

Why It Is So Hard? A History of Highway Concession Contracts in Poland

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Abstract

In this paper we analyze the early stage of highway construction program in Poland. We argue that the whole investment process could be accelerated if much attention was put to establish a better legal framework. Investigating auction for A2 highway and implementation of concession agreement we underline the excessive red tape and poor monitoring system which led to an impressive slowdown in construction process. We also claim the necessity of choosing the most adapted financing method for infrastructure investments, as long as the use of Public-Private Partnership (PPP) scheme has partially failed because of its financial weakness.

Key words: *Franchising, Contractual Design, Concession Contract, Public-Private Partnership*

JEL classification: *D23, H11, H54, K12, L14*

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1 Introduction

Among economists, there is a consensus concerning the need to improve infrastructure, especially in the transport sector, which is seen as a necessary condition to successful economic growth. However, in the case of few, rather “success story” transition countries, the problem of a poor transport infrastructure had not been resolved yet. The best example is Poland, where the quality of its transportation infrastructure constitutes an important barrier to the country’s development, especially in the context of the European integration. Although the total length of the roads is relatively high, Poland is missing minimum required standard density of highways and expressways. In order to overcome this unpleasant situation, the State authorities have decided to launch the “Infrastructure - A Key to Development” program formulating radical changes in law as well as new methods of financing infrastructure projects. The core concept of governmental program was to turn to the private sector to provide infrastructure improvements, basically highways. One motivation was very limited tax resources which brought the State to borrow as much as it could from development banks and private capital markets. A second motivation was the hope that the private sector - motivated by profit - would be more efficient than the State. The adapted solution was a Public-Private Partnership (PPP) concept in the form of long-term concession contracts.

In this paper we investigate the reasons why highway construction projects had been delayed. We argue that some aspects of this unpleasant situation would have been avoided if Transaction Cost (TCT), as well as Incomplete Contract (ICT) Theories’ predictions had been taken into consideration. By taking an example of the concession allocation for the first section of A2 highway (supposed to link western and eastern part of the country) we are going to explain why this project had partially failed. We are trying to enumerate

some - in our opinion - clamant errors for both, public and private parties. We will especially focus on the control issue, as long as contract execution yielded flagrant deficiencies. For each step of A2 PPP agreement we indicate at least one possible solution, as they became evident from theoretical point of view. To conclude, we propose a brief confrontation of the “past lesson” with present and future, especially today as the new governmental program for land infrastructure has recently been published¹.

2 The genesis of highway construction in Poland

In Europe, the very first highways were built in Germany and Italy between two World Wars. Those construction projects have been undertaken in order to fight against the unemployment, although in Germany, the highway construction plans had a very pronounced military tinge. Concerning Poland, the first Polish Road Congress (Lvov, 1937) came out with the proposition of a highway network of 4000-6000 km. This proposition was amended two years later, establishing a plan of 4700 km of highways within priorities as follows:

- Warsaw-Poznan-Poland’s western frontier,
- Gdynia-Bydgoszcz-Lodz-Katowice,
- Katowice-Cracow-Lvov,
- Warsaw-Lublin-Lvov-Poland’s eastern frontier,
- Pulawy-Sandomierz-Przemysl.

¹“Program Budowy Autostrad i Drog Ekspresowych w Latach 2006-2013”: national plan of highways and expressways construction published by the Ministry of Infrastructure on January the 19th 2006.

Unfortunately, this project had never been realized because of the high construction costs, an extremely low level of motorization and - the most important factor- exhalation of the 2nd World War. After the War, because of the frontier change of about 250 km from East to West, Poland inherited 140 km of highways built by the Germans. During the socialist era, there were only 117 km of highway-like roads built as well as 342 km of expressways. Relatively low level of cars by kilometer (in 1957: 20 cars/km in Germany, 18 cars/km in France and only 3 cars/km in Poland) caused that the Central Planner paid much less attention on the roads infrastructure issue. In spite of the fact that Poland has signed some COMECON cooperation agreements concerning the development and modernization of Moscow-Warsaw-Berlin road linkage, the preparation for construction started in 1980, as the necessity of this axis became indispensable for organization of the Olympic Games in Moscow. At that time, the project of future A2 highway was traced and the constructional grounds were bought by the State. However, the construction process has been frustrated until mid nineties, as the augmentation of traffic of the lorries became a serious problem.

3 Project schedule

Everybody who has ever been to Poland surely remembers its poor transportation network. In early 90's, numerous ideas of financing highways construction were proposed, none of them, however, had been applied. A short time later, Poland's government proposed the "National Plan of Highway Construction" based upon a PPP method. The government was encouraged by the World Bank's "private participation in infrastructure" policy. Indeed, by 1996, the project draft had been prepared. The program was launched in early 1997 within the first successful concession auction bidding. In 2001, public opinion was shocked by the Supreme Chamber of Control

² report revealing that in 1998-2000 period 0 km of highways was built in the four PPP concession schemes ! After a storm period in the Parliament and media, followed by some ministers dismissed, any reconstruction project emerged. Therefore, one may ask, how could it happen?

4 The attribution problem

4.1 The story

Under the Polish law on toll highways³ building and exploitation of an highway requires a limited three-step auction process, which leads to select objectively the best concessionaire. The winner company for A2 highway was “Autostrada Wielkopolska SA”⁴. Following the winner tender the Concession Agreement was signed. As the concessionaire, “Autostrada Wielkopolska SA” was initially bound to build and operate the first section of A2 Highway from Swiecko to Konin (first segment of 148,7 km²). Furthermore, “Autostrada Wielkopolska SA” does not become the owner of A2; it ensures performance of the Concession Agreement for the term of 40

²Najwyższa Izba Kontroli (NIK) - supreme state audit body. It's status is regulated in the Constitution of April 1997 and in the Act on NIK of 23 December 1994.

³1994 Act on the Toll Highways. The Act provides a legal framework for the construction of motorways (procedures for location of the motorways, acquisition of property on which the motorways are to be built, tender proceedings, concessions for the construction and operation of motorways). The Act also regulates financial issues related to the construction of motorways.

⁴“Autostrada Wielkopolska SA”, the first Polish special purpose entity incorporated in 1993 was founded in 1994 with the goal to finance, built and operate A2 Toll Highway. Its capital is composed with Polish and foreign shareholders' funds.

years, that is by 2037. The land on which the highway is built remains the property of the State Treasury and the Company pays an annual rent to the State. The party of the Concession Agreement on behalf of the Polish government is the Minister of Infrastructure, while the body responsible for its implementation is the Highway construction and Exploitation Agency. In order to meet its obligation under the Concession Agreement, the Development Company was established - "A2 Bau Development GmbH" (founded by the shareholders of "AWSA": "Strabag AG" and "NCC international AB") which is responsible for the construction, and the operating company - "Autostrada Eksploatacja SA" (founded by the shareholders of "AWSA": "Transroute International SA", "Kulczyk Holding SA" and "Strabag AG"). In order to ensure proper performance under the contracts, in strict compliance with Polish law and the provisions of the Project Agreements, the parties of the concession: the Minister of Infrastructure and the Concessionaire appointed the Independent Engineer - "WS Atkins" from UK, whose duty has been to supervise the design process, the construction and operation of the highway, as well as to care for the proper execution and adequate quality of works. Though on first sight the contractual clauses seemed to be clear and sound, their interpretation and implementation were baffling.

4.2 What went wrong?

As we have already mentioned, once the Concession agreement signed, a three-year period of astonishing inactivity in the construction process took over. After analyzing the Concession contract, some issues remain, at least, doubtful. Therefore, it seems clearly that:

- The Concessionaire did not fulfill the definitive "commencement deadline for the first segment ", stipulated in the Concession contract for March the 10th 1999. This situation resulted from the lack of financial closure for the project. Indeed, some contract clauses were too lax-

ist, especially those concerning the risk distribution issue between the Concessionaire and the State. Particularly, there were no clauses making clear the State's guarantees given to the Concessionaire for credit contraction with investment banks ⁵. As the result, the Concessionaire was not able to finalize its financial project.

- The other side of the same coin reveals that the auction jury members (the State Agency) were (at least should be) in perfect possession of information on financial situation of the bidders, as it was required for the tender. Besides some restrictions on shareholders' equity, there were some other legal obligations like minimum fund gathering by the Concessionaire ⁶. Therefore, two possibilities emerge: either the jury members were incompetent, or the contracting offer was incomplete.

⁵The Concessionaire was perfectly sure that (taking into consideration its equity weakness) he will not be able to build without the State's guaranties for credit contraction. This is the best example of the Concessionaire's opportunism which is seen in his public statement underlying that

“...basing on the analysis of the toll revenues generated so far showing slight excess over the assumed levels, it may be said that there is no risk that the State Treasury guarantee will be exercised”.

⁶At the level of 100% coverage of the first segment. The final Financial Plan for the first section was settled down in 2000 (!) and annexed to the initial Concession Agreement. The lump sum contract price for the investment was agreed at EUR 875 million (EUR 637.5 million excluding indirect costs). The funds required to meet the foregoing costs come from three major sources:

- i equity coming from the Concessionaire's shareholders accounting for more than 27% of the total development cost;
- ii loan in the form of the bond issue and supplier credit;

4.3 What are the theoretical suggestions?

When it turns into theoretical thoughts, some crucial questions must be clarified. Logically, one may ask whether a “perfect auction” exist. Surely, the trivial response is “no”, but it does not explain some procedural errors. As highlighted by Williamson [1976], the effectiveness of franchise bidding firstly depends on the ability of the franchisor to characterize the service he wants to put to tender. Yvrande-Billon [2005] explains that an adequate service specification is important in franchising, first as a basis for competition in the bidding process and, second, to set the benchmarks for evaluating bids. Therefore, it is important for franchisor to refine as much as possible his call for tender. If he fails, costs of bidding may increase and applicants may not be interested in auction, discouraged by the high uncertainty of the project. Furthermore, as mentioned in Bajari and al.[2003], a vague description of the subject matter of auction may lead to adverse selection and end by selection of the most opportunistic candidate. If call for tender is incomplete and investment is complex, auction process may lead to choose the bidder who can exploit the contractual blanks and thus may take most of the fact that contract in question is rather supposed to fail. A potential danger of this situation consists on opportunistic anticipation of renegotiation of contract by the auction winner, who may benefit from the financial compensation stipulated in avoidance clauses.

Another problem with auction process is intrinsic to the nature itself of concession agreement. For instance Posner [1972] underlines that

“[p.113]...the concession method deprives the franchise system of one of its most attractive features, ease of administration, since

iii Senior Loan;

iv the loan from the European Investment Bank (never allowed).

when the franchise is awarded to the higher bidder the process of choosing among applicants involves a minimum of administrative machinery and official discretion”.

Indeed, the simplicity of auction process could be preserved if only the concession concerned less complex investment. In the case of infrastructure concession, one should remember that a highway concession in the PPP scheme typically covers the financing, building and operating of a road. Thus, is there a tenable mean of anticipating for all factors? And, similarly, is there a solution for internalizing the plurality of state of nature that might occur? With respect to the transaction cost economics framework, in the case of undoubtedly incomplete long term contract, the extreme importance of the ex ante stage, that is auction process, become obvious. It follows that in the ex ante stage it should be anticipated by the franchisor that contract renegotiation will inevitably occurs. Summarizing, it appears that the contract incompleteness should be taken into consideration at the very beginning of the project.

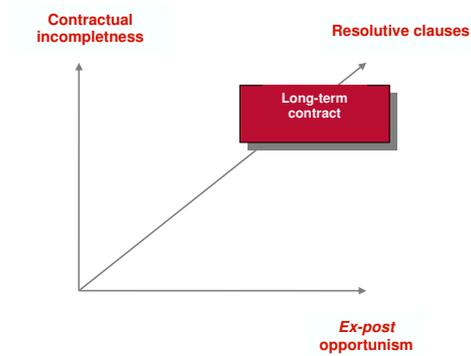
On the other hand, one could imagine how difficult it is to decide ex ante what has to be done ex post. We fully agree with Crocker and Masten [1996] who argue that, as the transaction becomes more complex or uncertain, contracts are likely to become more

“...’rational’ in character. Rather than attempting to lay out a detailed specification of the terms of the agreement, relational contracts attempt simply to establish the process through which future terms of trade will be determined⁷, or, to establish, in effect, a constitution governing the ongoing relationships” (Goldberg [1976], p.428).

⁷p.9

In Figure 1, we have depicted an example of the “optimal” long-term contract. It is shown that the most adapted contract anticipates for contingencies not covered by the agreement and the manners of resolving them.

Figure 1: Long-term contract



Some remarks have to be made concerning the State guarantees for credit contractions by the Concessionaire. Because of the high risk associated with highway franchises, lenders (investment banks) have refused to grant the

Concessionaire's loans unless the government guarantee the debt. Engel and al.[2001] qualify this situation as an usual pitfall for the State. Firstly, guarantees reduce the incentives for lenders to screen projects and monitor their performance. A second danger concerns the overestimation of demand in the way that the Concessionaire could not face significant losses if traffic turns out to be below expectations, that is to say, the whole investment might become "white elephant". In addition we argue that bailing out the Concessionaire stands against the idea of PPP, where the State is rather looking to be free of financial commitment, as its Treasury cannot afford the investment alone. Therefore, we are pointing out that the liability of the State⁸ in the case of the investment fiasco is excessive.

4.4 What should have been done?

We are trying here to enumerate some propositions in order to avoid an impasse situation in the future. We are not pretending to find a "miracle" solution, as long as a "what would happen if..." reasoning appears obviously limited. Nevertheless, it seems that the call for tender *needs to be more explicit* in the way that the financing structure and risk sharing, ought to be specified⁹. In our opinion, the weakness of Polish equities constituted a sufficient incentive to broaden the call for tender. A strong start-up capital mixed up with know-how of foreign investor (capital group) would have accelerated the construction. But, paradoxically, foreign investors could not have felt attracted by the blanks in project and low chances to take money out. Therefore, the preliminary independent financial audit should always be welcomed. Finally, the presence of clear and precise avoidance or

⁸By "the liability" we mean all legal responsibilities of the State excepting the statutory ones, like the party of the Concession agreement or the land owner.

⁹This can be done by simulating least-present-value-of-revenue (LPVR) auction. For details see Engel et al.[2002]

retractation (annulation) clauses not only smoother bilateral relations but also create an atmosphere of trust.

5 The supervision problem

5.1 The story

The Ministry of Infrastructure has entrusted the supervision of highway construction to The Highways Construction and Exploitation Agency (HCEA). This is a common example of delegation of authority, as The Head of Agency accomplishes public management and supervision tasks on behalf of the Government. We notify that The Head of Agency is directly subordinated to his administrative superior, and thus, supposed to execute his decisions. In case of A2 Concession, however, the coordination between those two institutions was not as smooth and efficient as it should be.

As we remember from the previous section, the construction of the first segment of A2 did not start because of the lack of financial closure. In order to avoid this unpleasant situation in the future, the Concession Agreement was annexed providing a new deadline for financial closure. Furthermore, there were some new clauses setting forth the possibility of cancellation once the deadline passed. The new deadline was scheduled for the end of July, and, unfortunately, was also defaulted. In this case, the Concession Agreement should be cancelled by the State. But it did not happen. In spite of the Ministry of Infrastructure will of cancellation, the Director of HCEA promoted his own vision of problem resolution, wanting to spread the Concession Agreement over a new consortium. This free-rider behavior was tolerated by The Minister of Infrastructure, who surely knew that - from the legal point of view - a kind of substitution of the Concession party was not possible (a new auction required). Furthermore, the incorporation

idea was a dull, as long as the Concessionaire (AW SA) would never agree to integrate with another firm, as it was not interested in sharing profits. It also important to mention that the contract renegotiation feasibility studies ordered by the HCEA cannot be considered as objective, since the audit provider company (PriceWaterhouseCoopers) was formerly hired by the AW SA as a consultant body to negotiate the initial Concession Agreement.

5.2 What are the theoretical suggestions?

In the face of the story above, one can imagine that the public agency is a heaven for inefficiency. However, this is a very simplistic view of reality. Generally, the “bureaucratic” inefficiencies (as we think they should be called) result from the lack of coordination in the decision-making process. In the TCT, the governance structure mainly depends on the asset specificity (nature of investment), degree of uncertainty and type of transaction (and its frequency)¹⁰. Therefore, in our case, “internalization” of Concession management and its follow-up in the form of hierarchy was appropriate. The problems rather come from misunderstanding of the authority-hierarchy relation. It should be remembered that

“ we can talk about hierarchical relations between the subsets of participants A and B when the subset B refers to the subset A’s goals rather than to its own in decision-making process and subordinates to A’s decision in the case of conflict”. (Guillaume [1972])

When we turn to analyze the situation between the public agency (The Highways Construction and Exploitation Agency) and its superior (The Ministry of Infrastructure) we can ascertain the lack of *acceptation* and *validation* of hierarchy by the public agency. There were two reasons of non-execution of

¹⁰For an exhaustive review of organizational theory see Menard [1996].

the superior's decision: firstly, the goals conflict, and secondly, the acquiescence for insubordination. The latter results from the absence of control mechanism. Furthermore, the control procedures undertaken by the superior and thus aiming the subordinates are necessary for the execution of the decisions. It follows that the inefficiency of the State in the Concession-managing process breached out because of the "weak" coercive mechanism. It is important to add that the efficient control procedure depends on an adequate span of control¹¹. As we have already mentioned, the superior's decisions were ignored by the intermediary link in the hierarchical chain, namely the Minister's Secretary General. In spite of the fact that the hierarchical structure was simple, and thus the span of control limited (only one intermediary level), important inefficiencies yielded.

The lack of control regarding the final subordinate - the Concessionaire (and the party of agreement at the same time !) had also contributed to investment *fiasco*. By adapting the initial Calvo-Wellisz [1978] model to the grantor-concessionaire relation, we are going to show the extreme importance of supervision.

Primarily, we assume that the concessionaire's utility index (U) depends on its future profit¹² (Π), and effort (e):

$$U = u(\Pi) - v(e), \quad (1)$$

$$\Pi \geq 0, 0 \leq e \leq 1,$$

and $u' \geq 0$, $v' \geq 0$, $u'' \leq 0$, $v'' \geq 0$. If $e = 1$, the concessionaire is fully effective; if $e = 0$, he is completely idle. The presence of a monitoring system

¹¹The span of control (SOC) is a simple managerial construct which identifies or regulates the amount of direct supervision that exists between a superior and his direct subordinates within an organization. For further readings see Yassine [2005]

¹²We assume that this is the present value of future tool incomes, and may be approximately given as LPVR.

implies that the supervision of the concessionaire's effort (i.e. progress of investment) is less costly than the direct measurement of his marginal product. Furthermore, effective supervision requires the imposition of penalties for substandard work. Let P be the probability of the concessionaire task being checked by his superior (e.i. The Highways Construction and Exploitation Agency). If the concessionaire is not checked, he is presumed to have made the maximum effort ($e = 1$) and he is given a credit guarantee g (measured in units of future discounted toll revenue). On the other hand, if the real concessionaire performance is checked, his level of effort e is revealed and he gets only a part of credit guarantee eg , involving a penalty equal to $(1 - e)g$. Assuming profit equals guarantee of credit attribution, expected utility, γ , associated with selecting a level of effort equal to e is given by:

$$\gamma = P[u(eg) - v(e)] + (1 - P)[u(g) - v(e)] \quad (2)$$

In his turn, the concessionaire chooses e in order to maximize his welfare and defines

$$\Gamma(P, g) = \max_{0 \leq e \leq 1} \gamma \quad (3)$$

For simplicity, we also assume that there exists a unique e associated with (3) and denote it

$$e = E(P, g) \quad (4)$$

Thus, it is easy to see that

$$\frac{\partial E}{\partial P} \geq 0 \quad (5)$$

and

$$\frac{\partial E}{\partial g} \geq 0 \cup \frac{\partial E}{\partial g} < 0 \quad (6)$$

Proposition 1 *Implementation of supervision scheme rises the effort of supervise. At the same time, one cannot be sure whether application of*

penalties in the case of substandard work has negative or positive impact on supervisee's performance. It is important to say that the only awareness of being checked works as an incentive mechanism, as long as each and every supervisee prefers not to be checked. It follows that for a supervisor, providing a spontaneous and random control seems to be the optimal solution.

Proof 1 (Immediate)

For any function $E()$, we know that $e \geq 0$, $P > 0$ and $g \geq 0$. In order to define the sign of partial derivatives of $E()$, we simply apply their definition formulas.

$$E'_P(P_0, g_0) = \frac{\partial E}{\partial P}(P_0, g_0) = \lim_{P \rightarrow P_0} \underbrace{\frac{\overbrace{E(P, g_0)}^{\geq 0} - \overbrace{E(P_0, g_0)}^{=0}}{\underbrace{P - P_0}_{>0}}}_{\geq 0}$$

$$E'_g(P_0, g_0) = \frac{\partial E}{\partial g}(P_0, g_0) = \lim_{g \rightarrow g_0} \underbrace{\frac{E(P_0, g) - E(P_0, g_0)}{g - g_0}}_{\text{sign undetermined}}$$

■

5.3 What should have been done?

For now on it is clear, that the Concession agreement should have been *unilaterally* and *immediately cancelled* at the second financial closure deadline. The Infrastructure Ministry *should have ordered* its cancellation to his subordinate (i.e. Chief of The Highways Construction and Exploitation Agency). Tolerating Concessionaire's inactivity brought about

by two consecutive financial closures led to contract renegotiation procedure (renegotiation clauses annexed to the concession agreement constitute a brand new text, totally cancelling the initial one, so it is really difficult to call it “rider”). Furthermore, the renegotiation process bunkered the State party which found oneself in a suppliant position. Finally, once the renegotiation awkwardly occurred, the State party *should not* and *cannot* have agreeded to make the new text confidential, firstly, because of investment involved public expenditure and secondly, because of confidentiality excluded independent audit.

6 Conclusion

In this paper we have underlined the most striking problems which affected the very early stage of highway construction program in Poland. The PPP concept failed to become successful because of the errors committed during the auction process. In the case of A2 highway concession, it seems that prequalification step was shallowed, making impossible to shortlist bidders with required financial means and expertise. A key to avoid this kind of situation in the future is to strengthen domestic capital market. Strong domestic finance is preferable, all else being equal, because it raises fewer political sensitivities and avoids the complications of exchange rate risk. Toward the other extreme, it appears that more consideration should be given to the use of concession contracts that are shorter and simpler, so that they have a grater chance of being complete. It is also clear that management of concession agreement should be simplified and monitoring schemes ought to be implemented in order to prevent contractor’s opportunistic and/or free-rider behavior. Finally, the State should be extremely careful while delegating authority: as we have seen, softening of subordination in the hierarchical chain may came up with bureaucratic pitfalls and not with one

of its more desirable features like ease of administration instead.

It is important to mention that A2 highway construction continues, in spite of renegotiation process, and one may expect that it will be possible to reach German border by 2008. However, it seems that the government learned on the past lesson and presents a strong will to engage more budgetary sources in infrastructure projects. It has very strong monetary incentives to do so, as long as Poland will receive a substantial aid from EU funds (the EU budget for 2007-2013 projects EUR 91 bn for Poland, roughly EUR 20 bn of which will be spent on roads and motorways construction). Nevertheless, an extreme vigilance is required concerning its spending. The Ministry of Infrastructure recent statement informs that the “government’s ambition” is to use all resources assigned for roads construction, as long as in 2005 Poland had used only 63% of all funds available for this purpose. Finally, the recent experiments with a new financing system called “Special Purpose Issue” needs to be watched out, as long as the bureaucratic machinery is not very keen about recognizing of its own errors.

7 Complimentary issue: Trans-European Networks (TEN-T)

As it was stressed by the European Commission, transport infrastructure plays a key role on growth and regional convergence. This challenge is being faced at regional, local and European level, in the framework of the common transport policy and the trans-European transport network. In this respect, in April 2004, the European Parliament and Council identified 30 priority projects that represents an investment of EUR 225 billion by 2020. On July 2005, the Commission defined the political and technical coordination proce-

dures for achieving the TEN-T, including the appointment of six European coordinators and the creation of an executive agency. From a regional policy point of view, this should play a major role in developing quality transport during the 2007-2013 period in accordance with the priority objectives proposed by the Commission, i.e. convergence, regional competitiveness and employment and territorial cooperation. Therefore, we are very surprised that facing the EU enlargement to the East, the TEN-T priority was given to the North-South axis. In that sense, the European Commission seems to underestimate the fast growing potential of westbound and eastbound exchange traffic between not only EU and Poland or Baltic States, but also between EU - Russia and Ukraine.

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Figure 2: A2 Investment Appraisal

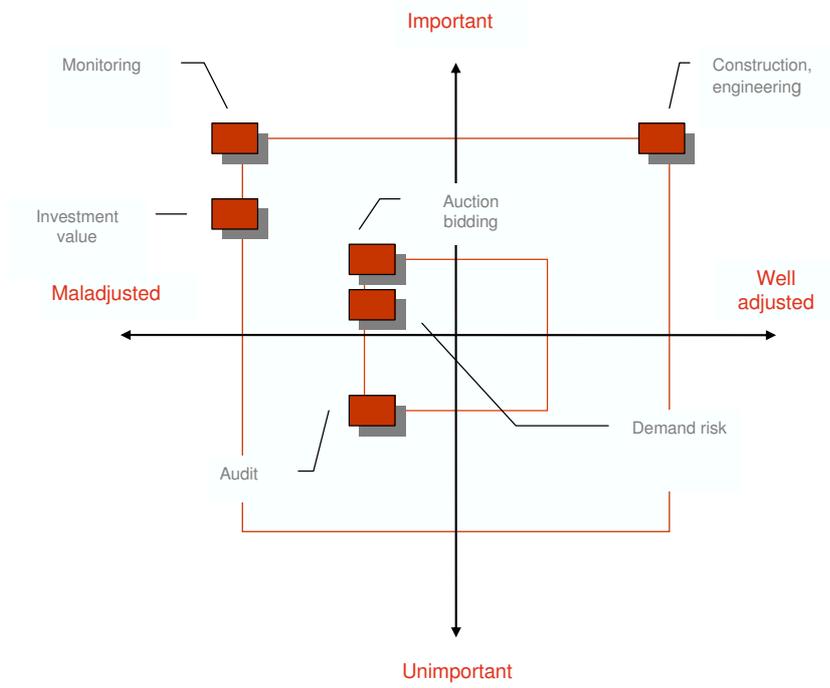


Figure 3: Financial flows in Concession agreement

