalities. They believe that bundling municipal roadbuilding requirements into PPP's might sometimes be appropriate. They also suggest taking responsibility for contracting for the maintenance of the municipal roads they procure. They currently use 250 small contractors to maintain roads, and have an existing capacity to train small businesses in road maintenance and to monitor the performance of such contractors. Finally, the National Road Agency would be willing to bundle municipal road projects with water/sewage projects and to take responsibility for procurement of these as packages.

A senior civil servant in the Department of Water and Forestry, suggested by the Minister, was interviewed about this issue. Between 1994 and 2001, when all municipalities were given control not only over strategic decisions about priorities but also over delivery, DWAF did some work, both in some municipalities and in provinces with weaker capacity, for delivery of local water projects. Like the National Roads Agency, they used mostly local labor. They also had engineers working out of provincial offices; however, unlike the National Roads Agency, they let contractors monitor their own work (not a wise idea), though they did have an in-house engineer acting as project manager and a management support contractor to provide supplementary services. Like the National Roads Agency, they grouped rural projects. The official believes that

operation and maintenance of these facilities could be conducted by Water Boards (though this might require a change in their statutory authority, and many municipalities are not connected to any Water Board for wholesale supply), another municipality with greater capacity, or by private operators. The official added that the organization would be able to contract for weekly water quality monitoring, receive monthly reports from the contractor, establish a toll-free telephone line for water quality complaints, and monitor these contracts. The official believes that sometimes there might be enough water projects at a municipal level so that, if bundled, they might be suitable for a PPP. The official interviewed stated that DWAF would look favorably on taking contracting responsibility for weak municipalities, though they would need to staff up to do this, since they haven't been doing anything like this for a few years. A recent National Treasury document on municipal infrastructure (2007: 12) noted that DWAF had presented this as an option for improving municipal water delivery. If this arrangement were pursued, a national public entity inside DWAF should probably be created to do so.

Another possible participant in these activities, particularly housing construction, might be the Industrial Development Trust (IDT), a public entity working on infrastructure development projects. Almost 90% of IDT's current portfolio is at the provincial level, consisting of school, hospital, and clinic construction. 40% of the Rand value of their portfolio, and 60% of their staff, is currently in the Eastern Cape. They bunch projects they work on into larger batches, to allow sharing contract management work across a number of projects, using a "cluster manager." The cluster manager moves to the local area while managing a contract. Like the other organizations contacted, they

overwhelmingly use local contractors and local employees, to whom they sometimes provide training. IDT does not take responsibility for contracting for maintenance.

Currently, IDT has no contracts with municipalities, though they have built a small number of rural hospitals for provinces. Their main concern in doing municipal projects would be that they be bundled so there were enough to allow efficient contract management.

The potential willingness of the National Roads Agency and the Independent Development Trust to take on projects outside of their narrow area may in some cases give municipalities a choice of national provider, adding an important element of contestability to the process that is likely to make the ministry providers such as Water and Forestry more responsive.

The organizations performing these functions would need to be (in terms of legal status) “national public entities”<sup>3</sup> so they have the freedom to take fees from municipal governments and the freedom to hire staff at market wages. The National Roads Agency and the Independent Development Trust already fall into this category; ESKOM is of course already a national business enterprise. The Public Finance Management Act gives National Treasury the authority to add an organization to the list of national public entities.

Any policy change here will need to be sensitive to providing local jobs for infrastructure construction and maintenance. All of the organizations that might undertake procurement processes on behalf of municipalities, or even deliver sometimes these services themselves, made clear that they overwhelmingly use local labor actually to do the work, including training local people for maintenance/repair work; it is hard to

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<sup>3</sup> Or, alternatively, “national business enterprises.”

imagine any other feasible way to deliver these projects. At least some of these organizations, such as the National Road Agency, have experience adopting their production processes to demands for high-labor, low-machinery content environments. However, the proposed arrangement would make it more difficult for local elected officials to direct jobs to friends or relatives, an outcome suggesting that municipalities would be hesitant to adopt this alternative voluntarily,<sup>4</sup> but is also consistent with national law and policy.

No solution to local infrastructure problems will be perfect, or a quick fix. South Africa is very short of engineers – as of 2005, there was one civil engineer per 3166 population, compared to one per 311 in the U.K., one per 389 in the U.S., and one per 1341 in Singapore (South African Institution of Civil Engineering, 2007). National government agencies are unlikely to be models of efficient production. The proper standard against which to analyze the suggestion presented here, or some version of it, is not whether it will work perfectly or solve all problems – it won't! – but whether it is an improvement on the status quo.

## 2 “Public-Private Partnerships” (PPP’s)

PPP’s have been used in a number of countries – perhaps most prominently the U.K., where as of 2005 about 700 had been signed, and most were already operational – as a means to deliver and manage public infrastructure.

As of January 2007 there were 24 PPP’s being implemented in South Africa, in areas such as prisons, hospitals, and roads, by the national government and provincial

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<sup>4</sup> A source in National Treasury suggested that poor-capacity municipalities are frequently unwilling to take engineering or other professional staff (often retirees brought back for temporary service) made available by the Development Bank of South Africa as part of municipal capacity-creation efforts, even though these people are provided for free.

governments. Additional PPP's, also in areas such as prisons, hospitals, and now also schools (a proposal from the Free State provincial government) are being considered. A PPP unit in National Treasury acts both as an overseer of PPP project requests from government departments and also as a source of technical assistance to departments on doing PPP's. I am inclined to believe that South Africa should make greater use of PPP's than it has done to date.

PPP's in many countries have often been chosen as a way for government to avoid lumpy capital investments and on-budget spending increases. The time that the first PPP's were done in South Africa in the late 1990's was a time of great fiscal discipline, creating incentives for off-budget spending. However, two fundamental facts about PPP's are, of course, that government can borrow at a lower interest rate than private firms, and that private firms must also make a profit on top of that, so simply avoiding on-budget spending is a bad argument for using PPP's. It is only through other countervailing advantages might PPP's provide the government with good value for money. There is currently a process for approving proposed PPP's that involves review of ministry documents by a unit within National Treasury, to check that PPP's make economic sense and are not merely a financing vehicle.

The most-commonly cited countervailing advantages of PPP's (Broadbent, Gill, and Laughlin, 2003) involve performance improvements resulting from PPP's -- incentives for cost-savings and opportunities for risk-shifting to the private sector. This occurs most importantly during initial project construction, where the fact that PPP payments are tied to getting the PPP up and running have generally saved the government time and money compared with the record of conventional construction project

procurements (Pollitt, 2005). In addition, giving the PPP responsibility for keeping an asset in proper working order provides incentives to design the asset initially so as to economize appropriately on future maintenance/repair costs, rather than designing a shoddy asset now that will create huge maintenance/repair costs later on.

In the South African context, there may be important additional reasons to consider PPP's.

(1) better quality: Some of those interviewed stated that quality standards in South African PPP hospitals and prisons are higher than for many government-run units. It may be the case that it is easier for the government to exert control over a PPP provider, bound by a legal contract, than over government organizations. This is counterintuitive (since one normally thinks one has greater control over one's own staff than over outside contractors) but certainly empirically possible situation, especially where there is no established tradition of performance management for government organizations. Alternatively, any higher quality may simply reflect higher contractual demands that in turn are reflected in higher vendor payments under PPP's than would be the case for conventional arrangements.<sup>5</sup> Current PPP prison deals were signed before the government developed minimum standards for prisons (e.g. on overcrowding), and specify quality levels above those minimum standards; at the same time, the PPP prisons are successfully adhering to standards expressed in the contract, while many conventional prisons are not adhering to the government's own minimum standards. Given that it is likely that standards expressed in PPP tender documents are likely actually to be followed

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<sup>5</sup> A British study by Partnerships UK (2006) showed that in Britain, satisfaction with the operating performance of operational PPP's was generally very high (although unfortunately the report presented no comparison with satisfaction over the performance of government-run infrastructure built using traditional procurement).

by the concessionaire, one advantage of PPP's may be to inject realism into government service standards that might otherwise be expressed on paper as ideals but not actually applied in practice.

PPP ministry buildings also are considered by many to have been oversped in terms of quality, but it is hard to see why there is some feature of the PPP itself that produces "excessive" quality (unless it is an off-budget status for the project that makes it seem artificially cheap, a question to be discussed below). Specs for the schools being aggregated into a possible PPP being considered by National Treasury are similar to specs for other schools. If the government desires to keep quality standards within bounds on PPP's, it would appear to have the ability to do so.

(2) pre-commitment on maintenance spending: It is always tempting in the out years of a project, especially during tight fiscal periods, to skimp on maintenance spending, holding it off for later, in ways that eventually ending up costing the government more money, as necessary maintenance is delayed until it becomes a crisis, and often more expensive (on a NPV basis) to do. A common psychological strategy under these circumstances is pre-commitment (a literary example frequently cited in the literature is Odysseus chaining himself to the mast of his ship lest he be tempted by the alluring but dangerous call of the Sirens) (Elster, 1984) – if one believes that one will later, in a moment of temptation, do something not in one's longterm interests, one may seek to pre-commit oneself, prior to temptation, so the tempting but dysfunctional option is unavailable later on. Since PPP contracts, signed at the beginning of a project, include maintenance commitments made by the provider and by the government (that are priced into PPP payments), PPP's provide a form of such pre-commitment.

(3) competition and discipline for traditional alternative approaches: By providing a contestability about supply/delivery decisions on government projects, PPP's provide an incentive for public bodies to improve their performance, lest more of their work be handed to PPP's.

(4) additional remedies against corruption: A standard feature of PPP contracts calls not only for termination of the contract if corruption is uncovered, but also the loss of the PPP firm's equity interest in the project. This adds an additional remedy for, and incentive against, corruption in the procurement process.

Among the considerations in deciding about whether to use, and if so how to design, PPP arrangements are the following:

(1) Risk allocation for PPP's should generally be structured so that the risk is assigned to the party in the best position to bear it (Corner, 2005). A practical rule of thumb is that risks the vendor is in a position to control should be allocated to the vendor, while those over which the vendor has little control should be allocated to the government. Examples of risks over which vendors have significant control include construction cost and schedule, and keeping the asset well-maintained. Examples of risks over which vendors have relatively little (or sometimes no) control are the level of demand for the service and changes in legislation that may affect the project (Corner, 2005; Evans and Bowman, 2005). Vendors managing highways have relatively little control over the level of road traffic, raising questions about putting vendors at risk for traffic growth assumptions through having a road PPP financed through user fees (tolls).

This issue has been extensively discussed in academic principal-agent theory regarding contract design, especially for employment contracts (Hart and Holmstrom,



1987). An agent asked to be held accountable for attaining a certain performance metric over which they have only partial control will demand a risk premium (i.e. insurance policy) for bearing that risk, the more so the more the agent is risk-averse. In principal-agent theory, the principal will often be hesitant to pay this premium, especially since the principal, as a larger entity, is likely to be risk-neutral rather than risk-averse. The presence of risk not under agent control thus places limits, or costs, on the effort of principals to incentivize agents to produce.

This analysis suggests several policy conclusions. One is that the vendor's revenue stream should not begin until the project is up-and-running, to provide the proper incentive for rapid project completion (Evans and Bowman, 2005). The second is that government should consider alternatives to the Build-Own-Operate-Transfer model for PPP's, where revenues to the vendor are generated all or mostly by user charges (e.g. highway tolls) in situations where much of the usage risk is outside the vendor's control. One alternative in these circumstances is the Design-Build-Finance-Operate model, where the vendor acts as a concessionaire, receiving usage payments mostly or all from the government (Evans and Bowman, 2005). Another alternative is not giving PPP's any responsibility for direct service delivery at all (e.g. not involving the PPP in providing hospital care, as opposed to hospital construction/maintenance, if in the former payment would be based on the number of patients treated).

Another risk from long PPP contracts is that demand for the asset will significantly diminish over time, due to population shifts or technology changes. In the Free State school construction/maintenance PPP currently being considered by Treasury,

a policy response to this has been to include schools in highly populated townships rather than remote rural areas, on the grounds that demographic shifts over a 15-year period are likely to be greater in the latter than the former. This risk also argues for looking for opportunities to shorten the length of PPP contracts, consistent with proper maintenance/repair incentives.

(2) Since cost savings PPP's generate typically occur in the early years of a project (due to fewer cost overruns in construction), while payments to PPP vendors go on for many years, the choice of discount rate for the future payments makes a big difference for whether these projects are judged to be economically advantageous for the government. Often, very small changes in the discount rate make a PPP either economically advantageous or not (Broadbent, Gill, and Laughlin, 2003). National Treasury currently has no overall rule prescribing a discount rate; it would generally seem appropriate that the discount rate be equivalent to the yield on South African government bonds with a maturity corresponding to the length of the PPP project.

(3) The attractiveness of PPP's is affected by whether and how they are placed on-budget. Advantages and disadvantages of using PPP's from a budget accounting perspective, independent of an economic perspective, should not influence the choice of PPP's versus other infrastructure methods. Keeping PPP's off-budget makes them appear artificially attractive. Comparing, on budget, the annual payment (which may occur over 15-30 years) on a PPP with the total capital cost of a conventional procurement also makes PPP's appear artificially attractive. Comparing

(4) PPP's need service level agreements or other performance measures (and, where appropriate in construction, design requirements) in the contract. Otherwise,

vendors can achieve speedy, inexpensive project delivery by producing a project that is shoddy or that performs poorly. The experience in the U.K.(Partnerships UK, 2006: 25) has been that the quality of contractual performance specifications has improved over time, suggesting that learning has been taking place about what constitutes good performance specifications. There is evidence that at least some South African PPP's are taking seriously the implementation issues involved in monitoring maintenance and upkeep on projects. The Free State schools PPP currently under consideration envisions school principals taking on a complaint function, via an independently monitored help desk, when their school has not been properly maintained, which is a good way to use existing capacity for maintenance monitoring. This PPP also includes provisions for the concessionaire to train local people, in the areas where the schools will be located to do maintenance and repair, which is positive from a local job-creation perspective but also avoids having to send roving maintenance employees into various townships.

(5) As with other kinds of contracts, competition prior to award of a PPP is necessary if the government is to get a good deal. Regarding the early PPP prison contracts in South Africa, generally regarded as overpriced, a private-sector banker supportive of PPP's stated that "the government didn't keep the competitive tension long enough" and started one-on-one negotiations with one of the bidders "too soon," before receiving a round of improved offers from the original bidders. (It was in response to this experience that the National Treasury oversight unit on PPP's was formed in 2000.)

(6) These are very complex contracts to negotiate. It will be easy for government to be exploited if it lacks high-quality (and generally high-priced!) banking and financial expertise on its side of the transaction. Currently, the government does hire a team of

“transaction advisors” for each PPP, who generally come from accounting firms but include engineering and legal talent as well. However, to the extent that the bidders are also represented by bankers who are expert in negotiating and structuring deals, the government may want to have this kind of consulting help available as well. The government could bring in British banks with significant PPP experience to advise them, either on a consulting basis or actually seconded (on detail) to National Treasury. (Interestingly, a South Africa based private sector banker suggested this idea, on a “for background” basis.) This might be paid for with international aid funds.

The high transaction costs for these contracts suggests they do not make sense for smaller projects – an approximate initial vendor investment of 100 M Rand might be a good rule of thumb. For projects that are individually smaller, such as schools – as with other local infrastructure projects discussed in the previous section – this implies that the PPP approach is only feasible if the projects can be grouped, at a provincial level (as with schools) or, when feasible, through collaboration across a number of municipalities, in order to make a PPP approach feasible.

(7) Since these are such long-term contracts, it is virtually certain they will be incomplete – that is, there will be significant unforeseen situations and environmental changes not covered in the original contract. This incompleteness adds to the transaction costs of this mechanism (Williamson 1985), making it less attractive than it otherwise would be. It also means that the original contract needs to include governance mechanisms (including some relatively simple system of third-party arbitration) for dealing with contractual changes. Provisions for off-ramps from the project for either party, if the contract is not working out, combined with some schedule of termination

liabilities (for both parties) in the event the project is abandoned, are needed as well. The Partnerships UK report (2006) of operational PPP projects found that there was greater satisfaction with the performance of PPP's where a dedicated team of government people had been assigned to managing the contract.<sup>6</sup>

(8) The regulatory and promotional roles of National Treasury with regard to PPP's should be split. National Treasury currently plays both a regulatory role (scrutinizing PPP projects that departments or provinces propose) and a promotional role (encouraging PPP's and building PPP procurement capacity). These roles are split in the U.K., one of the world's largest users of PPP's, and the strategy of splitting government organizations that have mixed regulatory and promotional functions (in areas ranging from atomic energy policy to central procurement of goods) has been followed in many countries in many domains. Keeping the roles together probably means that National Treasury doesn't do as good a job at either than if the roles were split.

### 3. Large Capex Procurements

I interviewed in January some senior Transnet procurement\_officials involved in their large capex procurements, and examined some bid documents for the Durban port renovation procurement.

Based on the work done so far, my preliminary conclusions and questions are as follows:

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<sup>6</sup> These were only bivariate crosstabulations. The results might be conservative if the decision to assign dedicated staff was partly endogenous (dedicated staff assigned to projects in trouble or at greater risk of trouble). One would also wish to control for project size, which is clearly correlated to presence of a dedicated staff and possibly to satisfaction; ministry dummies (the research involved four ministries that were big PPP users) should also have been used in case these were correlated both with assigning dedicated staff and with satisfaction.

(1) The basic strategy for creating capacity to structure, compete, and do postaward management of these large contracts appears sound. Any contracting process has three basic stages. These are: a) development of requirements (what will be customer be asking for) and of a contracting strategy (should the contract be fixed-price or cost-based, should there be incentives, etc.), b) competing the contract and selecting a winning vendor (generally called “source selection” in the U.S. and “bid adjudication” in South Africa), and c) managing the contract after it has been awarded (including cost/quality monitoring of contractor performance and change order management).

The contracting strategy Transnet has followed recognizes the long hiatus since the last major round of capex in SOE’s and hence the absence of any significant existing organizational capacity for undertaking any of these elements of the procurement process. Transnet has therefore in significant measure brought back apartheid-era contract managers with SOE experience for their in-house capacity and also brought in an international contract/project management firm/consortium, Hatch, to provide the vast majority of the expertise and bodies to manage the process. Faced with the same circumstances as they, I would have done the same thing.

(2) The bid documents and competition procedures seem generally to be sound, though this does not guarantee against cost overruns/problems during contract administration. According to interviews with Transnet and Hatch personnel, documents make clear what is being bid on and the evaluation criteria for evaluating tenders. There are committees of technical and procurement experts that evaluate and score proposals. Officials state that there is a significant paper trail of justification for decisions and an internal review process leading to final decisions. I believe it is unlikely that the

adjudication process has been corrupted, though of course there can be no absolute assurances.<sup>7</sup>

(3) Attention is being paid to postaward contract management. I have been unable to obtain information on the number of staff (in-house and contractor) working on managing those projects that have already been awarded. However, the number of people (mostly from Hatch) assigned to contract management is not trivial, and the contracts clearly are not simply being allowed to “manage themselves.” At the seniormost level, the Transnet Director-General stated in an interview that her “number one priority” for her job was monitoring Transnet investment projects on cost, schedule, and performance. This of course certainly doesn’t preclude problems arising with cost growth for these projects, which can occur for a number of reasons even in reasonably well-managed contracts. But it is highly unlikely that money on these capital investments will simply disappear without the projects coming on line.

(4) There are a number of ways that the requirements and the vendor selection process could probably be improved, but these issues should be dealt with by the actions of civil servants and would not likely be worth ministerial or SOE executive involvement. These include: a) The requirements for these contracts have generally been expressed in design rather than performance terms. So the specifications require, say, the contractor to use a certain kind of concrete for a certain part of the construction, rather than expressing the requirement in terms of strength, durability, and/or other performance features. Design specs often raise costs by requiring a certain approach even if a less-expensive one produces the same performance. They also reduce competition. “Nobody in this country is comfortable with performance specs,” one Transnet procurement official told

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<sup>7</sup> I was not provided with copies of either actual tender documents or of bid adjudication reports.

me. b) These contracts have not included so-called “value engineering” (VE) clauses.

VE is a procedure often used in construction whereby the contractor may propose after contract award ways to save money on the project, or produce improved performance for the same price, and the contractor is provided part of the savings generated by ideas that the customer accepts. The contracts have no other incentive provisions in them either.

Relatedly, when draft bid documents are sent to potential bidders for comment, potential bidders have not been asked for suggestions about how the customer’s requirements

could be changed to raise cost-effectiveness; if asked, industry might point out that a requirement in the draft document produces a very large cost premium for no or minor performance gains.

c) Important attention should be paid in proposal evaluation to so-

called “unbalanced bidding.” A tender proposal includes prices for different chunks of

construction work (say, floor construction to spec per square meter), and Transnet then

ends up buying a certain number of units of the various chunks of work to do the project.

Proposal evaluation is then based on assumptions, given in the tender documents, about

the quantity of each chunk that will end up being performed. If the bidder believes that in

fact the customer will end up needing far more of chunk x than in the assumptions and far

less of y, they can produce an “unbalanced bid” that bids artificially low on chunk y and

artificially high on chunk x, increasing their probability of contract award while paving

the way for cost growth later on. In bid adjudication, Transnet currently does a

sensitivity analysis to see the impact of various kinds of quantity changes in these chunks

on the bidder’s overall price. This should be considered carefully, because unbalanced

bidding not only creates price risks for the buyer, but may well be a sign of bad will on

the part of the seller.



(5) Possible collusion is a concern. One hears anecdotes that firms bidding on large capex projects are colluding to divide up the work, with the winning prime contractor on each project bringing in losing “competitors” as significant subcontractors once the project has been awarded, or of possible cartel arrangements where firms agree to divide up work across projects. The Competition Commission has noted bid-rigging as a real concern, especially in connection with large infrastructure projects.

Procurement policies that allow all bidders to learn prices competitors have bid make it easier to enforce cartel agreements (Porter and Zona, 1993). For this reason, the government policies of avoiding public bid opening (historically introduced for transparency reasons) or provision of bid price information to losing bidders, are both good ones.

Dealing with bid-rigging is not easy. Possible approaches include:

(1) Establish a bounty system, similar to that in the U.S. False Claims Act, whereby private parties providing evidence to the government of bid rigging that leads to a conviction would be entitled to receive a share of the fines or penalties (somewhere between one-quarter and one-half) that the government collects from the conviction. This would supplement a Corporate Leniency Policy, which already exists, that provides that the first member of a cartel that discloses information about the cartel leading to successful prosecution of other cartel members not be prosecuted themselves; such a policy provides only relatively weak incentives for a firm to come forward, since there is no reason to come forward unless one believes the government has a high probability of discovering and prosecuting the cartel anyway, in which case having the first first come forward may not even be needed.

(2) Staff might wish to share relevant features of proposals the same companies make for different capex projects, to see if there are suspicious differences across the proposals with regard to pricing or technical quality, that might suggest rigging.

(3) For commodities, the government should explore the potential of online auctions as a tool to lower prices and increase competition.

(4) If one is concerned about collusion that takes the form of dividing up the work after contract award among preaward competitors, one measure the government could take would be to place limitations on whether (and/or the extent to which) subcontracting work to firms that lost the prime-contract competition. There are three, related, arguments against such a step. First, it represents a significant restriction on the normal practice of holding a prime contractor responsible for contract performance and giving them a corresponding freedom to select subcontractors; therefore, it should only be undertaken if there is a reasonable expectation this will provide good value for the government. Second, capacity constraints may be significant enough that these projects cannot feasibly get accomplished without having losing competitors working as subcontractors.<sup>8</sup> Third, if this route to collusion is closed, contractors may strategically adapt their behavior and discover a new way to rig bids instead. One possibility would be to announce in an RFP that the government reserves the right after contract award to prohibit or restrict the ability of the winning prime contractor to use losing contractors (perhaps also major subcontractors in a losing team?) as subcontractors after award has been made.

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<sup>8</sup> To be sure, if there are, notionally, 10 contractors and a certain amount of work to be divided among, notionally, 10 projects, the 10 contractors could each do a full project themselves (and with their own stable of subs), rather than having the 10 contractors each do a little work on all 10 projects. There may, however, be some specialized skills that are bottlenecks.

#### 4. “Competitive Supplier Development Program” (CSDP)

Efforts have begun at Transnet and Eskom, still in quite early and mostly policy development rather than implementation phases, to develop an industrial policy component to Transnet and Eskom capex efforts, and also for large defense purchases, particularly but not exclusively in terms of foreign investment in supplies used for the capex or the weapon being purchased. At a policy level, those developing this strategy (mostly in DPE) are anxious to differentiate their approach from classic local-content “offset” requirements used by many countries in large procurements for, say, aircraft and weapons; they don’t want simply to get a certain percentage of production done locally, but for foreign suppliers either to invest directly or buy from already-existing domestic firms in areas where, in the judgment of the buying organization, South Africa is likely to have a competitive advantage that can be nurtured by the demand-creation the capex procurement represents. Those working on CSDP are also anxious that any current price impact of these measures on the capex program be minimal. The members of the Harvard team working on industrial policy believe that this approach has enough theoretical merit that it is worthwhile to look at how it might best be executed in terms of good procurement policy.

What CSDP is hoping to encourage is decisions by large multinationals to source in South Africa certain kinds of production for the firm’s worldwide supply chain, i.e. developing a capacity for exports from South Africa. Those working on CSDP believe that South Africa’s “sweet spot” in terms of competitive advantage is in industries that have both a strong labor content and a strong engineering content. They believe South Africa frequently has good engineering design skills, but weak manufacturing

capabilities, growing out of the apartheid boycott era when South Africa had to design products internally but no premium was put on inexpensive manufacturing. Their hope is that demand connected with capex or weapons purchases, or with decisions to source certain supplies (e.g. railroad wheels) from one or a small number of suppliers for aggregate SOE demand, will make it worthwhile for foreign multinationals to invest in improvement of South Africa manufacturing capabilities, either through FDI or through building up local suppliers. The intention is to develop a list or lists of industries where South Africa has a good chance of becoming internationally competitive, and to center local-content efforts around these industries.

In general terms, the priorities (DPE, 2007) for these efforts are: 1) which are currently being imported, or where existing local supply markets are uncompetitive. (2) for which global demand is increasing and there is potential for exports; and/or (3) that supply other growing industries (e.g. the foundry industry also supplies the mining and auto industries)

The traditional view among professional procurement experts has been that the major goal of procurement should be providing an organization with best-value goods and services (“value for money”); the view has often been that other goals, including industrial policy goals, should be seen with skepticism as exacting a potentially significant price and/or quality penalty in government purchases (at least for purchases currently being undertaken).

As mentioned, those working on CSDP are aware of this objection. In the original briefings to Harvard team members, the argument was made that CSDP would be price-neutral, and CSDP options would not be implemented if they produced price

premiums – in which case one might ask why the marketplace would not generate CSDP results without a CSDP program. This view has since the initial briefings been modified to recognize that CSDP efforts are likely to create “short-term” price premiums. (One interviewee working on CSDP noted with clear approval that the Korean government is “happy to pay a premium” short-term to get what they are convinced are long-term gains; this was a different tone than in the January visit.) The most-current CSDP strategy document (DPE, 2007: 17) states that “(p)aying long-term price premiums for local supply...would not be in line with the aims of the CSDP, as it would not increased the global competitiveness of the local supply base, and would not be in the commercial interest of SOE,” adding as well that “(g)reat care should also be taken before paying any short-term price premium for local supply.” A senior procurement leader at Transnet conceptualized the program in a way most-consistent with the traditional emphasis among procurement professionals on value for money: “We want local manufacturing only if we can do it internationally competitively, not because it’s a cute thing to buy locally.” Senior procurement leadership at Transnet has bought into the CSDP approach; discussions with Eskom procurement leadership are ongoing.

The following are recommendations for implementing CSDP into the SOE procurement system:

(1) Local supply considerations should not be a “mandatory minimum requirement” in tender documents, but rather included as one evaluation factor. If local supply is a mandatory minimum requirement, a bidder cannot receive the contract without making some level of commitment to local content, no matter how much this adds on to the price. By contrast, if supplier development is one evaluation factor among

several (along with price, overall technical quality, past performance, etc.), then bidder proposals in this area can be ranked against each other during tender adjudication, and against other elements of a bidder's proposal. As one evaluation factor, it is possible that a bidder who makes little or no supplier development commitments might nonetheless win the contract, if the proposal is advantageous enough in other areas. It would also be helpful, especially on large capex projects and for the major elements of a supplier development proposal, for bidders to provide an alternative price/quality bid for the supplies being offered with a supplier development component, in order that any price premiums be more transparent.<sup>9</sup>

(2) Bidders should be given as much freedom as possible to choose the areas where they want to bid supplier development actions. Complete freedom would not be consistent with CSDP goals, because it would turn the approach into a traditional local-content approach. But, within a relatively wide list of priority supply areas presented in tender documents, bidders should be given freedom to propose where they wish to concentrate their efforts, since they are in a better position to choose those supply areas that are most cost-effective for them. (One approach under serious consideration is simply placing quite open-ended language in tender documents to the effect of, "What can you do for us?" This, in my view, is a good direction.) Bidders should be permitted to present alternate proposals in this area..

(3) There should be significant reliance on outside consultants and/or academics expert in industrial structure and the South African economy to select promising areas for supplier development. Bidders cannot be relied on to provide impartial information, since they have an interest in recommending as priority areas those they most easily can

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<sup>9</sup> This should be done sparingly, because it adds to bidder proposal development costs.

meet. Nor would this be expected to be an area where the SOE's themselves would have decisive expertise – they employ engineers, not industrial structure experts – though SOE staff input is useful, including from the perspective of organizational “buy-in” for this perspective. This leaves outside consultants and/or academics as a good source of recommendations, with feedback from others in government working on industrial policy.

(4) The philosophy of seeking to the maximum extent to avoid price premiums should be inculcated in staff working on CSDP. It is very easy for a program such as this to degenerate into an expensive subsidy program for local suppliers, especially if bidders propose that local content be met through existing local suppliers rather than new investment. The fact that those working on CSDP are aware of this danger is a very good sign, and procurement and technical staff working on proposal evaluation from bidders need to be trained not to accept supplier development proposals at all costs. It must be considered culturally acceptable that the winning bid be from a contractor that didn't have the best supplier development proposal, but who was very strong in other respects.

(5) Some basic guidance documents on CSDP from DPE are probably a good idea. There is no reason to ask the people doing each major capex procurement to reinvent the wheel. However, this should be seen, unless significant problems arise, as guidance not regulation.

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