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Fakulteit Ekonomiese en Bestuurswetenskappe

AN ECONOMIC AND FISCAL ANALYSIS AND ASSESSMENT OF PUBLIC-PRIVATE PARTNERSHIPS (PPPs) IN SOUTH AFRICA

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INTRODUCTION

1. Definition of PPPs
2. PPPs in South Africa
3. The economic rationale for PPPs: Efficiency and effectiveness
4. Risk transfer in PPPs
5. Impediments to attaining efficiency in practice
6. Conclusion: The main PPP lessons

1. THE DEFINITION OF A PPP

- Confusion surrounds the definition of PPPs
- Confused with privatisation and subsidisation
- The spectrum of different forms of relationship between government and the private sector
  - *Public* provision and *public* payment
  - *Private* provision and *public* payment, *e.g.* contracting
  - *Private* provision (including finance), *public* regulation, *e.g.* privatisation
  - *Private* provision, *private* payment

- PPP is an institutional and contractual partnership arrangement between government and a private sector operator to deliver a good or service to the public, with as distinctive elements:
  a) a true partnership relationship (i.e. alignment of objectives) and
  b) a sufficient amount of risk transfer to the private operator

2. PPPs IN SOUTH AFRICA

- April 1997: Cabinet approved appointment of an interdepartmental task team to develop policy, legislation and institutional reforms to enable use of PPPs
- Pioneering projects (1997-2000):
  - SA National Roads Agency: N3 and N4 toll roads
  - Department of Public Works and Correctional Services: Two maximum security prisons
  - Two municipalities: Water services
  - SA National Parks: Tourism concessions

- Strategic Framework for PPPs endorsed in December 1999
- April 2000 Treasury regulations for PPPs issues
- Mid-2000: PPP unit established in the Treasury
- Implementation very slow
- Between March 2000 and March 2005 only 12 projects signed (First 6 in December 2002; 0 in September 2002)
- 50 still in the pipeline (47 in the pipeline in December 2002; 26 in June 2001)

- **PPP type** indicated by combination of private party risk for:
  - **D:** design;
  - **F:** finance;
  - **B:** build;
  - **O:** operate;
  - **T:** transfer of assets back to government

PROJECT	GOVERNMENT INSTITUTION	PPP TYPE	CONTRACT DURATION, DATE CLOSED
Fleet Management	Northern Cape Dept Transport,Roads and Public Works	DFO	5 years November 2001
Inkosi Albert Luthuli ospital	KwaZulu-Natal Dept Health	DFBOT	15 years December 2001
Eco-tourism	Limpopo Dept Finance, Economic Affairs, Tourism	DFBOT	30 years December 2001
Universitas and elonomi co-location	Free State Dept Health	DFBOT	16,5 years November 200
Information Systems	Systems Department of Labour	DFBOT	10 years December 2002
Chapman's Peak Drive ll road	Western Cape Dept Transport	DF(part)BOT	30 years May 2003
State Vaccine Institute	Dept Health	Equity partnership	4 years April 2003
Humansdorp District ospital	Eastern Cape Dept Health	DFBOT	20 years June 2003
Fleet Management	Eastern Cape Dept Transport	DFO	5 Years August 2003
. Head Office ccommodation	Dept of Trade & Industry	DFB0T	25 Years August 2003
. Cradle of Humankind terpretation Centre omplex	Gauteng Dept Agriculture, Conservation, Environment and Land Affairs	DBOT	10 years October 2003
. Social Grant Payment	Free State Dept Social Development	DFO	3 years April 2004

3. THE ECONOMIC RATIONALE FOR PPPs: EFFICIENCY AND EFFECTIVENESS

- Main rationale is efficiency and effectiveness:

  a) Efficiency and Effectiveness
  b) Public Sector Inefficiency
  c) PPPs and the dangers of Reduced Government Involvement

(a) Efficiency and Effectiveness

- Many argue that PPPs increase efficiency in use of resources to deliver services.
- Generally *assumed* that:
  a) Production by profit-maximising private sector institutions acting under competitive pressures is more efficient,
  b) Government production is less efficient
- However, assumption not necessarily valid
- Distinguish three kinds of efficiency:
  1) Allocative efficiency,
  2) Technical efficiency, and
  3) X-efficiency.

- Efficiency gains from using private sector:
  1) More flexibility, better management and better 'incentivised' behaviour,
  2) Better delivery of services for the same price,
  3) More focus on output/outcomes,
  4) Private sector partner identifies and institutes optimal, cost-effective ways to deliver services,
  5) Benefits from integrating the efficient design, building and operation of an asset,
  6) Innovative and full-capacity use of assets,
  7) Better project identification to ensure long-run viability,
  8) Better value for money, leading to better and more services for the same prices,
  9) Savings to use for other services or investment.

- *Effectiveness*, in contrast to efficiency, concerns extent to which goals are attained
- Both efficiency and effectiveness important
- Efficiency in its widest sense: consumer preferences are served optimally and at minimum cost
- Effectiveness: social goals are served maximally
- Not in all cases can both efficiency and effectiveness be maximised simultaneously
- Trade-offs

- Efficiency of profit-maximising private firms in markets predicated on two core ideas:
  1) Pursuit of profits create powerful *incentives* to push the production and marketing processes to their most efficient and cost-minimising limits via good management and,
  2) Pressure of *competition* from existing competitors (as well as potential entrants into the market) acts as a powerful disciplining force on firms to be efficient in order to survive.

- Another key element in achieving efficiency: Presence of *risk*, and of risk-taking by private entrepreneurs.
- Risk occurs, a.o. because of seller competition and consumer freedom of choice
- Reward for risk-taking: Profit.
- Because continued health and survival of firm is at risk, managers are sufficiently 'incentivised' to deliver maximum efficiency.
- THUS:

  Risk, coupled with the promise of reward, is the key to efficiency.

(b) Public Sector Inefficiency

- Government officials motivated not (only) by their duties towards government, but also by their own aspirations (*e.g.* to maximise power and status) and value systems
- Bureaucratic behaviour may cause:
  1) a misallocation of resources
  2) an oversupply of public goods (*e.g.* behaviour described by Niskanen),
  3) principal-agent problems, and
  4) X-inefficiency (*e.g.* due to overstaffing)
- Bureaucratic behaviour can also appear in private corporations, especially large ones

- Thus, to argue that delivery by the private sector necessarily will occur without inefficiencies is unwarranted and ideological
- In selecting a private sector partner, be aware of potential for perverse bureaucratic behaviour in private firm (e.g. causing principal-agent problems in contractual delivery relationships)
- Not all cases of government provision are inefficient, and not all cases of private sector provision are efficient
- *Effectiveness* of service delivery in the particular case must also be brought into consideration

(c) PPPs and the dangers of Reduced Government Involvement

- Several socio-political dangers may flow from a reduced government involvement coupled with an increased private sector role:
  1) Loss of day-to-day democratic control and accountability
  2) Loss of the ability of government to be flexible and to respond quickly to new situations and public needs
  3) The rigidity of PPP contractual delivery arrangements may inhibit flexibility and agility
  4) The implementation of a PPP may take too long

5) Short-termism by profit-seeking private enterprises
6) Power abuse by powerful and perhaps monopolistic or dominant private interests.
7) Market may not reveal the true demand (reason for government delivery in the first place)
8) Insufficient provision of basic health, education, welfare
9) Inequitable and discriminatory access to basic needs and services due to selective delivery by profit-oriented private enterprises

- Consideration of PPPs should keep in mind main reasons why government gets involved in the provision of services:
  1) Intrinsic nature of the State: Constituting a public legal order, providing law and order, defence
  2) Public views on what should be provided on a non-profit and non-exclusive basis in a democratic society: Basic health care and basic education
  3) Public goods or goods generating externalities or market failure of some kind: Health and education typical examples

4) Historical lack of private initiative or sufficient private capital that prevented sufficient private investment in key infrastructural areas (a railroad) or key basic industrial projects (a steel industry)
5) Markets may fail to deliver (sufficient quantities of) even essential goods or services due to poverty of major sections of the population who cannot register a meaningful demand in the market

4. RISK TRANSFER IN PPPs

- This section establishes importance of risk transfer in a PPP agreement
- It analyses the relationship between risk, efficiency and effective services delivery
  - Attainment of efficiency depends on specific supply and demand conditions
  - Private operator bids for a project on the basis of *expected* (future) supply and demand conditions
  - Definition of risk differs depending on amount of information on future supply and demand conditions

(a) Defining Risk, Uncertainty and Ignorance

- The classes of risk are:

1) *Certainty* - A case of full information on the future. Entrepreneurial decision not subject to any risk. Full information a limiting case which does not appear in reality.
2) *Risk proper* – A case where the range of possible outcomes and their objective (*i.e.* statistically determined) probabilities are known. Risk then defined as the measurable probability that a particular actual outcome will deviate from the expected (or most likely) outcome.

3) *Uncertainty* or *immeasurable risk* – A case where objective (statistical) probabilities cannot be calculated but a range of possible outcomes are foreseeable. Entrepreneur may state expected, worst case and best case scenarios.
   - Most of the risks pertaining to PPPs fall within this category.
4) *Ignorance* - A situation where nobody has any idea about either the probabilities of different outcomes or the possible outcomes themselves. Even worse than gambling (where probabilities can be calculated): Most private investors will shy away from projects with this level of risk.
   - Some categories of potential PPPs fall in this category.

- Types of risk
  1) Demand risk: Consumer preferences and tastes, substitute products, import competition, income patterns, demographic changes
  2) Supply risks: Ability to deliver, input and labour availability, input and labour costs, technical and production process risks
  3) Financial market risk: Cost of capital, interest rates, exchange rates, inflation rates
  4) Legal and political risks: The legal framework, dispute resolution, regulatory framework, government policy, taxation, expropriation, nationalisation

(b) The Interaction between Risk and Efficiency

- Close relationship between risk and efficiency: *Risk is the driver of efficiency*
- Drive for efficiency stems from fear of the risk that actual and expected profit will not coincide
- Risk transfer absent if there is no possibility that profit of private operator will deviate from what he expected

- Occurs where sales or rate of return is guaranteed by government, or where the private operator is paid by government on a cost-plus basis
- Thus managerial efficiency cannot affect profit level
- Also means demand for product is guaranteed. Little incentive to be efficient.
- Risk spurs operator to estimate demand carefully, monitor product quality, minimise costs, and ensure managerial efficiency. This ensures that he operates efficiently.

- Transfer of risk to a private operator not free of charge. Private borrowers pay higher interest rate than government.
- Higher interest rate an added cost of PPP provision. As a result, the price of goods to government, *ceteris paribus,* higher than had government borrowed the money to provide the service itself.
- From an overall efficiency and social welfare perspective, this extra cost must be compensated for by sufficient efficiency and effectiveness gains.

5. IMPEDIMENTS TO ATTAINING EFFICIENCY IN PRACTICE

- Several impediments to realising beneficial relationship between risk, efficiency and effective delivery:
  1) Difficulties in estimating demand: The type of product
  2) A lack of competition,
  3) Difficulties in simulating competition if it is not present
  4) If effective delivery is crucial: The social importance of a product

(a) Type of Product, Risk and Efficiency

- Goods and services that government can deliver can be classified on a spectrum ranging from pure public goods to pure private goods.
- Classification depends on the degree of rivalry and excludability of goods.
- Pure public good: Non-rival and non-excludable good. Because of these qualities, the demand suffers from the free-rider problem.

- Implication of public goods for service delivery through a PPP:
  - Private operator will not be able to estimate the expected sum of individual demands because of the free-rider problem.
  - Thus cannot determine how much to deliver, or estimate the profit-maximising level of service delivery.
  - Therefore, the class of risk involved is *ignorance*: Private operator cannot foresee the likely profit outcome of the project, let alone the probabilities of each outcome.

- Government will have to determine the social demand for the good and convey that to private operator.
- PPP contract then needs to state desired quantity level and a willingness to pay by government.
- The private operator will now have certainty about the demand.
- Demand risk as one of the main drivers of efficiency is eliminated.

  - If *other* risks transferred to the private operator are *not* substantial enough to be drivers of efficiency, potential efficiency gains will not be large
  - Little sense to deliver good through a PPP
  - Lastly, higher interest cost of private provision might mean government delivery is more efficient & cost-effective
- Intermediate cases of goods with externalities: Demand partially revealed.
- Government partially involved to state demand (*via* e.g. subsidies).
- Significant reduction of demand risk as a driver of efficiency.

- Example: British private operators unwilling to charge toll to road users.
- Private operators did not know extent to which road users would use toll-road if faced by full cost of a toll.
- Government guaranteed payment of a shadow toll, eliminating the direct cost to consumers and thus ensuring use of road.
- Reasonably assured demand and significant reduction of demand risk as efficiency driver
- The question is whether the other risks transferred to the private operator are sufficient.

- The following cases can be distinguished in terms of the degree of ‘publicness’ and their implication for risk transfer, especially on the demand side:
  1) If the good is rival and easily excludable
  2) If the good is non-rival but congestion is likely and the good is easily excludable
  3) If the good is non-rival but congestion is likely, while exclusion is difficult or impossible
  4) If the good is fully non-rival and exclusion is difficult

1) If the good is rival and easily excludable (e.g. seats on a public bus):
   - Significant demand-side risk, such as any private good sold in the market.
   - Delivery through PPP can take place.

2) If the good is non-rival but congestion is likely (*i.e.* only partially rival) and the good is easily excludable *(e.g.* inter-city highway):

- The free-rider problem may not be large;
- Possible congestion and exclusion are incentives to consumers to reveal their demand before congestion sets in.
- Sufficient transfer of demand-side risk can be attained.
- Delivery can take place through PPPs (*e.g.* an inter-city toll road).

3) If the good is non-rival but congestion is likely *(i.e.* only partially rival), while exclusion is difficult or impossible (*e.g.* municipal roads):

- Demand-side risk transfer will be impossible, because no private operator would be interested.
- The free rider problem is large.
- Delivery through PPP not recommended unless risks other than demand risk are sufficient enough to drive efficiency

4) If the good is fully non-rival (congestion is not likely) and exclusion is difficult *(e.g.* a dam wall that prevents flooding):

- The free-rider problem is significant because consumers have no incentive to reveal their demand.
- Private provision will only be possible if government will pay for, or subsidise, delivery, *i.e.* only limited (or no) demand risk transfer will be attainable.
- Other risks will have to be present to achieve more efficiency.

- THUS: The more public a good is in the sense defined above - *i.e.* the less excludable and the more non-rival a good is - the more difficult it becomes to deliver it through a PPP in an efficient way (due to unavoidable insufficient risk transfer)
- Other risks (supply side risks) need to be large enough to drive efficiency

(b) Risk Transfer and the Importance of Competition

- Sufficient risk transfer requires the presence of competition or potential competition (contestability).
- Competition, in the form of alternative suppliers (demand risk), crucial for ensuring discipline and efficiency.
- Efficiency gains unlikely if production and provision shifts from a government monopoly to a private sector monopoly or tight oligopoly.

- Should a PPP agreement place a private operator in a position of monopoly or near-monopoly: Significant loss of incentive to be efficient - unless competitive discipline is created or simulated.
- Various forms of discipline may be available. Consider the following:
  - The longer the term of a PPP contract the less the disciplining role of potential competition over the course of the contract.
    - To ensure discipline and competition, the contract can be opened to competitive bidding every, for instance, five years.

- The larger the contract, the larger the capital requirements in terms of equity and debt. This may pose significant entry barriers to potential competitors.
  - Government may have to consider to break up the project in several smaller projects, each outsourced to a different private operator.
- With small group of possible providers, same small group of companies may tender for project after project. Group ‘captures’ partnerships in a particular area of service delivery, thereby barring new entrants. Technology and scale economies major reasons for such a situation.
  - Government will be forced to institute a regulatory framework.

- To summarise:
  - Risk transfer is the driver of efficiency and effectiveness,
  - but competition and contestability ensure effective risk transfer.
  - If competition or potential entry is absent, efficiency gains will be difficult – unless one can simulate a competitive environment and the required degree of discipline.

(c) Managing the PPP Contract: Simulating Competitive Discipline

- Typical PPP: A single private supplier and few, if any, competitors
- Long-term contract may be only way to find a reliable private sector partner for a PPP
- Result: The *absence* of (actual or potential) competition causing ineffective risk transfer
- PPP contract must then simulate competitive discipline in the context of a regulatory framework

- Framework would include elements such as:
  - Price caps,
  - Rate of return caps,
  - Rate structure norms,
  - Cost norms,
  - Output targets,
  - Standards of delivery (quality standards),
  - Delivery schedules and penalties.
- This is similar to the regulation of a public utility.

- Regulatory framework of PPPs open to same problems encountered in regulation. These include:
  - Difficulties in designing satisfactory incentive systems
  - Presence of incentives for perverse behaviour
  - Problems in measuring efficiency and effectiveness
- Regulatory process tends to get ensnared in ever deeper difficulties, leading to more complex regulations (the ‘tar baby’ effect).
  - This also decreases flexibility, a presumed benefit of private sector provision.

- High information and analytical capacity requirements
- If a lack of management capacity in government is a prime argument for a PPP initiative, this poses severe problems for regulation
- Most of these problems manifestations of two fundamental problems in regulation:

  a) the principal-agent problem and

  b) the problem of regulatory capture.

(d) Risk Transfer and 'Inelastic Social Demand'

- Extent to which a good or service is regarded as essential
- The importance of effective service delivery differs from service to service
  - Ineffective telephone services vs. ineffective medical services
- The more essential a service, the less government can afford the private operator to be ineffective or to go bankrupt

- If a private operator is in financial trouble, government has three options:
  1) Find new private partner. With several existing or potential private operators, competitor can take over.
     - However, existing and potential competitors may be absent, which eliminates this option.
  2) Government takes over the assets and deliver service itself.
     - Government will have to admit failure of the PPP. This is not an attractive option.
  3) Government may bail out the private operator financially.
     - Means government has borne risk all along (so no risk transfer took place in reality).

- If private partner knows effectiveness of delivery is crucial, but alternative suppliers or a government take-over is out of the question, he knows government will have to bail him out should he run into financial trouble.
- Creates a *moral hazard*: Private partner knows he is, in effect, not bearing the risk, irrespective of the terms of the PPP agreement. This encourages inefficiency.
- Distinguish *de jure* and *de facto* transfer of risk, with the transfer of risk depending on the availability of alternative suppliers and the elasticity of social demand.

6. CONCLUSION: THE MAIN PPP LESSONS

- PPPs have potential to improve the efficiency and effectiveness of delivery of certain government services.
- However, the scope for successful PPPs should not be overestimated.
- They do not constitute a panacea for all social service delivery in times of budgetary constraints.

- *Why consider a PPP (and not government alone or privatisation alone)?*
  - For some services neither government alone nor the private sector alone can deliver services effectively OR efficiently.
  - This is due to, *inter alia*, the 'public' nature of the product, the bureaucratic nature of government, and the profit-orientated nature of the private sector.
  - Therefore, one must consider a partnership model (*i.e.* a PPP).

- Benefits only realised if two key ingredients of a PPP are present. These are:
  1) A true partnership and
  2) Sufficient risk transfer
- To get these ingredients active requires:
  1) Commonality of purpose (alignment of objectives) and
  2) An effective incentive framework and competitive discipline (actual or simulated)