

Does the Semi-Autonomous Agency Model Function in a Low-Governance Environment?

The Case of the Road Development Agency in Zambia

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Abstract

This paper uses Zambia as a case study to assess empirically whether political interference in a low-governance environment has diminished in the past years as expected after a semi-autonomous agency model was set up ten years ago. The road sector in Zambia has experienced some significant developments since then. The paper uses data on contract from 2008 to 2011 and analyses a number of key trends related to Road Development Agency governance and staffing dynamics as well as procurement and project selection within the

institution. The main findings indicate that, after some years of implementation of these reforms, there is reason to question whether the model of semi-autonomous agency enables road management to be shielded from political interference. Zambia may be an isolated case but, so far, this model does not seem to have been able to decrease political interference in the selection or supervision of projects and there seems to have been an increased lack of accountability of civil servants working in this sector.

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Does the Semi-Autonomous Agency Model Function in a Low-Governance Environment? The Case of the Road Development Agency in Zambia

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1. Introduction

Using a case study, Zambia, and deriving from a data base analysis of contracts from 2008 to 2011, this paper assesses empirically if political interference in a low-governance environment has diminished in the last years, as would be expected after a semi-autonomous agency model was set up ten years ago.

Throughout the world, the road sector has proven particularly prone to major governance issues (Castalia 2009). Since road-related expenditure very visibly illustrates the 'government at work', it serves as a particularly effective means of pleasing the public. However, high investments in the road sector are not necessarily synonymous with efficient investments.

Governments usually see road building as an important tool to maintain the political unity of the country and, as a result, road building funds are usually not based on a systematic prioritization with a sound modeling process. Roads are often used as political tools (Flyvbjerg 2009). It is for instance what Ayogu (2002) had also demonstrated in the case of Nigeria, where the interaction of interest-group struggle and the politics of center-state grants involve difficult trade-offs. There are strong incentives for central and local governments to show consideration to local people (and possibly collect funding) by investing in rural roads for instance.

The Kenya Anti-Corruption Commission (2007) pointed out that the risks of inefficient investments in the road sector are significant, especially when considering the major amount of resources being channeled into road infrastructure investments. In Kenya weak strategy, poor planning (lacking feasibility studies, traffic data, and data on road condition) and procurement problems led to costly investments with a very limited positive impact for the local population. Where fraud, collusion and corruption in road projects is common, roads end up costing far more to build than they should, do not last as long as they ought to, and the corruption proceeds often end up polluting a country's political climate.

To tackle this, there has been a long debate on the need (or not) to earmark funds for the road sector (and give autonomy to the institution in charge of managing earmarked funds)². Proponents of earmarked funds and autonomous agencies in this area emphasize the fact that this scheme reduces bureaucracy (and corruption), which leads to speedy completion of projects and then contributes to reduced construction costs and increased stability in the sector funding.

At the end of the 1990s, when the fight against corruption started to become a priority in the road sector and donors strived to ensure adequate financing for road maintenance, there was a push for the establishment of second generation road funds as well as new road agency institutional setups.

The underlying idea was that if the staff of an autonomous agency were better paid, corruption would be much more limited and political interference curbed. Road agencies were then put under the authority of Boards where road users were represented in order to create accountability.

² For references on this debate, see McCleary (1989).

This tendency was derived from some key principles of new public management with the “agencification” of public sector delivery. Based on the experience in New Zealand and the UK in the 1980s and 1990s, it was felt that public service delivery would improve if delivered by semi-autonomous agencies, since public service would be managed using an approach closer to the private sector. Therefore, it led to the creation of hundreds of agencies in a country like New Zealand for instance.

Zambia adopted this system in the 1990s and early 2000s with the creation of a road fund in 1994 followed by the creation of the Road Development Agency (RDA) and then the Road Transport and Safety Agency (RTSA) in 2002. Zambia can therefore be used as an interesting case study to assess the impact of such institutional change. Three agencies falling under three different governmental bodies regulate the sector. According to the relevant legal acts, the mandates of the three agencies are as follows:

1. **The National Road Fund Agency (NRFA)**, under custody of the Ministry of Finance, is responsible for funding of capital works and road upgrades and maintenance. Budgets are prepared and administered by NRFA and allocated to RDA and RTSA.
2. **The Road Development Agency**, falling under the Ministry of Public Works, is responsible for the planning, execution, operation and management of road construction and weighbridges.
3. **The Road Transport and Safety Agency**, falling under the Ministry of Transport and Communications, is responsible for vehicle testing, collection of road license fees, issuing of cross-border permits, collection of road user fees, and enforcement/fines.

Using various data sources and based on interviews with various RDA staff, the paper presents findings of a thorough analysis of RDA contracts that had been awarded between 2008 and 2011. Findings are organized according to four separate themes: staffing dynamics, governance arrangements and context, project selection trends and procurement practices. Under each theme, trends are identified and discussed using a political interference lens.

As main findings of this work, and after some years of implementation of these reforms, we could question if the model of semi-autonomous agency enables road management isolation from political interference. Zambia may be an extreme case but so far, this model does not seem to have been able to deter/fight political interference in projects selection or projects supervision and there seems to have been the increased lack of accountability of civil servants working in this sector³. Therefore, value for money for projects may not have improved tremendously since old practices seem to have been perpetuated in the current system.

³ This finding on the importance of political interference in infrastructure and how improvements are limited is developed in Benitez et al. (2012). The paper explains the difference between *market failure* (which legitimizes regulatory interference) and governance failure (on why optimal solutions for sector governance have not been implemented). The most common incentive problems in politics will tend to influence sector decisions in infrastructure.

The second section presents an overview of the road sector in Zambia and the latest developments, section 3 describes the project selection analysis, section 4 presents the main findings of procurement analysis and the final section concludes.

2. Overview of the road sector in Zambia

The major audit by the Office of the Auditor General in 2009 brought out weaknesses relating to public finance management, budgetary control, procurement efficacy and quality control (Republic of Zambia 2010). Zambian contractors, engineers, and government officials surveyed in 2008 reported that providing materials of lower quality than the contract called for was the single most “unethical” practice in the industry (Sichombo et al. 2009). A 2010 audit of 18 Zambian road projects jointly financed by the government and donors, shown in Table 1, confirms the extent of the problem (Government of Zambia 2010 quoted in Messick 2011).

Table 1: Types of defect found in surveyed projects

Defect found in project	Percentage of contracts affected
Improperly sized aggregate particles	44%
Too much clay	75%
Aggregates did not meet crushing strength	67%
Base thinner than required	81%
Surface dressing layers thinner than required	82%
Cement content less than specified	100%
Concrete samples weaker than required	50%

Source: Government of Zambia (2010).

Contract data pointed to possible cartelization among contractors in Zambia, as well as collusion between supervision consultants and contractors. The market share concentration is high among the top five road contractors (in excess of 70% of total contracts in 2009). Where they exist, contractor cartels can have major deleterious impacts on the performance of the road sector.

Given the governance and corruption issues identified in the road sector in Zambia, the Road Development Agency launched in August 2012 the RDA Integrity Committee, an internal unit made up of permanent staff who were mandated to prevent corruption and maladministration in RDA.

In the recent months, there have been some positive developments, such as, for the first time in the institution, RDA has been commissioning some independent procurement and technical audits to identify possible deficiencies. Moreover, an approved strategic plan has now been adopted by the RDA. This plan includes a framework for staffing levels that seeks to ensure that resource requirements are in keeping with the business model.

In the last three years, the sector has experienced significant shifts and challenges affecting the abilities of the road organizations to conduct their work in an effective and accountable manner. The most notable of those shifts include:

1. A wave of dismissals and contract terminations, following the 2009 audits of the sector,
2. An unprecedented increase of budget allocation to roads (from approx. ZMK 1.4 trillion in 2009 to approx. ZMK 4.3 trillion in 2012) and
3. A drastic increase in the amount of domestic funding for roads (from approx ZMK 754 billion in 2009 to ZMK approx. 2.24 trillion in 2012).

The consequences of these shifts have not been thoroughly studied, especially with respect to their impact on the capacity of the Road Development Agency (RDA). There has also been very little study devoted to the relationship between politics and road allocation in Zambia.

An audit conducted by the Office of the Auditor General in 2009 precipitated the first shift; the increase in dismissals and contracts terminations. This audit was a response to the RDA's over-commitment for its 2008 budget⁴. Detailed procurement, financial and technical audits revealed numerous inefficiencies in the management of road contracts and produced other troublesome findings. On *procurement*, these findings included a: lack of drawings and condition surveys; poor quality contract documents; the absence of transparency in the selection of RDA bid evaluation committees; and a tendency of RDA tender committee to ignore bid evaluation committees' recommendations contrary to procurement rules. When evaluating bids, procurement committees failed to take into account engineer's estimates, making it difficult to ascertain the reasonableness of bids. In addition, the audits highlighted the absence of supervision of a number of contracts, the poor quality of works and inadequate progress reports on most of the contracts that were reviewed.

Following the presentation of the audit report to Parliament in 2010, a number of high-level staff was dismissed and new RDA and NRFA boards and chief executives were appointed⁵. At the time of these dismissals, a few influential voices insisted that the revealed maladministration was not simply the fault of RDA and that higher-level politicians should also be held to account⁶. In subsequent sections we identify trends post the 2010 audit whilst also considering the sensitive question of political influence in the RDA.

Moreover, after the scandal, cooperating partners agreed with the government on dozens of remedial measures for medium to long-term actions. They focused on correcting audit findings but also more

⁴ The over commitment amounted to ZMK1,015,817,097,718 in 2008. This resulted in serious cash flow problems in 2009.

⁵ Chimpinde, Kombe. "RDA Fires 4 Managers." *The Post Online Newspapers*, October 2010. http://www.postzambia.com/post-read_article.php?articleId=15060&highlight=.

⁶ "Don't Use RDA as Scapegoat - MP Mooya." *Times of Zambia*, June 2010. http://www.zambia.co.zm/tiki-read_article.php?articleId=3162; Kuwema, Moses. "It's Difficult to Believe RDA Over-committed Govt - Kabanda." *The Post Online Newspapers*, November 2010. http://www.postzambia.com/post-read_article.php?articleId=15638.

generally on tackling procurement irregularities, contract management issues and addressing institutional problems. The matrix of actions has been regularly updated until 2011, but the magnitude of the tasks is huge and progress seems to have been limited in some areas.

The second major factor to take into account has been the surge in road allocation: from 2009 to 2012, the total road allocation (both domestic and donor funds) increased fourfold: from 280 million USD to 890 million USD. Inevitably this increase places a significantly higher burden on the road institutions. The next section presents some indications as to whether that burden has been adequately managed.

The third factor has been the increase in domestic funding for roads and the decrease of the share of traditional donors, such as the EU, the World Bank and others. The Government of the Republic of Zambia has taken advantage of the growing fiscal space and increased the budget for select road projects. In subsequent sections, we identify how, since 2007, domestic funding for roads was multiplied by a factor of five but without a corresponding increase in the RDA's staff or improvements in its technological capacity.

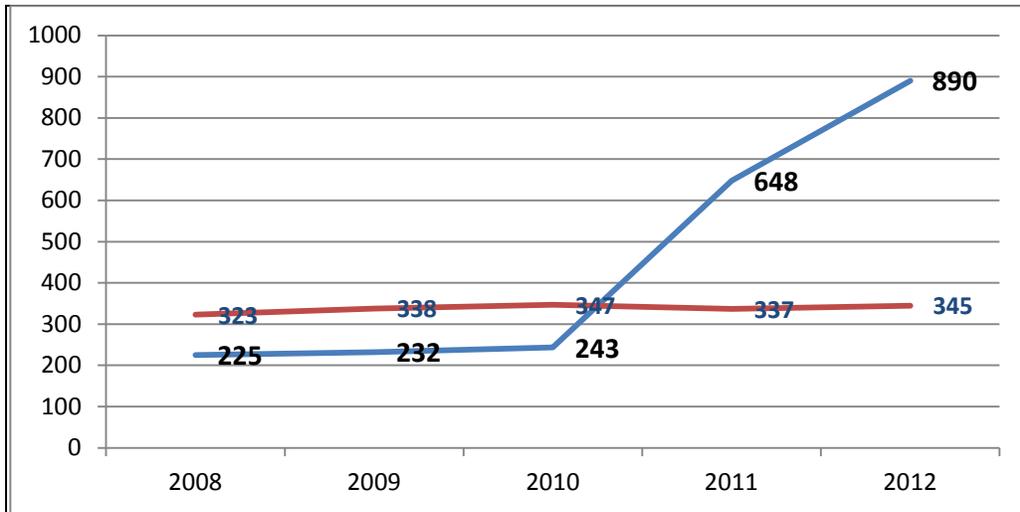
The data presented in this paper have been gathered via staff interviews, a thorough review of the RDA project database, observation of recent events in the sector and review of media articles.

RDA's staffing dynamics

Technical expertise: Successful management of contracts by road agencies requires that staff have a sufficient level of expertise, experience and confidence to challenge poor performance by consultants and contractors. But evidence points to structural problems within the RDA, such as poor planning and design of procurement and a weak internal monitoring and evaluation culture. For example, there are only two staff (out of more than 300), who are currently dedicated full-time to the project monitoring and evaluation (and not at a senior level). The risks that this low staffing capacity poses for the institution are recognized internally; During the RDA's Managerial Accountability Workshop, the vulnerability assessment of the institution showed that the risks were "high" on almost all points of vulnerability that relate to implementation and monitoring. For example, the possibility of inflated payments, defects being overlooked due to connivance and deliberate ignoring of defects are all rated as *high* risks.

Increased workload: While the number of staff in RDA has remained relatively constant since 2008 (between 320 and 350), since 2010, allocations to the road sector have increased tremendously leading to an increase in the RDA's workload (see Graph 1). On average, RDA staff are now responsible for handling more and larger projects.

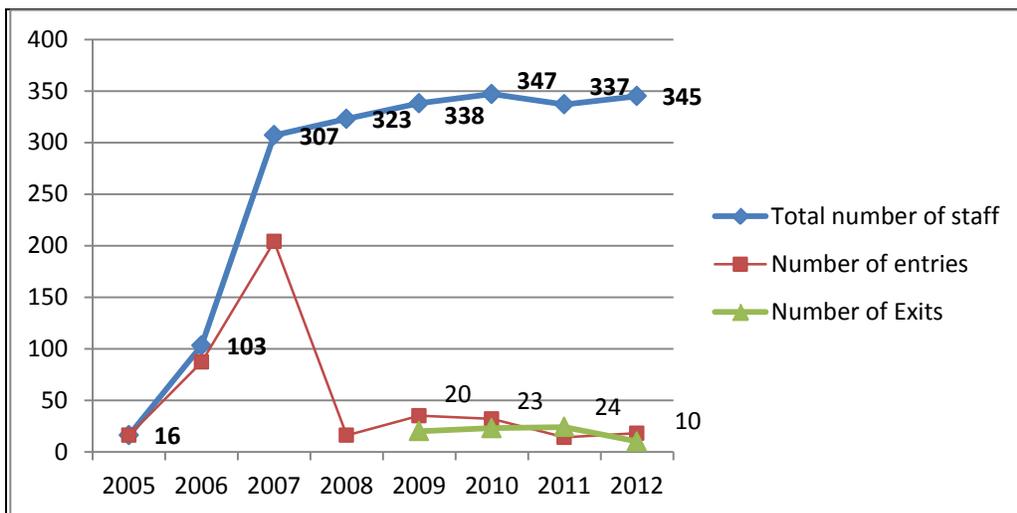
Graph 1: Trends in road allocation and RDA staff (2008- 2012)



Data source: NRFA and donors and RDA for staffing. In blue, total annual road commitments in billion USD and in red, the total number of staff in RDA.

High turnover: Pressures on staff are exacerbated by the fact that several dismissals and non-renewal of contracts have occurred since the 2009 audit (see Graph 2). The peak in staff exits occurred in December 2011 with the dismissal of all 12 staff from the procurement department. This, together with the increase in the allocations to the sector lowered RDA's capacity to absorb funding for new projects (approx. ZMK 1.6 trillion).

Graph 2: Trends in RDA staffing (2008- 2012)



Data source: RDA.

Loss of institutional memory: Staff turnover at the decision-making level has led to a loss of institutional memory and a constantly changing work environment. In the past three years, the RDA has cycled through four different CEOs (including acting) and three senior management teams. The departure of

many of the staff that retains the institutional memory, the lessons learned, technical expertise and knowledge of processes has been a major blow to capacity. This high turnover also contributes to a perception of appointments as “temporary”, which in turn may be conducive to bad practices and further to more dismissals. A vicious circle is thereby created wherein dismissals and bad practices could reinforce each other.

Risk of disincentive for strong candidates: The effect of the constant turnover in the RDA’s staff should be considered alongside the fact that the pool of qualified individuals is rather limited in Zambia in this sector. There is a risk that high turnover at the decision-making level acts as a disincentive for the few qualified candidates to apply. They may perceive the risk of working in the RDA as higher than the benefits of working in the private sector or another government agency.

Job insecurity leading to inertia: For RDA staff, the perceived job insecurity is contributing to a culture of fear, inactivity and inertia. Staff reflect that they feel less inclined to be proactive in such an environment.

Mistrust between staff: The recent turnover may be contributing to distrust between old and new staff. This potentially stifles open discussion on constraints and solutions and hampers problem-solving in the organization and continuity of projects.

Absence of Corporate Culture: With constant changes, the institution remains in a state of flux. Many of the staff do not have a chance to develop institutional commitment or loyalty as they do not envisage a career path for themselves and are constantly looking for the next opportunity before they too are removed.

Governance arrangements and political interference

Politicization of Zambian civil service: Political involvement in the road sector is likely to have the most serious impact when it occurs at the project selection and design phase. If this phase is executed poorly, the entire process might go wrong. In Zambia, the likelihood of this happening is exacerbated by the weak public investment mechanisms in place (Le and al. 2010). Since the introduction of performance contracts in the Zambian public service in 2003, there has been a growing politicization of the top Zambian civil service. This has provided individuals with the ability to reward political cadres for their loyalty by giving them certain appointments (Mwangala, 2010).

Board Dynamics: The RDA has been without a Board since October 2011. For this period the RDA has remained directly answerable to the Permanent Secretary of Works and Supply. In October 2012, a chairman for the board was finally appointed, but the rest of the places still remain vacant. Despite the clear guidelines as to how appointments should be made, government indicates that a vetting process is still not complete. As such, the board’s oversight function is being fulfilled by these two individuals alone. In the absence of a functional board, the PS and the Board Chairman have been empowered to provide approval as required, but with the addendum that retrospective ratification shall be sought by the board when it is finally appointed. This situation may place the institution at risk of legal challenges; there is a possibility that all policy documents produced (such as terms of employment), actions taken

(including award of contracts), or organs created (including the integrity committee itself) during the time that RDA did not have a formal Board, be challenged in a court of law. But more importantly, this situation significantly affects the possibility of effective, autonomous oversight for the agency.

However, mere appointment of a Board is not always a panacea to political interference. A board's effectiveness depends greatly on its insulation from adverse political interference, and such insulation is very difficult to ensure. As Booth and Golooba-Mutebi (2009) explained in the case of Uganda, which has also established a road agency and a road fund, "pressures to [engage in illegal practices or for the Board to turn a blind eye to any evidence of corruption in the authority's dealings with the private sector] are most likely to arise, sooner or later, as election times draw closer. Some or all of those concerned may resist the pressures, but past experience in other sectors suggests they may not be successful in doing so while also keeping their jobs. Experience [in Uganda] suggests that being formally answerable to a Board does not provide much protection per se [...]". The recent indication by the current President that he wishes to have some direct oversight of the agency may have further muddied the lines of authority in the RDA⁷.

External influence: Concerns over political involvement in RDA have been commented on in the past: during the 2009 road sector debate for example, it was pointed out that the real cause of the over-commitment issue was political. A Member of Parliament (MP) argued that the agency (RDA) merely carried out directives from authorities and could therefore not be blamed for over-commitment in procuring road contracts and that the problem at RDA was the result of some politicians demanding road works that were not budgeted for. Examples were given of the Kafulafuta-Luanshya Road; although the budget was only sufficient for a certain stretch of the road some politicians wanted the entire road be worked on, and this resulted in poor work. The MP defended engineers who supervised shoddy works, saying they received the instructions from politicians and that there was no way they could refuse them (Times of Zambia 2010). Despite such protestations it is notable that only RDA staff, and no politicians, were fired from their positions as a result of the debacle⁸.

3. Project selection analysis

The importance of unplanned projects

Political interference is usually recorded in project selection through unplanned projects. In Zambia, within the last few years the number of *unplanned* projects has increased, thereby reducing the RDA's adherence to its original work plan. Over the period 2008-2011, almost 40% of the total value of government-funded road projects was for unplanned projects. This has put an additional pressure on the institution and staff, leaving the door open for political interference and procedural shortcuts. In addition, the unplanned nature of some decisions on project selection raises serious doubts as to whether the funds are likely to be used effectively.

⁷ "President Sata Launches Link Zambia and Declares That He Has Taken over RDA Contracts." *LusakaTimes.com - Zambia* : Set 2012. <http://www.lusakatimes.com/2012/09/20/president-sata-launches-link-zambia-declares-rda-contracts/>.

⁸ A combination of factors may also contribute to explain some problems, such as lack of experienced staff or staff overload.

As case in point, in the run-up to the September 2011 elections, GRZ announced a USD 170 million program to rehabilitate urban roads. These were unplanned roads that were added to the RDA Work Plan without the normal selection process. With political pressure to commence work quickly, many of the works were executed without proper and detailed engineering designs and comprehensive bills of quantities (The Post, 6 October 2011). In the Zambian media, these roads became known as the “formula one” roads, due to the speed at which they were constructed.

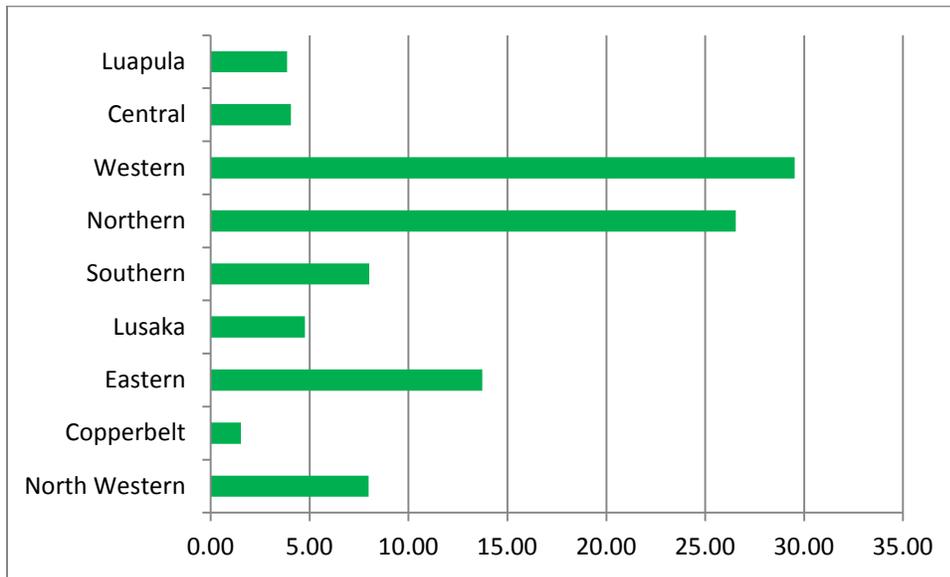
Moreover, the increase in investment in the rehabilitation of urban roads conflicts with the RDA’s strategy documents that emphasize maintenance and to a lesser extent, rehabilitation. Governments around the world often face incentives to upgrade roads rather than rehabilitate them, as the former maximizes their political visibility. The economic feasibility is however questioned since the costs of upgrading are high whereas the economic benefit may be limited, especially in regions where traffic is minimal. For instance, despite political discourse on the priority given to maintain the existing network, from 2008 to 2011 around 11% was committed to maintenance and 73% to upgrading to bituminous standard.

Distribution of projects

The distribution of projects funds across provinces varies significantly in Zambia (see Graph 3)⁹. Over the period 2008 to 2011, the Western province received the largest share of allocations (about 30%), followed by the Northern (27%) and Eastern provinces (14%), while the Copperbelt province got the lowest (less than 2%). The funds to the Western region were dedicated to high value projects such as the construction of the Mongu to Kalabo Road, the upgrading of the road between Sesheke and Sioma and the construction of the Zambezi Sioma Bridge. The funds allocated to Northern province concern a small number of high value projects including the upgrading of the road from Kasama to Isoka and Kasama to Mbesuma Pontoon among others.

⁹ Data presented in the upcoming sections derive from the 108 projects database. For a description of the database, see annex 1.

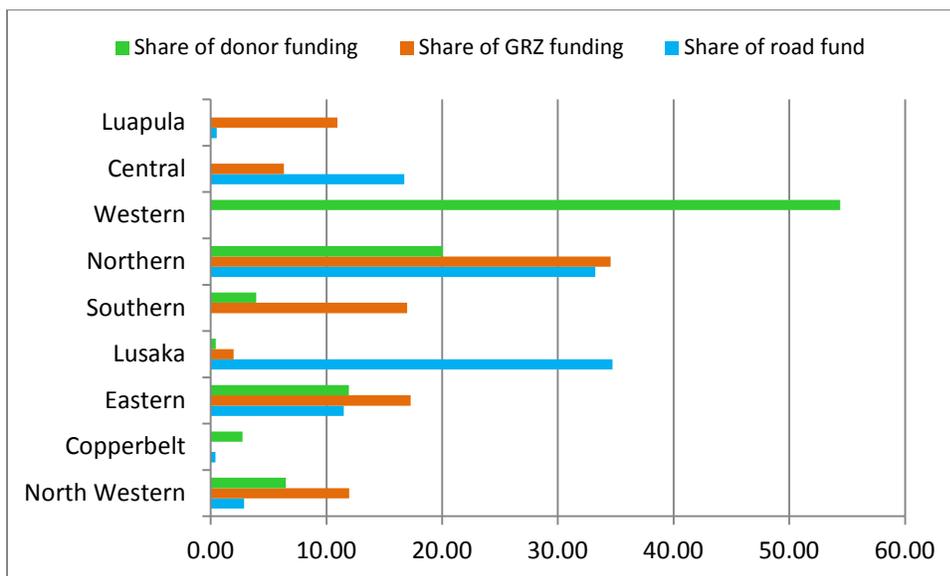
Graph 3: Commitments to roads by province (in percentage of total amount), 2008 - 2011



Source: AWP 2011.

The distribution of allocations by funding source and province reveals that some of the provinces benefited from both external and Zambian funding sources (see Graph 4). For example, the Northern province has been one of the top beneficiaries of Zambia’s Road Fund, government funding and to a lesser extent, donors. The Eastern province has also received a large share of funds from these three sources. Other provinces, on the contrary, have been allocated funds only from one source. The Western province has received the largest share of donor funds, about 54%.

Graph 4: Share of road fund, GRZ funding and donor funding in Commitments to roads by province (in percentage of total committed amount by province), 2008-2011



Source: AWP 2011.

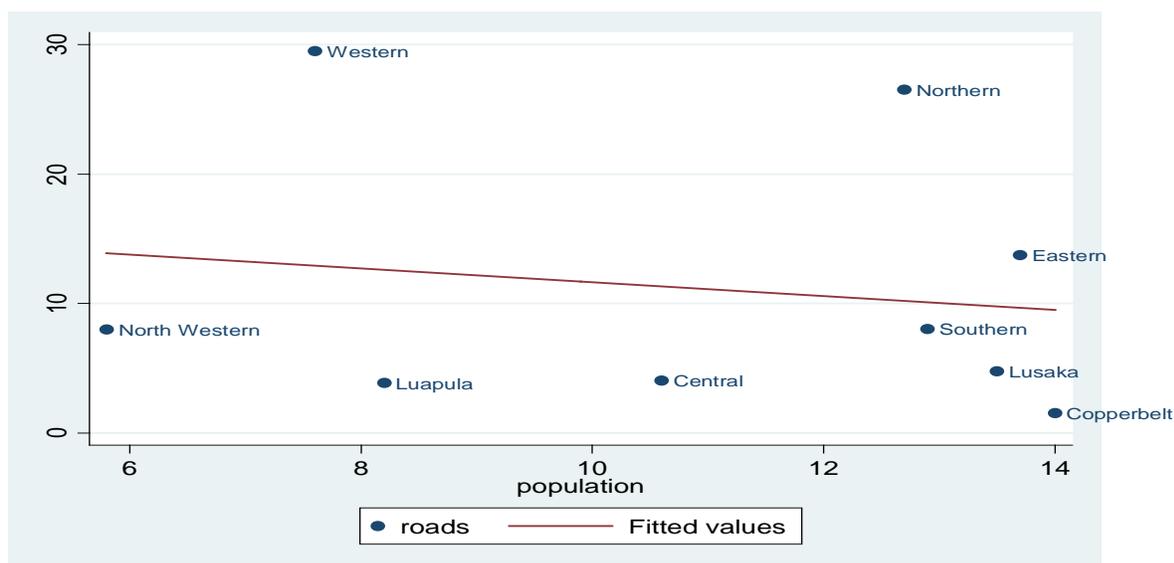
What are the main drivers of project selection?

Several mechanisms are intended to ensure project selection with roads being built according to developmental priorities: the usual planning tool in the sector (HDM-4¹⁰), which identifies the priority economic investments to finance based on road deterioration and traffic, in addition the RoadSIP II Strategy¹¹ and the Sixth National Development Plan which identify the priority projects.

The major criteria for the selection of road projects tend to be poverty reduction and support to economic growth. In assessing the 2008 – 2011 contract data, the authors sought to determine any correlations between road allocation and a number of variables including population, political support and poverty in order to identify the most plausible driver of project selection in Zambia.

Population, a proxy for agglomeration and economic growth, is negatively correlated with road allocation (see Graph 5). Over the period (2008 to 2011), the most populous province, Copperbelt, received among the lowest allocation. By contrast, Western province, which has almost half the population size of Copperbelt, has received more than 18 times the road allocation. Less populated provinces seem more likely to benefit from larger road projects in Zambia.

Graph 5: Correlation between road allocation and population



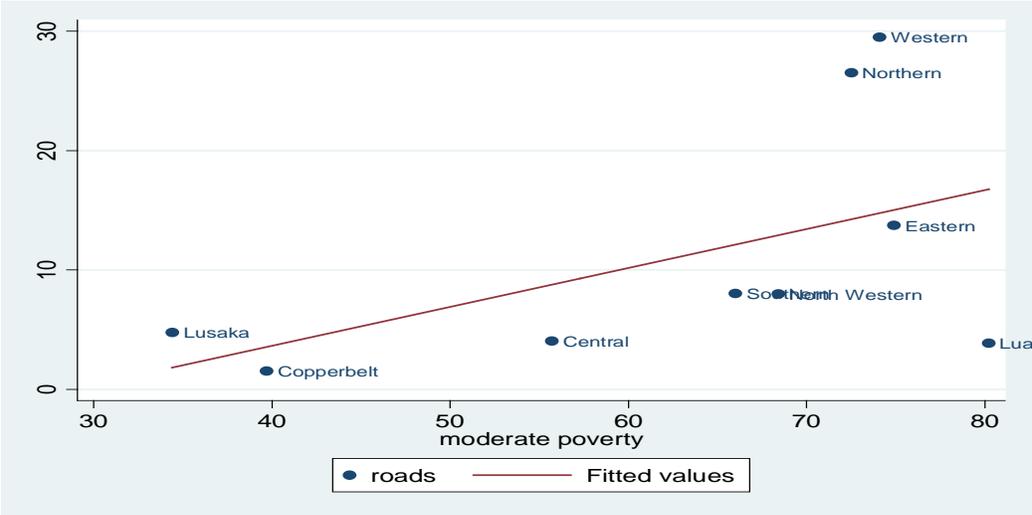
Notes: Y axis is the province road commitments over total road commitments (measured in percentage). X is the province population share over total Zambian population (measured in percentage).

¹⁰ Highway Development Model.

¹¹ RoadSIP I was succeeded by RoadSIP II, covering the period 2004 to 2013. The Government issued a revised Road Sector Policy in 2003 to guide expenditure. Road Fund resources were to be allocated in the following order of priority: 1. routine and periodic maintenance of all core roads classified as being in good and fair condition; 2. counterpart funding of donor-funded and rehabilitation programmes; and 3. administrative costs for RTSA, NRFA and RDA (Republic of Zambia 2003:10).

The incidence of moderate poverty is also found to be positively correlated with the amount of funds allocated to projects in the provinces. Poorer provinces (with a high poverty incidence) are likely to obtain larger amounts, suggesting that Zambia’s Investment in roads is driven more by poverty than by economic criteria (Graph 6).

Graph 6: Correlation between road allocation and poverty

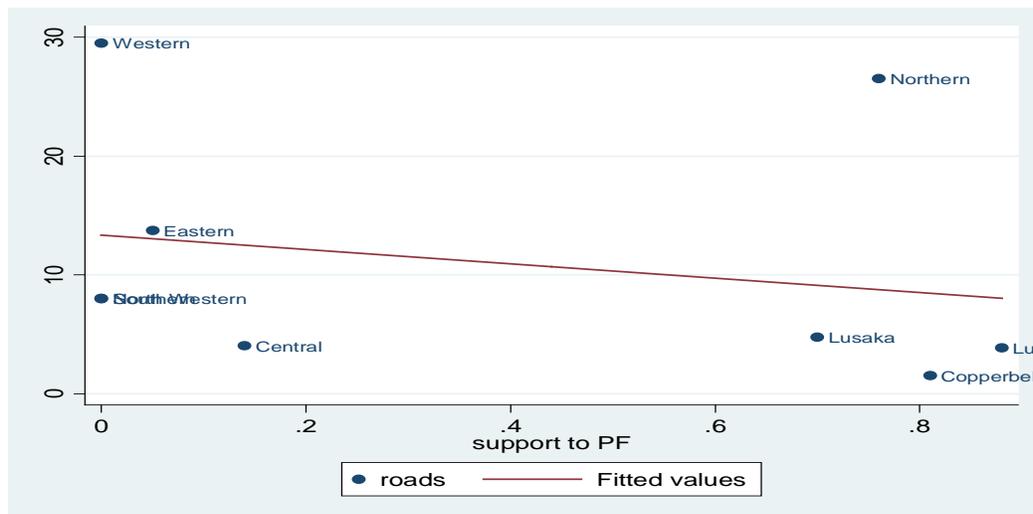


Notes: Y axis is the province road commitments over total road commitments (measured in percentage). X is the moderate poverty province share (measured in percentage).

Although selection according to poverty and low population may be perceived as legitimate from a poverty and spatial inequality perspective, it may not be sustainable in a medium-long term perspective. The economic epicenter of the country, the Copperbelt region and the mining industry, has for instance only received a marginal share of road allocation over the observed period, despite the fact that these are the areas where one would expect the highest rate of return. Road allocation to sparsely populated and poor regions brings much lower economic returns than in industrial and densely populated regions. In this regard the *World Development Report 2009 (World Bank 2009)* gives evidence of the threshold effect of investments in areas with low economic density. By offering people and industry incentives to stay, governments are only isolating these lagging areas more. Lagging regions are then highly subsidized from the richest regions. The preference for an allocation according to poverty criteria may become problematic, since it does not necessarily encourage industry to flourish.

It is worth noting that over the period 2008 to 2011, there is some negative correlation between provincial-level support for the major opposition party (PF) at the time and the share of allocations the province receives for roads (Graph 7). This negative relationship (albeit relatively weak statistically) adds weight to Baldwin’s (2008) findings that project selection often depends on political party support. Road allocation may have to some extent been being used as a reward for political loyalty. However, the Northern and Western provinces are outliers and as the graph shows, this correlation remains weaker statistically than the correlation with poverty.

Graph 7: Correlation between road allocation and support to PF



Notes: Y axis is the province road commitments over total road commitments (measured in percentage). X is the support to PF in 2008 (measured by the number of PF seats over total province number of seats).

In assessing for correlations with political support, the construction of the Mongu-Kalabo road in Western Province, launched in October 2010 by the MMD government, is a provocative case study. Although the contract distance is only 34 km, the route crosses the Zambezi flood plain and is expected to cost at least USD 260 million, making it one of the most expensive roads per kilometer in the world¹². The cost of the project over four years exceeded the annual road budget for 2009. One potential explanation for the government’s decision to procure such a high cost road in the Western province was the incumbent, MMD government’s desire to secure the Western province’s loyalty. At the time, the Western province was considered a swing province and the ruling MMD party was concerned that the Western province’s political loyalty could shift to the PF or to UPND. MMD’s fears were in fact realized in the 2011 polls when two parliamentary seats shifted to PF and six to UPND (out of 14).

4. Procurement analysis

Procurement is at the core of potential governance issues. Using a database of contracts for the rehabilitation and upgrade of works, we present descriptive statistics to identify the main trends occurring in procurement during the period 2008-2011.

The distribution of projects by funding source

The largest contribution for road allocation (about 48%) comes from external sources; these are loans and grants from the donors (e.g. Development Bank of Southern Africa (DBSA), European Union, Exim Bank of China, KFW, and the World Bank). This is not surprising since Zambia is still highly dependent on

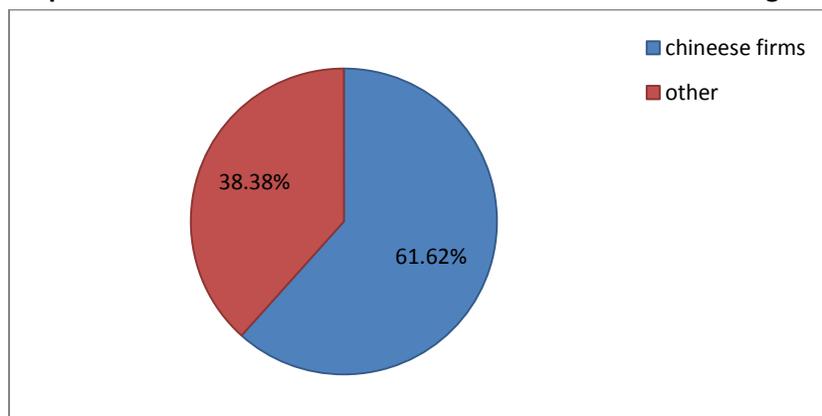
¹² ‘On average the cost of building a tarred road in the rest of the country is ZKw 5 billion per kilometre, here because of the complicated terrain it will cost ZKw 60 billion per kilometre’. President Rupiah Banda quoted at the groundbreaking ceremony (Times of Zambia, 18 October 2010 quoted in Raballand and Whitworth, 2011).

external aid. However, the government finances about 42% of the projects. As for the Road Fund this contributes only about 10%.

The composition of donor funding has changed tremendously over time. In 2011, contributions of the “traditional” donors in the road sector (EU/KFW, World Bank and AFDB), which accounted for less than 5% of the total commitments, were dwarfed by loans and grants from China Exim Bank and DBSA (with a ratio of 1 to 5 in favor of China Exim Bank and DBSA).

This may partly explain why the share of Chinese contractors¹³ is high (over 60% of the total) (see Graph 8), since many projects financed by China EXIM Bank stipulate single sourcing from Chinese firms¹⁴. Another contributing factor to there being a majority of Chinese contractors *winning* bids is that the number of Chinese firms actually *bidding* for RDA contracts is itself very high when compared with other nationalities. An analysis by RDA of 10 recent upgrading works shows that of the total bidders, 52% were Chinese firms. There are individual bidding cases where as much as 75% of the bidders are Chinese. GRZ does in fact recognize this imbalance amongst contractors and is making some attempts to address it. Former Transport, Works, Supply and Communication minister issued a policy statement on July 25, 2012 directing the RDA that a minimum of 20% of subcontracted works of all road contracts awarded, should be given to firms with 51% Zambian ownership interest. More recently the RDA and National Road Fund Agency (NRFA) have formed a Construction Finance Initiative (CFI), which is intended to raise capacity of Zambian road construction companies by providing them with equipment.

Graph 8: Share of Chinese contractors in road contracting



The distribution of projects by procurement method

In Zambia, the most commonly used procurement method is open tendering (see Graph 9), which was used for 85% of the total number of analyzed projects, though this equates to only 45% of the total value of the analyzed projects. Compared to single source or selective tendering methods, open tendering is more competitive; it safeguards the bidding process from favoritism as awards go to the contractor that offers the best price (the lowest) and meets the technical requirements to win the

¹³ Contractors are identified as Chinese on the basis of their company names and origin is then verified on their websites, wherever available.

¹⁴ *The Chinese Loan Conundrum*, Bulletin & Record, Dec 2012

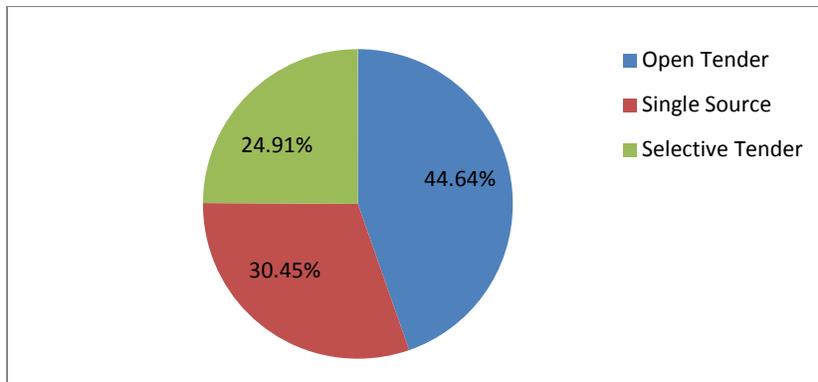
tender. Hence, this method has a major drawback -the low price may result in a poor quality and the late completion of works.

Selective tendering consists of drawing up a list of prequalified firms that are then asked to tender. The method allows for price to be the deciding criterion and it is usually quicker than other tendering methods. In Zambia, the share of selectively tendered projects is about 25% in amount, and about 10% by number of projects.

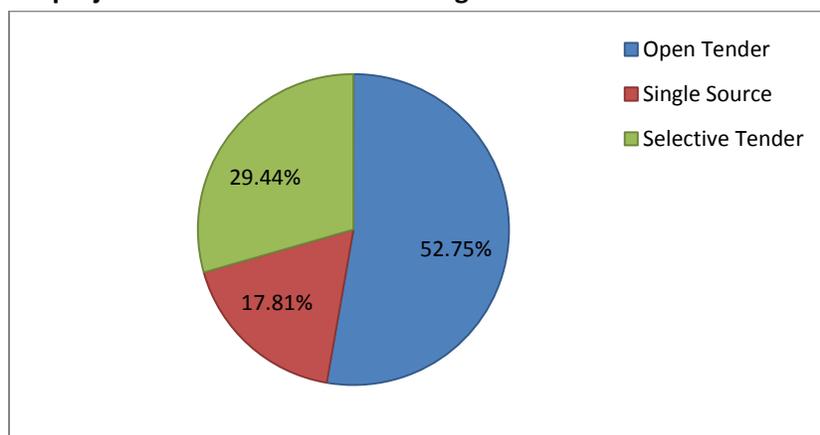
Finally, about 25% (by value) and 6% (by number) of projects appear to benefit from the single source procurement method. In theory, single source consists of selecting one contractor based on its specialized knowledge, past experience, technical considerations, delivery, and duration among other factors. In a low governance environment, single sourcing may allow for favoritism and the selection of contractors based on subjective rather than objective criteria.

One of the most notable examples of single sourcing has been the contract award for the Mongu-Kalabo road to a Chinese firm with a limited experience in road contracting, for a total amount of over 250 million USD. Due to this exceptional contract, almost half of the total amount for awarded contracts in 2008-2009 was single sourced. If the Mongu-Kalabo road project is excluded from the single sourced projects (see Graph 10), the share of projects that benefit from this procurement method goes down to only about 18% (by value) and 4% (by number).

Graph 9: Share of various procurement methods



Graph 10: Share of various procurement methods, excluding the project “Construction of the Mongu-Kalabo Road”



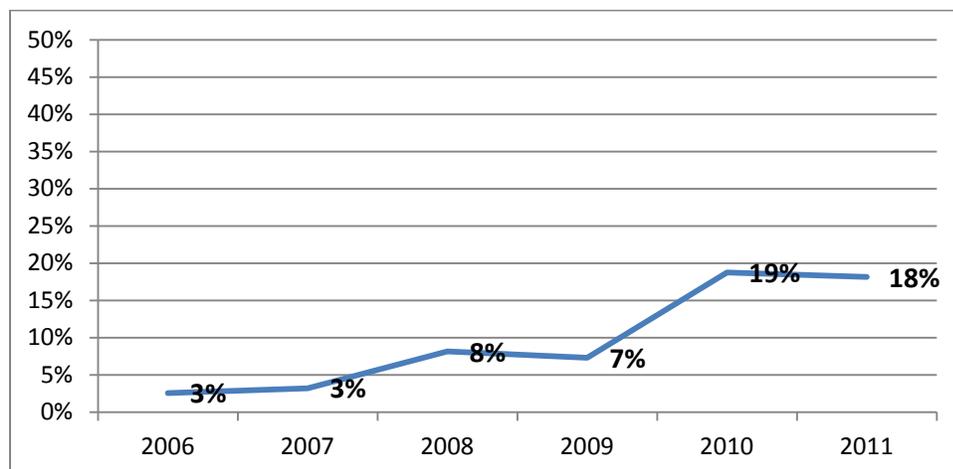
There has also been a growing trend of advance payments of road contracts from 2006 to 2011 to contractors; they were relatively marginal in 2006. In the share of total yearly road allocation, the share of advance payments increased from 3% in 2006 to 18% in 2011 (Graph 11). The advance payments are aimed to improve project implementation efficiency through pre-financing of contractor's mobilization cost and eliminating the delays in commencement of the works. Although the payments are capped at 20% of contract value, the practice should only be selectively undertaken and under certain conditions (see section on recommendations).

Hence, the advance payments are not a guarantee of effective project implementation. The 2010 audit found cases where in spite of the advance payments being made works never delivered due to the fact that contractors had become bankrupt. The advances therefore ended up being lost. In extreme cases, some contractors strived to secure a contract, took the advance payment and then disappeared after a bankruptcy. In 2011, advance payments reached a record of over 115 million USD, which could potentially put the RDA at risk of losses.

There has also been a growing trend of variation orders¹⁵ in 2010-2011 with a median variation order of 25% (for 7 works projects). This may signal problems in project preparation and selection but could also point to possible corruption problems. There is a risk that variations will increase further given the expanded workload of RDA, the pressure that they are under to implement rapidly and the limited resources and skills available.

¹⁵ Approved change in a specification or a project. This is especially problematic when prices vary significantly since they may hide collusion and corruption.

Graph 11: Trends in advance payments (2006-2011)(in percentage of total yearly road allocation)



5. Conclusion

The main findings of contract analysis are the following:

- **The growing incidence of unplanned roads¹⁶ in the RDA's Work Plan poses a risk to proper project selection and procurement.** Roads are meant to be included in the Work Plan based on a clear and agreed, objective criteria. Once the Plan is published, it should, in theory be very difficult to insert additional roads, unless a strong justification can be given for the importance. The extent to which inclusion of *additional* roads in the RDA Work Plan appears to be common practice is a strong indication of external influence on the RDA, since these roads have been added without the agreed selection criteria.
- **The negative correlation between support for the major opposition party (PF) at the time and road allocations may indicate that project selection is influenced by political party support.** This would provide support to the contention that roads have previously been used as a source of political patronage in Zambia. For the road sector to have been used in this way, it would indicate that the RDA is not well-insulated from a political agenda. This should also raise questions about the willingness to alleviate the existing weaknesses in RDA of those who have benefited from them.
- **Though open tendering continues to be the main procurement method in Zambia, a significant amount of road project funds are being single sourced.** This is of concern, since single source procurement is particularly susceptible to corruption, given that it allows specific firms to be awarded the contract without a close eye to value for money. Although on paper the actual percentage of contracts being single sourced seems small, the actual *value* is significant.

¹⁶ Increase in the share of unplanned roads comes from interviews of staff. We have not been able to analyze databases at the beginning of the 2000s.

- **Variation orders are increasing at a worrying pace.** Variations may not in and of themselves be bad. They need to be carefully justified and an increase in variations should provide some cause for concern as it suggests that project costs may be increasingly determined in an *ad hoc* manner and could be a possible proxy for growing corruption.
- **Advance payments to contractors have increased significantly since 2006,** which could also leave the door open for more corruption, especially if limited to only a small number of high-value projects. The high amount of payments being advanced also puts the RDA at risk of a loss, in the event that a contractor goes bankrupt.

In terms of donor role, there is a need for donors to remain aware that there are winners *and* losers to some of the RDA reforms they have proposed in the past. As such, they should be more savvy as to why some of these reforms (particularly where it involves institutional strengthening) may have been resisted or implemented and then undermined. The assumption of cooperating partners (CPs) has often been that the weaknesses exhibited in the RDA are the RDA's fault alone. While this may be partly true, it is also necessary to consider the wider possibility that there may be external actors who are bent on keeping the institution weak and who will benefit by the CPs' tendency to treat RDA as a scapegoat. CPs therefore need to be more aware of how their attempts to further reforms may actually have the impact of *increasing* external interference. The recommendation in this regard is that CPs should take a more critical, political economy view as to why some reforms are being frustrated in the road sector, and therefore ensure that their attempts at reform do not have adverse consequences. One way they can do this is by attempting to strengthen internal RDA mechanisms directly, for example by inputting into their Integrity Committee, monitoring and evaluation as well as their procurement capacity.

Overall, donors should also assess the current institutional set-up since in Zambia, like in other developing countries, such as Uganda, and even in developed countries, such as New Zealand, there has been a push back on the semi-autonomous agency model (Norman 2004)¹⁷. In countries where political interference is high, a semi-autonomous agency has not necessarily prevented it and may have even weakened the usual accountability system. The Zambian road sector once again demonstrates that a copy of an institutional set-up from developed countries is highly unlikely to bring the same benefits that it does in a developed country.

¹⁷ Estache et al. (2009) also demonstrates the limitations of the independent regulation of sectors in infrastructure provision.

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Annex 1: Descriptive statistics on the contracts database

Data used in this analysis comes from Annual Work Plan (AWP) 2011. The sample includes 108 projects that were started over the period 2008 to 2011.

The table below presents some descriptive statistics – mean, median, standard deviation, min and max of the contracts sum of the 108 projects over the whole period and also by year¹⁸.

The average amount of the 108 contracts started over 2008-2011 is 87,872 bn ZMK while the median is 9,368 bn ZMK (see Table 2 below). The mean appears to be higher than the median since there are several extremely high values, such as the construction of the Mongu to Kalabo Road. The average amount of projects was the highest in 2009.

Table 2: Descriptive statistics

Obs.	Start Year	Mean (BN ZMK)	Std.dev (BN ZMK)	Median (BN ZMK)	Min (BN ZMK)	Max (BN ZMK)
108	All	87,900	200,000	9,370	65	1,390,000
24	2008	41,400	54,800	14,700	2,180	193,000
16	2009	131,000	347,000	6,280	874	1,390,000
24	2010	62,300	90,400	8,300	65	274,000
36	2011	126,000	236,000	6,280	1,580	996,000

¹⁸ There are 6 projects whose start date is unknown but listed in the 2011 AWP as ongoing projects over the analyzed period (and were included in the database). In addition, there two projects with a start date before 2008 both in North Western province.