International Development

ISSN 1470-2320

Prizewinning Dissertation 2015

No.16-MP

"Corruption by design" and the management of infrastructure in Brazil: Reflections on the Programa de Aceleração ao Crescimento - PAC

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Published: Jun. 2016

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MSc in Development Management 2015

Dissertation submitted in partial fulfilment of the requirements of the degree

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Word Count: 10,090

ABSTRACT

A cyclical pattern of corruption and mismanagement seems to be installed in infrastructure in Brazil. This study examines how monitoring, funding and eligibility rules under PAC, the Brazilian "Big Push" infrastructure policy in place since 2007, may be creating opportunities for corruption. It finds that while resources, staff and human capital may have some merit in the explanation, policy design is the most important reason behind corruption in the sector. It argues that PAC contains incentives for corruption built in and supervisory boards, political opposition and citizens are key stakeholders to change the *status quo*.

TABLE OF CONTENTS

LIST OF FIGURES **4**

ACRONYMS **4**

1. INTRODUCTION **5**

2. LITERATURE REVIEW **7**
2.1. CONCEPT, PRACTICE AND IMPACTS OF CORRUPTION 7
2.2. NUANCES OF INFRASTRUCTURE AND THE IDEA OF "*CORRUPTION BY DESIGN*" 9

3. METHODOLOGY **11**

4. CASE STUDY: PAC **13**
4.1. OVERVIEW 13
4.2. POLICY DESIGN AND OPPORTUNITIES FOR CORRUPTION 13
4.2.1. Monitoring system *13*
4.2.2. Funding system and eligibility criteria *24*

5. IMPLICATIONS: BEYOND "*ROTTEN APPLES*" OR BLAMING DECENTRALIZATION **27**
5.1. SUPERVISORY BOARDS 27
5.2. POLITICAL OPPOSITION 31
5.3. POPULAR PARTICIPATION 32
5.4. POLITICAL WILL 35

6. CONCLUSION **36**

7. REFERENCES **37**

APPENDICES: **44**
APPENDIX A: LIST OF INTERVIEWEES 44
APPENDIX B: SAMPLE CONSENT FORM 44
APPENDIX C: SEMI-STRUCTURED INTERVIEW SCHEDULE 44
APPENDIX D: PAC MANAGEMENT STRUCTURE 44
APPENDIX E: EXAMPLE OF INFORMATION AVAILABLE FOR DISCUSSION AND STRATEGIC DECISIONS IN THE "SITUATION ROOMS" 44
APPENDIX F: EXAMPLE OF MONITORING PROGRESS PROVIDED IN PAC BALANCES 44
APPENDIX G: EXAMPLE OF BUDGETARY ASSESSMENT OF PAC RESULTS 44
APPENDIX H: SISPAC SNAPSHOTS 44
APPENDIX I: ASSESSMENT OF REFINARIA ABREU E LIMA 44
APPENDIX J: EVOLUTION OF PAC AND TCU/FISCOBRAS 44
APPENDIX K: EVOLUTION OF PAC AND CGU 44
APPENDIX L: COMPARISON OF FIRMS IDENTIFIED IN TCU - FISCOBRAS 2007 AND THOSE INVESTIGATED IN LAVA JATO OR OTHER OPERATIONS 44
APPENDIX M: INFORMATION RECEIVED AFTER CONSULTATION OF THE TRANSPARENCY PORTAL 44

List of Figures

Figure 1: PAC Evolution
Figure 2: PAC and TCU/Fiscobras
Figure 3: PAC and CGU
Figure 4: Use of Transparency Portal
Figure 5: Document Request vs. Reporting Irregularity

Acronyms

CEF Caixa Econômica Federal (Federal Public Bank)
CG Relatório de Contas do Governo (TCU Reports on Federal Accounts)
CGU Controladoria Geral da União (Federal Accounts Agency)
DNIT Departamento Nacional de Infraestrutura de Transportes (Public Agency for Transports' Infrastructure)
FISCOBRAS Fiscalização de Obras (TCU Reports on Federal work contracts)
GDP Gross Domestic Product
MCU Ministry of Cities and Urbanization
ME Ministry of Energy
MEDU Ministry of Education
MF Ministry of Finance
MH Ministry of Health
MNI Ministry of National Integration
MP Ministry of Planning and Budget
MT Ministry of Transports
OFSS Orçamento Fiscal e da Seguridade Social (Fiscal and Social Security Budget)
PAC Programa de Aceleração ao Crescimento
PO Casa Civil (Presidency Office)
PPP Public-Private Partnerships
SEPAC Secretaria Executiva do Programa de Aceleração ao Crescimento (PAC Executive Secretary)
SisPAC Sistema do Programa de Aceleração ao Crecimento (PAC electronic monitoring system)
SGI Sistema de Gestão da Informação (System of Information Management)
TCU Tribunal de Contas da União (Federal Accounts Tribunal)
VALEC Public Company for Engineering, Construction and Railways

1. Introduction

Brazil, 1992: a Parliamentary Commission investigates the involvement of president Collor de Mello and his campaign fund raiser in a corruption scheme using phantom cheques and shelf companies to embezzle public funds. During the investigations, the Federal Police discovered a spreadsheet identifying "commissions" and "mediation taxes" paid in exchange of work contracts (Veja, 1992). The police estimated that at least US$ 2 billion were paid in the scheme (Nêumanne, 1992).

Brazil, 2014: the Federal Police uncovers a corruption scandal using bribes and money laundry to secure work contracts ("Lava Jato" operation). "Commissions" and "mediation taxes" support the scheme, with off-shore companies masking the transactions. During the investigations, the police discovered a spreadsheet naming more than 700 contracts suspected of overbilling and illicit payments (Carta Capital, 2014). The projects were assessed in at least US$ 10 billion (O Estado de São Paulo, 2015).

"Collorgate" cost the president's mandate in 1992 and inaugurated a new form of political corruption: beyond traditional forms of clientelism, the scandal revealed the presence of a "*parallel organisation*" controlling government (Geddes and Ribeiro, 1992, p. 642). Intermediation tariffs and kickbacks became the new instrument of political *quid pro quo*. Twenty years later the same strategy seems active, only more sophisticated.

It is not fair to say that between 1992 and 2014 no institutional reaction was undertaken to avoid capture in work contracts. Since 1995 Brazil has had a modern body of law that enforces transparency in public biddings (Law 8,987/1995 for concessions and Law 11,079/2004 for PPPs). In 2000 the Law of Fiscal Responsibility (Law 101/2000) imposed strict rules to manage public accounts. The Transparency and Open Data Law (Law 12,527/2011) allows citizens to require information on public contracts and to monitor the progress of projects. The country also ratified in 2000 the OECD Anti-Bribery Convention and approved in 2013 a

Compliance Law (Law 12,846/2013) to sanction corruption in public and private spheres.

Apart from the Rule of Law, Brazil has held free and fair elections since 1989. Brazil is also known for having a free press, a watch-dog media, an active civil society and a Judiciary system that works properly in the detection of public malfeasance. A federal body (CGU) exists to assure transparency in public expenditure and an independent administrative court (TCU) supervises public contracts, holding annual investigations to detect mismanagement in federal administration, including infrastructure. With the implementation of *Programa de Aceleração ao Crescimento* - PAC (Decree 6,025/2007), the sector gained two additional monitoring instances: (1) SEPAC, the executive secretary created to follow-up the implementation of the projects, and (2) SisPAC, the coordination electronic system controlling the progress of contracts and respective budget allocation.

In a nutshell, from 1992 to 2014, key mechanisms referred to in the literature as essential to limit corruption, such as transparency, the Rule of Law, checks and balances, political accountability and external control (Ackerman, 2007; Lambsdorff, 2006; TI, 2014) were introduced or reinforced. However, Lava Jato puts into question the efficiency of the entire system designed to manage infrastructure in Brazil.

Two hypotheses can explain the facts exposed by Lava Jato. First, a combination of contingent conditions, such as (1) limited resources in the administration to monitor the volume of projects, (2) lack of preparation of the supervisory bodies to fulfil their institutional role and even (3) a technology gap to develop an appropriate system to deal with the characteristics of the sector. The second hypothesis suggests differently: the existence of intentional arrangements in the institutional design which creates blind spots for corruption. This paper concentrates in the clarification of the second hypothesis. More elaborately, the purpose is to investigate the existence of intentional loopholes in the process of contracting, implementing and monitoring PAC. The evidence will ground (or reject) the applicability of the theory of "*corruption by design*" (Manion, 2004) in the management of infrastructure in Brazil.

I thereby employ the case study of the PAC, focusing the analysis on projects that consumed roughly R$ 1,607 trillion of federal revenues between 2007 and 2014 (PAC, Balanços 2010 and 2014). I conclude that, while other explanations have some merit, the most important reason behind corruption in infrastructure is the policy design that allows the creation of a "*parallel organisation*" inside public administration. I argue that PAC contains incentives for corruption built in.

The remainder of the paper is structured as follows: a literature review on the concept, practice and impacts of corruption, exploring the nuances of infrastructure and the idea of "*corruption by design*". After a brief explanation on methodology, the structure of PAC is presented. Then I show how PAC design creates a system that allows corruption to thrive, particularly in terms of monitoring, funding and eligibility. I conclude with implications of the analysis, proposing measures touching three stakeholders: supervisory boards, political opposition and citizens.

2. Literature Review

2.1. Concept, practice and impacts of corruption

Defining corruption depends on the perspective adopted. The literature distinguishes a moral and a legal concept of corruption. The first is associated with a broad category that correlates to something being rotten in modern life, or a "*society's general lack of grace and deference*" (Ackerman, 2006, p. xiv). The latter is more strict and related to the treatment of corruption under the Rule of Law (Nye, 1967). In political economy corruption can be seen as the abuse of public function for private gains (Svensson, 2005), an example of government failure (Rodrik, 2007) and a sign that something is wrong in the functioning of the state (Ackerman, 1997).

Corruption can take many forms. It can be petty, when involving middle and low-level officials in the interaction with citizens, or can it be grand and spread into higher levels of bureaucracy (TI, 2009). Corruption can also contaminate the political arena, creating undue influence and diverting policy resources in a vicious cycle of bad politics feeding corruption and vice-versa (Johnston, 1997). Corruption can

materialize as kickbacks, bribes, extorsion, embezzlement (Svensson, 2005), as well as indirect ways, such as self-interested regulation, illicit campaign contribution, electoral fraud (Kunicová, 2006) or, as in the case of infrastructure, "mediation taxes", overbilling and commissions in public work contracts.

As a symptom of government failure, the causes of corruption can be many, varying from bad regulation, size of government, lack of economic and political competition, low quality of state bureaucracy and also a public culture prone to accept a moral deviation of conduct in the administration (Lambsdorff, 2006). Size of government deserves more attention as a potential cause for corruption. Although empirical studies show mixed results --- with Scandinavian countries proving that size does not necessarily mean an inefficient government (Lapalombara, 1994) ---, there is some logic in expecting that more steps in bureaucracy increase red-tape and the opportunities for corruption (Morris, 2004). Although true, the point made by some authors is that size alone does not suffice; it is (1) the type of activities undertaken by government and (2) the quality of bureaucracy and (3) of democracy that would impact the most (Elliot, 1997).

Decentralization also cuts both ways. Depending on preexisting practices in government, multiple tiers of government can either stimulate or prevent corruption (Treisman, 2007; Bardhan and Mookherkee, 2006). Again, empirical evidence accounts for decentralization as both a cause --- as in the perception of corruption by Indonesian firms after decentralization (Campos and Hellman, 2005) --- or an antidote for corruption --- as in Faguet's study in Bolivia (2012).

Two levels of impact can arise out of corruption. In the organizational and firm level, corruption can lead to distortions and losses connected to the costs of secrecy and of avoiding detection (Shleifer and Vishny, 1993). In the institutional level, the impact of corruption is more widespread: it can harm business, lessen investment, stimulate red-tape, reduce the allocation of entrepreneurial skills and create legal uncertainty and unpredictability (Mauro, 1995; Svensson, 2005). It is argued that corruption can even impact the legitimacy of government (Ackerman, 1999), bypassing democratic rules of representation and popular choice (Thompson, 1993).

The impact of corruption in development is debatable. Econometric studies have suggested a relationship between corruption and GDP. That is the case of Mauro, concluding that corruption has a negative impact on the volume of investment and on the degree of bureaucratic efficiency, two channels harming economic growth (Mauro, 1995). The same Mauro confirmed that corruption reduces the incentives to invest, leading to lower expenditure in education (Mauro, 1997, p. 91). More recently this causality has been challenged on the assumption of ambiguity (Khan, 2006). Some even argue a positive relation between corruption and growth as a collusive alliance between authorities and investors could induce economic performance (Rock and Bonnett, 2004). Although unclear and subject to potential reverse causality, some commonalities among the most corrupt countries suggest, at least, an impact of corruption in development (Svensson, 2005). As put by Lambsdorff, "*there is no doubt about a strong correlation between GDP per head and corruption*" (Lambsdorff, 2006, p. 24).

Akerman explores the impact of corruption in perpetuating inequality. The rationale is that corruption keeps a substantial portion of wealth within small spheres of power, impacting redistribution and retarding equal development (Ackerman, 1997). Other studies also find evidence of corruption impacting inequality through education, property and poverty. The results are impressive: worsening corruption by 1 standard deviation would increase Gini by 11 points and reduce the income of the poor by 4.7% a year (Gupta *et al.*, 2002). Considering that equality in a broader sense (political, equal opportunities and capabilities) is seen by many as a necessary starting point for sustainable growth (Sen, 1999; Easterly, 2002; WB, 2006), this evidence can reinforce the negative links between corruption and development.

2.2. Nuances of infrastructure and the idea of "*corruption by design*"

What is particularly concerning about infrastructure is the combination of high stakes with complexity, creating ideal conditions for profitability and few risks that may trigger corruption. The point is made by Kenny: the magnitude of gains can explain the high incidence of corruption in infrastructure. The author also adds the technical

aspect and the assymetric information of the public as factors reducing popular monitoring. Finally, infrastructure is a sector closely intertwined with government, inducing opportunities for lobbying, rent-seeking and corruption (Kenny, 2007).

Apart from these elements, the literature identifies other reasons to explain corruption in infrastructure. These are the uniqueness of projects; the number of contractual links and project phases; a "*culture of secrecy"* in the sector; entrenched interests; many professionals acting in the industry, but with no one carrying overall responsibility; lack of due diligence and also a vicious cycle where corruption is accepted as normal practice (Stansbury, 2005, p. 37-39).

It is for this reason that infrastructure is referred as the "*exemplar of corruption*" (DIFD, 2002, p. 5), not only in Brazil but worldwide. According to TI, public works and construction show the highest rates of bribes, with a 5.3 rate out of 10, where the maximum score of 10 corresponds with the view that firms in this sector never bribe. It is striking evidence when compared to the average of 6.6 points showed in the remaining sectors evaluated (TI, 2011).

1992 and 2014 Brazilian events give a glimpse of the damages corruption can cause. This is particularly troublesome as corruption in infrastructure is not only a matter of diversion of money as it can also impact the quality of works (Tanzi and Davoodi, 1997). Institutionalized schemes of bribes, for example, may allow low-quality standards to be approved (Mauro, 1998). Even the quantity of available infrastructure can be affected by corruption (Queiroz and Visser, 2001 showing the impact in terms of the density of paved roads); not to mention the funding going away from projects that could benefit the poor (Lovei and McKechnie, 2000). Another matter of concern is endogeneity. The point is made by Gillanders by providing evidence running from corruption to poor infrastructure, but also from poor infrastructure to more corruption, tying together the two themes (Gillanders, 2014). This mutual dependence makes curbing corruption a major concern for efficiency in infrastructure programmes.

But corruption in not destiny or "*something that happens to a society like a natural disaster*" (Johnston, 1997, p. 67). Corruption is, as many other conditions in

developing countries, a human agency disaster; a man-made situation that is designed to benefit some in detriment of the majority. This leads to the idea of corruption by design.

"*Corruption by design*" refers to institutional arrangements that perpetuate corruption instead of clear offices (Manion, 2004). In the economic literature, the concept is employed in reference to loopholes created to favor entrenched interests. Williamson mentions the idea of "*inefficiency by design*" to account for practices introduced in the public and private sectors that, although unproductive, are sustained due to the gains offered to some groups. According to the author, "*inefficiences that arise by design may not be inefficiences at all*" (Williamson, 1996, p. 199-200).

Using the concept of "*corruption by design*" it is possible to analyse institutional arrangements through the lens of political drives and motivations behind policy design. That is the case of PAC. It is my argument that PAC illustrates a situation of corruption by design, containing in-built provisions that create opportunities for corruption from the start. This can be evidenced in the structure of monitoring, funding and eligibility designed for PAC.

3. Methodology

Although infrastructure and corruption are key problems in developing countries (Gillanders, 2014), studies on these issues mostly rely on ambiguous and anecdotal evidence. Two strands of literature can be identified: (1) measurements of corruption; and (2) governance solutions to reduce corruption.

The studies in the first category attempt to quantify the costs of corruption by assessing public spending (Mauro, 1998; Tanzi and Davoodi, 1997); the average amount of bribes paid (Davis, 2004; WB BEEP Survey); benchmarking inputs and outputs vis-à-vis market prices (Kenny, 2006) and calculating the difference in the performance of infrastructure (Dal Bó and Rossi, 2007 on Latin American electricity companies; Estache and Kouassi, 2002 on African water companies). This literature

applies a wide array of methodologies, from regression analysis and econometric tests to surveys for perception and randomized field experiments.

The second strand focuses on governance alternatives. Blue prints such as privatization, liberalization, decentralization, civil services reform, improvement in financial and auditing systems, investment in participatory channels and information systems are referred to as viable alternatives to deal with corruption (Cavill and Sohail, 2007).

Within this literature, however, there has been little to no focus on the assessment of the effectiveness of policy instruments applied to reduce corruption (Eustache, 2008), which makes policy recommendation still embryonic or intuitive at best. Studies are also rare in examining the correlation between policy design and the incentives for corruption. Brazil and Brazilian policies are seldom subject of attention as well.

It is to fullfil this gap that this paper concentrates on. A case study approach is used to test the hypothesis of corruption by design in Brazilian infrastructure sector. To capture official's perceptions and political incentives behind policy design, a qualitative lens is employed, combining (1) analysis of policy documents and (2) in-depth semi-structured interviews with key stakeholders in charge of policy implementation, monitoring and oversight. The study tries to expand previous approaches by focusing on institutional design as a potential cause of corruption. Twenty-three stakeholders were interviewed in SEPAC, the Ministries running PAC, supervisory bodies, PO and the legislative committee assessing budget matters (Appendix A-C). The issues that limit this study are: the sample was restricted to middle-level bureaucrats who could speak for the programme, but without influencing political decision-making. State owned-banks that finance the policy, the Federal Police and Public Attorney's Office were not part of research. The analysis is also limited to federal level.

4. Case study: PAC

4.1. Overview

PAC comprises a broad scope of actions to accelerate growth. As an example of "Big Push" policy, PAC put forward a compreehensive package of interventions, covering different bottlenecks all over the country. The objective was to overcome Brazil's infrastructure gap, by means of private and public investment, targeting employment generation and income growth (PAC, Balanço, 2010). PAC-1 was developed from 2007 to 2010 and PAC-2 (2011-2014) made the transition to President Dilma's government. PAC-2 kept the infrastructure-led approach although expanding the initial target from structural actions only to social areas in housing, health and education.

PAC is not limited to infrastructure upgrade. It is also focused on the binominal (1) enhancing the quality of public expenditure and (2) building mechanisms to control government's spending (Article 1, Decree 6,025/2007). To meet these requirements, PAC gained a secretary to centralize monitoring (SEPAC) and, in 2008, an electronic platform to integrate policy measures and stakeholders and to follow-up results and budget allocation (SisPAC - Decree 6,394/2008). In 2014, PAC comprised 47,266 ongoing projects (TCU, 2015, p. 233), a 2,069% increase since the beginning of the programme.

4.2. Policy design and opportunities for corruption

4.2.1. Monitoring system

(a) First layer of monitoring

To identify opportunities for corruption the first aspect to look at is the monitoring structure. As a comprehensive policy dealing with investments in numerous sectors

and decentralized agents, it was expected that monitoring would be at the heart of the design. But the analysis suggests the existence of a vaccuum in such structure.

PAC first layer of monitoring combines duties attributed to SEPAC and SisPAC (Appendix D). SEPAC is "*the voice of the programme*", as referred to in interviews, while SisPAC serves for "*technological centralization*" of PAC (MP, 2009, p. 8). SisPAC runs parallel to a System of Information Management (SGI) controlling the flow of information coming from different decentralized agents (MP, 2011, p. 10). This monitoring system feeds two levels of decision-making: strategic and political. The first refers to decisions in the level of the executive board of PAC, composed by PO, MP and MF; while the second is undertaken in higher political spheres, including the President (MP, 2011, p. 6-7).

Despite the policy emphasis on transparency and monitoring, the degree of oversight effectively undertaken is far from satisfactory. As clarified in interviews: "*It is impossible to know the details of the 50,000 projects of PAC today, as much as it is impossible to analyse engineering documents of all actions in course*".

What is interesting to note is that the lack of control at this level of monitoring is institutionally justified. Under PAC guidelines, SEPAC and SisPAC are assigned four objectives: (1) securing projects' deadlines and results; (2) managing risks and proposing solutions to implementation; (3) providing follow-up to society and (4) building a culture of transparency and responsibility (MP, 2011, p. 4). It is a broad management of PAC, with no reference to individual project supervision. According to the decree implementing PAC, SEPAC's attributions are limited to those of a mediation office, which was confirmed in interviews: "*SEPAC is a facilitator to achieve deadlines and results, mediating solution, bringing questions to higher instances of decision-making. (...) It is not SEPAC's function to do that [project oversight]. SEPAC does not have the conditions --- even in terms of staff --- to go beyond broad management. This is up to the Ministries to do so"*.

A conceptual difference between supervision (*fiscalização*) and monitoring (*monitoramento*) seems to be key in explaining this understanding. Monitoring in the

sense used by PAC refers only to this broad follow-up of *results* and not the oversight of actions. The proper supervision of projects, including critical assessment of biddings and contractual amendments, control of physical and budget progress, causes of delays and cost escalation integrate the level of site oversight, to be exerted by the many decentralized agents under the coordination of the Ministries. This is why SEPAC, SisPAC and SGI are excused from holding this one-a-one "supervision" and "oversight" in proper sense: *"Our monitoring look [in SEPAC] is not to supervise projects; our function is to unlock problems, 'to make it happen' and to achieve results; it is not controlling or supervising, which is competence of the sectorial ministries"*. The same rationale is applied to corruption control considered outside the scope of the first level of monitoring: "*Corruption control is [assigned to] TCU and CGU. This is not an institutional attribution of MP. SEPAC would lose the interaction with stakeholders if it had this function. SEPAC was never intended to control corruption"*.

SEPAC's function is, therefore, to keep the programme rolling, with no consideration to project supervision or corruption control. The only oversight seems to be exerted in the "*situation rooms*", a deliberative instance consisting of regular meetings with main participants involved in each project, as well as PO, MP, MF and the respective sectorial Ministry in charge of the action. The frequency of the situation rooms varies, tending to follow the programme balances issued every four months. This instance was praised as a key innovation designed to assure a flexible and expedite communication channel.

Although it was confirmed that all major projects are discussed in these deliberative *fora ("emblematic projects are selected for discussions in the situation rooms")*, the kind of information that is available for debate is very incipient. As showed in Appendix E this includes a description of projects, the geographical region where it is developed, the expected date of conclusion, the expected investment, the executing agent and a summarized update on results. A stamp (green, red, yellow or blue) is inserted to inform if the project is ongoing or finished, and the level of concern regarding its implementation.

In interviews, a stakeholder confirmed that all decisions in the situation rooms are collegiate. However, a paradox may arise: the moment the system that feeds the situation rooms apply this broad "*monitoring*" of projects, holding only general information and a global look at results, it is a blind collegiate decision that may be undertaken in that *fora*, which will later support the strategic and the political decision-making of PAC. This creates what I consider to be the first blind spot in PAC policy design. Quoting a stakeholder, the information brought to the situation rooms are "*validated*" by the higher instances of PAC, although the system does not allow any effective means for an informed validation: "*Information on projects are discussed in the situation rooms and these are validated by the multiple instances that integrate the executive board of PAC".*

Decisions on price supplementation are a relevant part of discussions in the situation rooms, which puts a key aspect of policy implementation under this grey area of "*broad monitoring*": "*price supplementation, contractual adjustments and unforeseen events, all these are discussed in the situation rooms [...] it is a way to control the programme*". Interesting to note that the policy design creates a false impression that a proper oversight is undertaken in the situation rooms, which is not true. Interviews showed that, at this level of monitoring, specific documents of projects (such as legal and technical grounds for price escalation, for example) are never examined there ("*only the supervisory bodies may ask this kind of document, not [in] the situation rooms*").

A recent study reinforces this impression. Even though the analysis was not on PAC design, it was confirmed that the main function of the first level of monitoring is to gather "*reliable and updated*" information from the many decentralized agents and to feed the Presidency and higher instances of decision-making (Coelho Pires, 2015, p. 197). The stakeholder recognized this relevant function, however he/she was unable to see the informational gap existing at this level of monitoring and the impact in the process of feeding higher instances.

The root-problem at this first level of control seems to be a consequence of the broad concept of "*monitoring*" applied, weakening the reliability of the information

received. This may happen as the information received from the decentralized agents is taken as a given by SEPAC, without any obligation to check and confront the data received from below. This fragility, however, was ruled as a by-product of decentralization: "*There is indeed a fragility in relying 100% on the information received from decentralized agents -- for instance the date a State informs as the final execution is not checked by Central Government. That is why the responsibility lies in each Ministry. [...] In any system of decentralized information, the more interlocutors you have, the more 'noise' you get. But there is no way Federal Government could do an [individual] oversight and be held responsible for that [information received from below]*".

A similar fragility seems to affect the balances prepared by SEPAC. These are detailed reports made available every four months, with an overview of the economic situation of the country, recent institutional measures (e.g: new regulation, tax collection, concessions, *etc*) and the results of the policy. The intention is to meet SEPAC's obligations of transparency and to give accounts to society. But the accuracy of information used to prepare such reports is questionable.

Appendix F illustrates the assertion. Under the heading "*monitoring progress*", the balances present a summary of projects. Even those receiving the yellow and the red stamps, corresponding to points of attention and high concern, do not allow the public to identify basic information for proper monitoring. For example, reading the balances one cannot ascertain the existence of time and cost deviation vis-à-vis the original estimations. Only a general registration of projects, similar to those disclosed in the situation rooms, is available to the public. During the interviews, the stamps system was considered a "*qualitative assessment*" made by SEPAC. But the same rationale applied to the situation rooms holds here: the information backing-up these criteria is not checked with the supporting site documentation, which makes the stamp system and PAC balances another blind spot in PAC design, that may disseminate inaccurate information received from lower instances of execution.

The weakness of the stamp system was raised by TCU in the process of approving federal spending. TCU acknowledged that a project holding a green stamp can hide

delays vis-à-vis the original time-schedule, since time and cost supplementation can be renegotiated without reference in PAC balances. The example of the nuclear power plant Angra-3 was used to illustrate this: although holding a green stamp, the project faced a 2-year delay compared to the original time-schedule (TCU, CG, 2012, p. 178). In response SEPAC confirmed that the green stamp is used in projects where measures were undertaken to keep up with the pace of the works and not as a reference to projects showing no delays (TCU, CG, 2013, p. 221). This understanding can easily mislead the public.

A final element reinforces the fragilities of policy design. The criteria adopted by SEPAC and MP to assess efficiency is mainly budgetary. This can again be observable in PAC balances (Appendix G). The starting point in the balances is the information of the budget reserved for policy implementation (*dotação*), compared with the amounts secured for future expenditure (*empenho*) and the amounts effectively spent (*pagamento*). The conclusion that follows is that a project may be evaluated as successful if the amount of money secured in public budget was fully spent, regardless of quality and efficiency of public spending. This can again mislead public opinion. White-elephant projects, for example, can be labeled as satisfactory provided that the money reserved in public spending is fully used. The same goes with projects experiencing cost and time deviation if budget is spent. The fragility was acknowledged in interviews: "*PAC results are assessed based on the amount of money that is transferred. Where is the effectiveness in this analysis? It is not only the financial and physical execution that should be considered*"; "*We saw an inversion of values: the focus should be to satisfy the population, but the government is only looking at [the number of] projects and the corresponding investment undertaken".*

The point made by the stakeholders is the inefficient assessment that fails to evaluate achievement in terms of the benefits to the population. But more than a biased assessment, the budgetary focus can create a perverse incentive of over-spending in order to feed the appearance of efficiency. These criteria can disguise the analysis of effectiveness and success of the programme.

To sum up, there are many weaknesses in the monitoring system which have been examined in this first layer. SEPAC, SisPAC and SGI, although being the coordination center of PAC, only act as noncritical intermediaries in the policy design. These instances do not hold enough information to secure a proper oversight of projects and depend on Ministries and decentralized agents to do so. It is a "*communication instance*" that fails to secure an informed communication to higher instances. The situation rooms are indeed the deliberate *fora* to discuss strategic decisions, including price escalation, but this debate is based on a system that does not allow data confrontation. As a matter of fact, the documents in support of the entire system are kept with the decentralized agents only, reducing the likelihood of verification of the information received. TCU itself experienced the fragility of the system, but PAC design remains the same.

It is also relevant to note that these blind spots are not reduced by the proximity between stakeholders. Even if agents in SEPAC and Ministries are in constant interaction, as confirmed in interviews, this does not assure that the information received from below is reliable. The many layers of decentralization can create "*noise*" in the transfer of information and the absence of a mechanism to control and verify the information can propagate this "*noise*" until higher instances of decision-making. Finally, PAC is assessed based on budgetary spending, which can mislead the evaluation of the entire policy. All this creates perverse incentives in the first layer of monitoring, which combined with the blind spots in the verification of data may impact the strategic and political decision-making of PAC.

(b) Second layer of monitoring and decentralized agents

The second layer of monitoring confirms the existence of a policy vaccuum in project oversight. This second level of management comprises the Ministries in the different areas of reach of PAC (Appendix D). Although having access to SisPAC, the interviews showed that this system has no use for follow-up. Two points were raised. First, SisPAC is limited to projects receiving funds from OFSS. Since 80% of projects receive money from other sources, there is a large universe of projects that falls

outside SisPAC. The second aspect regards the objective of SisPAC. According to the implementation decree, the system should be used to "*monitor*" the programme and it would "*initiate operations*" by making a "*registration of projects*" and "*organize the release of funds*" (Article 6, Decree 6,394/2008). The Decree also clarified that all authorizations and release of amounts should go through SisPAC exclusively.

The combination of the letter of the law and the interpretation of "monitoring" seems to have sealed SisPAC's fate: the system never evolved beyond a mechanism of funds' release. All Ministries confirmed the impression: "*we have access to SisPAC, but we only use it for budget release"; "SisPAC is not a control system*"; "*we don't use SisPAC to monitor projects*". This situation is confirmed by looking at SisPAC. Appendix H shows snapshots taken in random projects illustrating the lack of qualitative information therein. The use of project aggregation, combining different contracts in one heading, also prevents the individual monitoring by SisPAC.

To replace SisPAC, each Ministry implemented its own system of control. MCU developed "*SACI*"; MNI uses "*Painel de Controle*"; ME uses "*WebPAC*"; MEDU employs "*SIMEC*", MT applies "*Sic-PAC*" and MH introduced "SisMOb". None of these systems, however, are integrated to one another or communicates to SisPAC and SGI.

The lack of SisPAC's utility for oversight and the absence of integration is one problem identified. Another is the insulation that is created between this second level of monitoring and the decentralized agents, giving rise to an additional vaccuum in the policy design. In the execution of PAC, projects can be either directly carried out by Central Government or subject to decentralization. At least 12 decentralized entities --- including public-owned companies, development agencies, foundations, *etc* ---, the 27 federal states and the 5,570 municipalities are considered decentralized agents under PAC.

Even decentralized agents being responsible for more than 90% of ongoing projects in 2013 (TCU, CG, 2014, p. 240), PAC does not provide any decentralized structure to monitor the actions in progress. In the interviews, the limitation of reach at this

second level was raised: "*We have a system to catalogue the decentralized projects, but only the most structural ones [relevant amounts involved]. We don't have all decentralized projects in our monitoring system*". SEPAC recognizes this fragility and the difficulties faced by decentralized agents to inform the status of projects. It is for this reason that basic information, such as the date of conclusion, is absent in some decentralized contracts (TCU, CG, 2014, p. 239). Since this decentralized data never reaches the situation rooms, the second layer confirms the blind decisions that may be undertaken at the situation rooms.

Two arguments were raised to justify this second vaccuum: decentralization and the specificity of projects. Decentralization is used as a "*two-way shield*": (1) granting immunity to decentralized entities to develop their own management and monitoring devices, and (2) a way to exempt the federal level from having a proper system of centralized oversight. The specificity of projects is argued as an obstacle preventing the creation of a common platform to integrate oversight ("*An integrated system is a total fetiche. There is too much difference between the various kinds of projects*"). In both cases the argument seems to avoid the discussion that a relevant part of decentralized projects are executed without control from above.

The difference between supervision and monitoring was again raised: "*supervision is a forbidden word. Decentralized agents hate [that idea] and argue that they only follow-up projects. Supervision is a task up to resident engineers on site*". What some agents do is a "*visual assessment*" before releasing payments, which seems to prevent phantom projects but does not allow a quality validation of projects ("*it is uneconomical and impossible to supervise all projects in such level of detail*"). It is interesting to note that both layers of monitoring use decentralization and the argument of a "*strategic monitoring on results*" to limit oversight responsibility.

For TCU the lack of information in SisPAC and the impossibility to validate data were the biggest challenges faced during audit investigations. TCU reported two main problems: (1) the existence of blank spaces in the assessment of physical progress and (2) the absence of a mechanism to control the projects executed by state-owned companies. As a result, TCU reported difficulties to audit the information received

from SEPAC (TCU, CG, 2011, p. 176; TCU, CG, 2010, p. 171). In fact, in interviews, it was said that TCU assessment on PAC's financial accounts is mostly "*descriptive and a presentation of results to society*" without an accounting validation in the proper sense of the word.

Additional point of concern raised in interviews was the lack of capacity of decentralized agents. Particularly in urban, sanitation, educational and health projects carried out by small municipalities with low human capital, the risks of poor oversight on the ground were considered high. Projects developed by state-owned companies were referred to as experiencing a different risk, although similar in terms of poor access of information. Petrobras, Eletrobras, CEF, DNIT, among others, do have their own mechanisms of oversight, which means that under the principle of autonomy and decentralization SEPAC and the Ministries only receive broad reports on progress ("*we receive an extract*"), without cross-checking the data.

The paradox that emerges at this level of monitoring is the following. Decentralized agents and the private firms they hired to implement PAC are the main players in executing the programme, responsible for presenting claims of time and cost deviation before Ministries and stakeholders in the situation rooms. These are the protagonists applying public expenditure on the ground. Despite that, they are not covered by any monitoring system that could account for decentralization. This was regarded as an odd feature of PAC: "*strange as it may sound, PAC didn't create an information system [integrated and covering all the stakeholders] to manage the programme".*

It is true that decentralized agents are subject to their own mechanisms of oversight --- "S" curves and measurement reports were mentioned in interviews --- but there is no obligation or orientation under PAC creating a common and integrated database to preserve and report information. It is up to the decentralized agents to decide how to organise monitoring and the way to report information to upper instances. In any circumstance, only reports of results are transmitted, while "*all the operational activity is kept in the decentralized agent*". In the end, the higher degree of power seems to lie in the agents experiencing the lower levels of hierarchical control.

Few exceptions were noted. One is MEDU using SIMEC to compel decentralized agents to evidence physical progress and upload updated photos on a regular basis. The system gives the managing teams an informed view on projects. Other mechanisms created to detect corruption were (1) the interruption of budget release when projects do not show progress, (2) the impossibility of having new contracts until progress is regularized and (3) the release of funds only to authorized beneficiaries. The existence of a limitation cap in contracts also creates incentives against frivolous supplementation claims. MH and MCU reported different strategies. The first limited the number of intermediary instalments, releasing major payments only in the end of projects, upon evidence of completion. The latter implemented a schedule of videoconferences to maintain a close oversight on decentralized agents.

But this seemed more the exception than the rule, with no good practices being shared among Ministries. Since the verification of the information is hardly undertaken in first or second levels of monitoring, a bargaining game may be established, with the upper-hand lying in the lower levels of execution. The possibility of receiving distorted information from below was confirmed in interviews. When this "noise" reaches claims of extra costs and conclusion dates, the entire monitoring system is open to opportunistic behaviour of agents --- both public and private --- using these blind spots to manipulate project progress, payments and policy targets.

The complexity of infrastructure increases these opportunities. Technicalities can be disguised to embezzle price supplementation and difficulties can be created with the intention to include additional scope of work that may not be necessary. Under the monitoring system currently in place, the middle level bureaucracy and the oversight bodies have reduced means to detect corruption on the ground.

At the heart of the problem is the fact that PAC monitoring structure does not account for the risks of decentralization, which is paradoxical for a policy grounded in decentralized execution. By relying on a hierarchical system that receives information from below but does not admit verification from above, blind spots are created, with risks of data manipulation and corruption in lower levels of PAC that may or may not

be colluded with higher agents. It is what the literature on New Public Management argues: PAC monitoring system assumes a "*culture of public service honesty as a given*" (Hood, 1991, p. 16) without providing any tool to control information and corruption. Once again the managing teams are under the false impression that a proper "monitoring" is undertaken at this second level: "*the task of the Ministry is to monitor and follow-up projects with quality*". But, as the information received is not properly confronted, this "quality" is under question.

Lava Jato embodies this decentralization risk, showing how corruption can be created between decentralized private agents and higher officials. The case of Refinaria Abreu e Lima is paradigmatic: originally contracted for R$ 5.6 billion and with start-up in January/2011 (PAC, Balanço 2007, p. 80), the current estimation is that it will cost R$ 37.4 billion, with May/2015 as new operation date (PAC, Balanço 2014, p. 98), although start-up was not yet accomplished in August/2015. It is striking to observe that, except for a 3-month period holding a yellow stamp in 2011, in all remaining balances the project was always reported with a green stamp (Appendix I), despite manifest cost and time deviations. This shows the *invisibility tunnel* created in PAC monitoring design, allowing decentralized agents --- public and private --- to stay under the radar, using decentralization to stay protected.

4.2.2. Funding system and eligibility criteria

Apart from monitoring, other features can stimulate corruption in PAC. The funding system is one of them. When PAC was implemented in 2007, PO, MP and MF jointly requested that PAC gained a special treatment. According to Provisory Measure 387/2007, later translated into Law 11,578/2007, PAC was raised as a *priority* in federal spending, which meant (1) the simplification of the proceeding to release funds, and (2) the classification of the transfer of funds as "mandatory" and therefore immune from budget cutting.

This special funding is implemented through an instrument called "*termo de compromisso*", a flexible contract only requiring decentralized agent to evidence

general information on projects --- object, stages of execution, estimated start and conclusion date ---, and the way to use the funds (Article 3, Law 11,578/2007). The political justification for this flexibility was to create a preferential route for PAC projects, avoiding obstacles that could jeopardise programme goals (Motives in Provisory Measure 387/2007). By receiving this special treatment, PAC projects fall outside the regulation applicable to other federal contracts, covered by Article 25 of Law of Fiscal Responsibility (Law 101/2000).

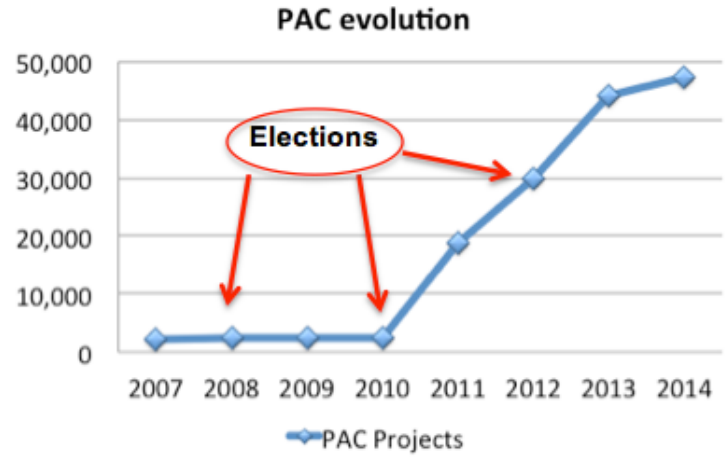
The first paradox that is raised regards the use of a flexible structure in a policy known for the high-stakes involved. Common sense would expect differently: more rigidity to release funds --- or at least the application of fiscal responsibility standards --- because of the amounts in hand. In interviews, stakeholders confirmed that flexibility is necessary to avoid red-tape in decentralized projects. On the other hand, a closer monitoring was considered key to compensate this feature and to prevent the misuse of funding ("*the compensation is to have a closer follow-up, with in loco monitoring of projects*"). Since monitoring is questionable as seen in previous section, with incentives for over-spending and a recognized impossibility to visit all projects ("*considering our staff and the immense number of projects, there is no condition to visit all projects*"; "*it is very difficult to do a national cover of the programme*"), this expedite funding system may have stimulated distortions and interested behaviour in PAC.

The political influence in the definition of entry requirements is worth noting. The process of selecting projects to integrate PAC was ruled in interviews as a "*black box*", subject to "*hidden forces*", particularly in the transition to PAC-1 to PAC-2, when projects went from 2,561 to 18,683 (Appendix J). A different stakeholder said that eligibility under PAC is defined in terms of relevance, but no specific criteria was identified ("*relevance to enhance infrastructure, but I am not aware of the existence of objective criteria for the selection").* The policy design was considered interesting, but the problems seem to have begun when PAC started accepting projects that were not structural in the original concept of the policy: "*The design is interesting. Structural projects will be prioritized. But there is a problem: PAC is not only targeting structural projects anymore. It is no longer structural actions, but also*

political [actions]. PAC made funding very easy, 'so let's go for it'. The portfolio then increased this much". Another stakeholder confirmed the deviation in the use of funding rules: "*PAC became a stamp to assure that projects get funded*".

The political influence can be evidence by looking at the Electoral Law, as PAC projects are not bound by the restrictions preventing public spending up to 90 days before elections (Article 73, VI, "a" Law 9,504/97). This is a consequence of PAC being considered a "mandatory" transfer, therefore releasing politicians to use PAC for electoral support during elections. Media reported cases where that happened before state and municipal elections (Folha de São Paulo, 2008). The risk of political clientelism was referred in interviews: "*transforming PAC funding into mandatory transfer basically served to by-pass the electoral law and to avoid the need of looking at the level of indebtedness of decentralized agents*". Examining PAC evolution and election years, the impression that PAC may be used for electoral reasons seems grounded:

Figure 1: PAC evolution



Source: Balanços PAC 2007-2014, TCU CG 2007-2014

For some areas, *Portaria Interministerial* 130/2013 even strengthened the political influence by authorizing release of funds in emergency situations without the need of submitting projects. Up to 30% (1st stage) to 40% (2nd stage) of funds can be released by claiming emergency. The manipulation of the concept of urgency and emergency

was considered another perverse incentive leading to capture opportunities: "*it is common to only identify problems [misuse of funds] when 70-80% of the funding was already released, with no control before that*".

The outcome is concerning: a flexible funding system, combined with a flawed monitoring structure and a grey area defining entry requirements may give rise to another bargaining game, now in terms of political support. It is well-known that Brazilian federal system forces coalitions between central government, decentralized agents and legislative members in order to secure governance, giving rise to a "*coalition presidentialism*" (Limongi, 2006; Coelho Pires, 2015). Clientelism, on the other hand, can take the form of exchange of jobs and work contracts for political support (WB, 2004). In this context, PAC risk serving as a powerful enabler to fund this coalition-clientelism system, facilitated by a design exempted from electoral restrictions and implemented through a flexible contractual framework.

5. Implications: beyond "*rotten apples*" or blaming decentralization

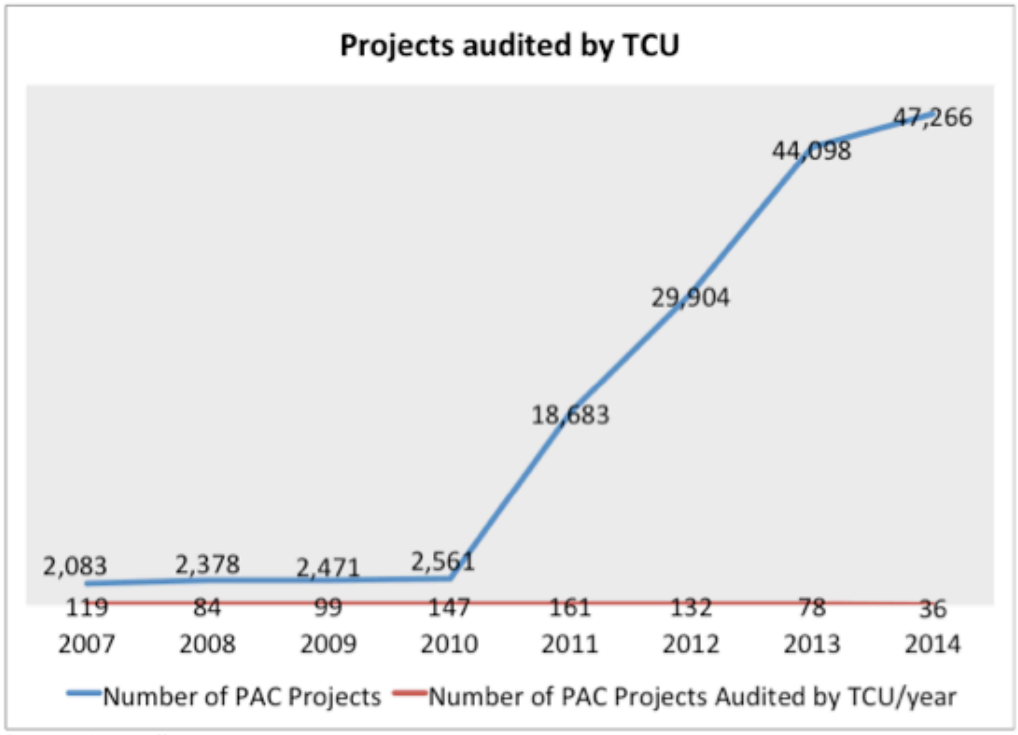
PAC design contains blind spots in monitoring, funding and eligibility. But the question to be raised is: Is this inevitable? Is this a natural outcome of decentralization as some stakeholders seem to accept, or a price to be paid by a continental country that depends on coalitions to secure governance? This section develops the argument that aligning interests of key stakeholders --- supervisory boards, political opposition and citizens --- is capable of overcoming determinism, creating political will to change the *status quo*.

5.1. Supervisory boards

Two supervisory boards are examined: TCU and CGU. The first is external and controls public expenditure through (1) annual investigations on work contracts (Fiscobras) and (2) the approval of government accounts (CG Reports). CGU exerts internal control, undertaking (1) audit investigations on projects and (2) governance analysis to improve management. The common feature is that audit in both bodies uses a sampling method. Over the years, however, the sample assessed by TCU-

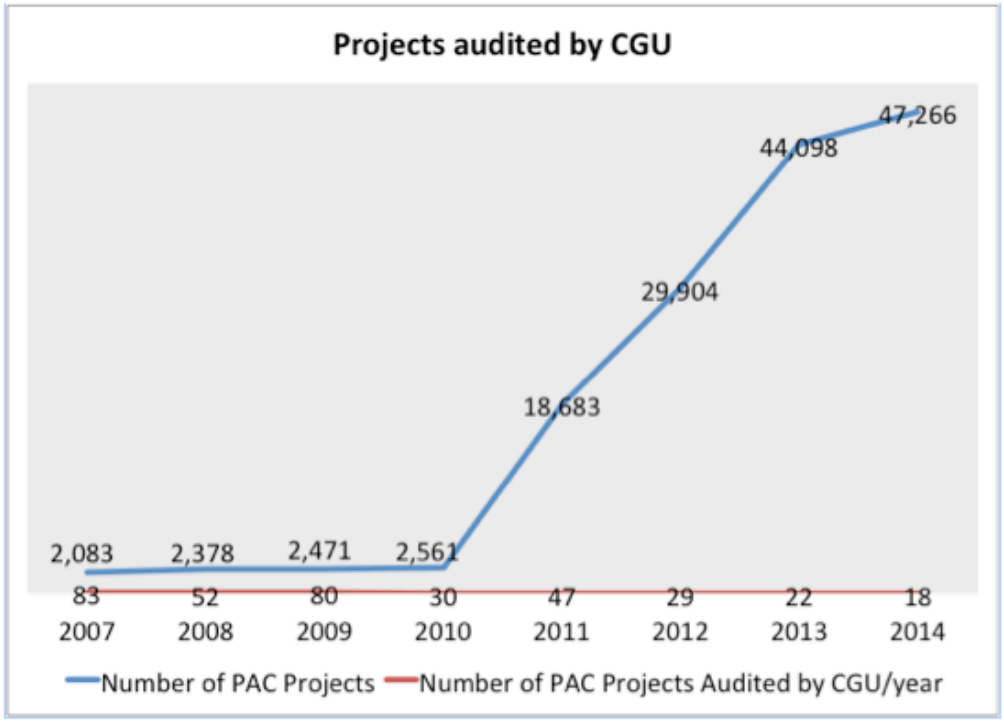
Fiscobras and CGU decreased, respectively, 69% and 78% while PAC projects increased 2,169% in the same period:

Figure 2: PAC and TCU/Fiscobras



Source: Appendix J

Figure 3: PAC and CGU



Source: Appendix K

In interviews TCU clarified that the reduction in scope was due to (1) an upgraded sampling process, allowing a wide reach although a small number of projects are assessed, and (2) the change in audit approach, allocating more resources in examining biddings, governance training and quality assessment. It is true that a sampling process is inevitable for any entity with limited resources. However the impacts on oversight cannot be ignored: even when TCU is able to identify irregularities in PAC accounts (TCU CG 2010, p. 183; TCU CG 2011, p. 182-184; TCU CG 2012, p. 181; TCU CG 2013, p. 222-223), it is still short-sighted as to where all fragilities are. The many layers of decentralization and the growing quantity of projects create a *cat-and-mouse game* between TCU and the political spheres in PAC. Keeping-up with PAC was reported as an impossible task for TCU ("*even if we have doubled our staff in 2010-2011 [PAC-1 to PAC-2], the maximum that we would have achieved would be 0,080% of oversight over PAC*"), producing a very tangible tension between these instances ("*TCU is not a partner [for PAC]*"; "*TCU creates difficulties to manage PAC*"; "*management teams take weeks to answer simple requests that are essential to our [oversight] work*").

A second risk of applying a sampling assessment is evidenced in CGU annual report 2013, which concluded for the regularity of the programme and the existence of a proper monitoring system ("*the methodology and instruments applied to follow-up the programme, namely the information system, the situation rooms (...) are satisfactory*", CGU, 2013, p. 3) while, in the same year, TCU identified irregularities in the sampled projects (TCU, Fiscobras 2013, p. 26). CGU argued in interviews that these reports have different scopes (a governance approach by CGU and a project's analysis by TCU) therefore explaining different results, but CGU conclusions also contradict the analysis made by the legislative body over the same aspects of governance (Câmara dos Deputados, 2014).

Empowering these bodies seems crucial for a better independent monitoring, particularly when corruption control is considered attribution of these bodies only. A two-pronged empowerment can be developed. First, in terms of an information system able to integrate projects and stakeholders: "*one of the biggest problems today is the absence of a unified system to catalogue public projects, which creates difficulties even to select the sampling. Government and management teams have a hard time to identify their portfolio, oversight bodies suffer even more*".

According to the interviews, the ideal system should (1) disclose project stages since bidding and (2) be filled by those directly executing the project (normally private firms), so that payments are released upon documental evidence of execution and the agent can bear responsibility for the information provided. The system should also (3) send alerts to the first and second level of monitoring when cost and time deviation occurs and (4) grant access to all stakeholders, including the public. This system was ruled as "*the only way for an effective monitoring of PAC*"; essential to respond to the needs of decentralization and the complexity of infrastructure and relevant to "*avoid a perverse political influence*". An integrated information system seems to be the available option to compensate the impossibility of *in loco* verification of all 50,000 projects. It can be piloted in Ministries experiencing most monitoring difficulties, being scaled-up and customized to others.

A second approach refers to capacitation, reported as being lacking in both oversight and implementation: "*a common complaint from decentralized agents is that the auditors lack expertise for the job. In fact, we need more technical maturity for the entire sector [management teams, oversight and regulators]*". More than staff upgrading alone, capacitation of teams and an information system seem to be the binominal necessary to equip TCU and CGU to overcome the difficulties of decentralization and sampling. Transparency in disclosing information is the glue to hold together this structure and to raise the capacity of these institutions, currently reduced to toothless lions under PAC design. Evidence shows the positive impact of full disclosure, open data and transparency in the process of improving accountability and reducing corruption in infrastructure (CoST, 2011).

5.2. Political opposition

Awakening political opposition is a second tool for an efficient oversight. Two elements may be in the way: (1) political fragmentation and (2) lack of ideology in political parties. These are classical problems in Brazilian politics: not only Brazil has the highest level of party fragmentation in Latin America (Figueiredo *et al.*, 2009) but parties also tend to make a "*cynical use of corruption scandals*" (Elliott, 1997, p 197) contributing to political gridlock. The witch-hunt that political opposition is making out of Lava Jato evidences the pattern.

Political opposition should instead make use of the available tools for a proper ideological confrontation. For instance, Technical Note 15/2014, issued by the Legislative consultant body pointed out the fragilities in PAC monitoring system, concluding that the managing teams are not in position to carry out a proper project oversight due to the lack of qualitative information in the available systems (Câmara dos Deputados, 2014). Technical Note 29/2013 touched the matter of illegality and by-pass of the Electoral Law in the classification of PAC as mandatory transfer (Câmara dos Deputados, 2013).

In interviews, the officials in charge of the studies said that no measures were undertaken by the opposition ("*the note [15/2014] was produced to respond to a request of the minority [party]. (...) we are not aware of any concrete measure undertaken afterwards, but the report was certainly communicated to them [the opposition]*"). The leaders of opposition in Congress and those requesting the studies were contacted for interviews, but showed no interest in participating in the research.

TCU studies reinforce the argument. In 2007 Fiscobras listed construction firms showing the highest levels of severe irregularities (TCU, Fiscobras 2007, p. 21). Seven years later, these firms largely coincide with the list of companies under investigation in Lava Jato (Appendix L). Similarly, since 2010 TCU CG Reports indicate irregularities in the management of PAC, listing delayed projects and problems of lack of information. Since Fiscobras and CG are produced to support Congress activity, it is hard not to see the missed opportunity in anticipating and avoiding today's corruption scandals.

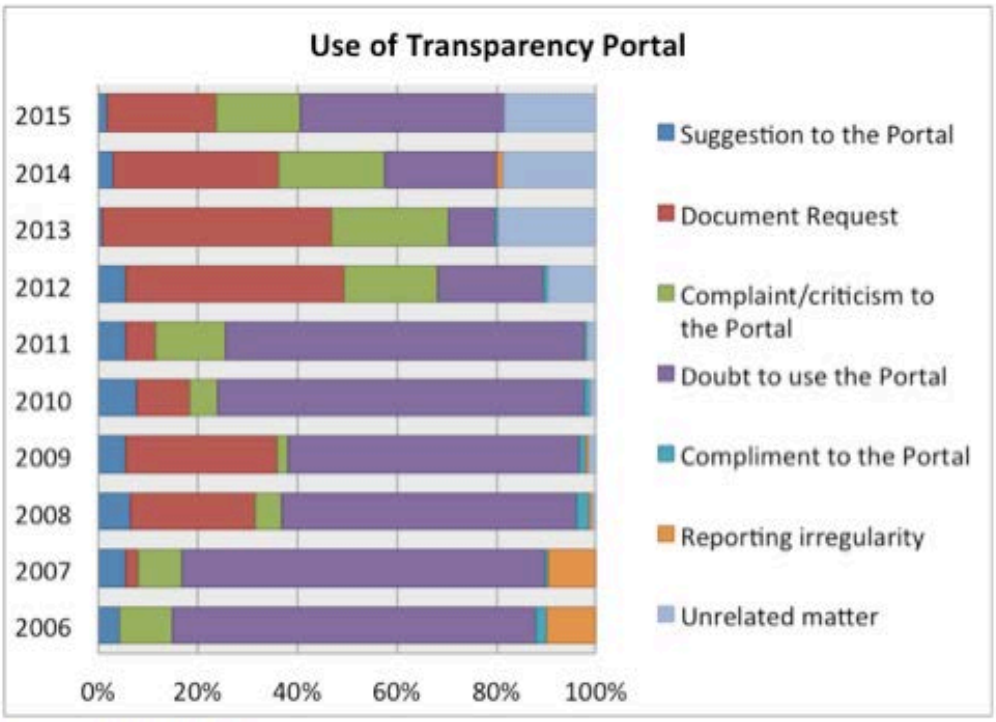
In both cases political opposition was equipped with technical information, but politicization seems to have created a perverse dynamics on corruption prevention. Since political competition and the form of federalism matter in the results of decentralization (Faguet, 2014), a political party system that is able to neutralize the adverse effects of Brazilian coalition presidentialism is essential to avoid political distortions of PAC. Evidence suggests that the dynamics of political competition can explain successful outcomes in overcoming clientelism and induce accountability (Keefer and Khemani, 2005).

5.3. Popular participation

Another common observation in the interviews is that popular participation is still incipient in controlling PAC. The technical aspect of infrastructure was argued as creating difficulties for a proper monitoring by the citizens. Popular channels to report irregularities and malfeasance were referred as under-used or poorly grounded. In some areas it is employed mostly for complaints ("*it is almost SAC [the consumer*

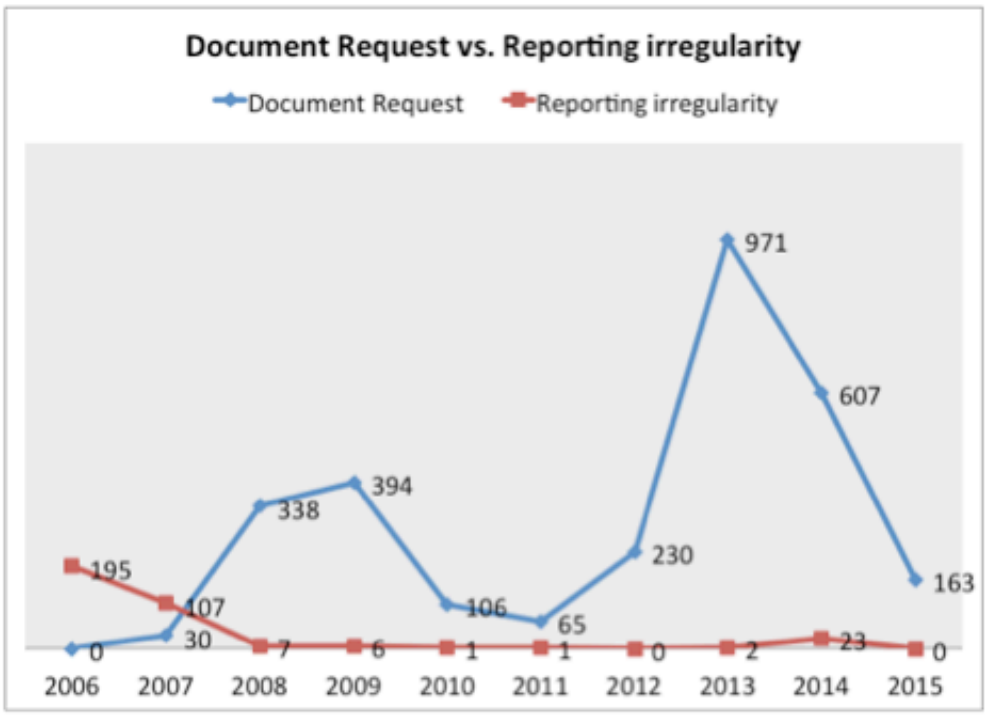
call-service]"). The Transparency Portal also shows under-utilization. According to Appendix M, reporting irregularities have no relevance over the years, while the request for documents varied, but only reaching the maximum of 971 demands, which seems inexpressive for a 200,000,000 population (IBGE, 2015):

Figure 4: Use of Transparency Portal



Source: Appendix M

Figure 5: Document Request vs. Reporting irregularity



Source: Appendix M

The lack of popular participation is also a matter of policy design. The situation rooms do not allow for citizen participation, the same happens in the audit process of TCU and CGU. Another notable absence was that NGOs, civic organisations and class associations were never mentioned as holding any role in controlling PAC. Channelling popular participation through these associations can overcome the technical difficulties of popular monitoring, expanding the qualitative use of transparency tools. NGOs can also strengthen the communication links with prosecution bodies, assuring that investigations move forward.

In a decentralized policy such as PAC a key aspect of oversight is to use citizens as a decentralized network of monitoring. Literature mentions grassroots involvement and local monitoring as relevant tools to lower corruption and to bring benefits to the poor (Ackerman, 2004; Kaufmann *et al*, 2003). Education campaigns mobilizing ordinary citizens to report suspected corruption can also bring moral back to politics (Ackerman, 2006, although she takes morality as a necessary but not sufficient

condition, p. xxxvii), enhance vertical and horizontal accountability (Manion 2004, reporting anticorruption campaigns as successful enforcement mechanisms in Hong Kong) and stimulate ethics in the business community (Lapalombara, 1994), a crucial stakeholder in the implementation of PAC.

5.4. Political will

This alignment of interests is crucial to create political will and the needed coalition that seems to be absent to correct PAC design. In interviews the lack of an integrated system was ruled as "*utopic*", but only because of politics: "*It is politics, not [lack of] technology*"; "*what is lacking is political will*". Various stakeholders confirmed that agencies may be short of staff but a proper information system should come first for better monitoring ("*we need more staff, of course, but what is missing is an information tool*"; "*[a system] can optimize work much more than doubling staff*"). Although such a system has been a common request in multiple instances (TCU, Legislative body, Ministries), approving the idea remains difficult: "*selling the idea of an integrated information system for PAC is very difficult. It is a political matter more than technical. The moment I implement this kind of system, all fragilities [delays, political influence] will be exposed. How to explain projects that are reported as finished but are not operating*? *It will be shooting the government's foot*". It is relevant to note that, in 2012, President Dilma rejected a Congress request claiming for the creation of a federal database with qualitative information on projects over R$20 million. The argument was the alleged overlap with existing systems (Mensagem 371, §9, dated 17/08/2012).

Imposing legal obligations can trigger the process of creating political will. Anti-corruption clauses in biddings, contractual limitation for cost and time deviation, provisions prohibiting new contracts when malfeasance and corruption are detected, requirement of detailed projects to approve contracts, limiting the number of intermediary payments and obligations to provide evidence to progress can help in the process. In fact, this is not distant from what some instances are already developing.

What seems to lack is a centralized orientation to incorporate this strategy into PAC and a policy space for dialogue and experience sharing among stakeholders.

Capacitation also matters for better oversight. Since skill-building is a slow process, transparency and popular participation can create a short-route of accountability while institutions gain technical maturity. This short-route can serve a double purpose: improving citizens' voices as final clients in infrastructure and deterring clientelism (WB, 2004; Ackerman, 2004). The creation of a database with template-projects --- as available in MH --- and template-biddings can facilitate this learning process.

All in all, political will and policy design seem to be two sides of the same coin, sharing similar root-problems. As put by Akerman, fighting the underlying conditions causing root-problems is essential for a "*longlasting effect*" in fighting corruption (Ackerman, 2006, p. xxxvii). If infrastructure led-development is the strategy to be pursued, as the launch of the second stage of the federal logistics plan for 2015-2019 confirms, policymakers in Brazil should realise that curbing corruption is needed to assure performance (Gillanders, 2014) and to keep the legitimacy of government (Ackerman, 1999).

6. Conclusion

In my first day of interviews, a stakeholder said that living in Brasília comprises of four stages: *dazzle* with being part of central government, *deception* for the same reason, *depression* for the impossibility of changing things and *dementia* for staying despite all stages. The joke is very representative of the lifecycle of PAC.

The policy was launched as one of the most comprehensive multi-sectorial strategies of growth. The actions became a priority and gained a facilitated funding system. The *dazzle* of the preliminary years is evident: the policy was praised as a mechanism to cope with infrastructure and poverty gaps. Government even advertised that Brazil "*finally became the country of the present*" (PAC, Balanço 2010, p. 5). Over the years, *deception* installed: PAC showed its incapacity to control core elements to prevent corruption, such as monitoring, funding, eligibility and decentralization.

Depression followed as PAC remained unchanged despite evidence of irregularity and Lava Jato exposing severe corruption schemes. The high levels of distrust in federal government, with less than 10% approval in August/2015 (CNI/IBOPE, 2015), show the impact of corruption in government's legitimacy. *Dementia* represents the current stage of the policy, with isolated systems of "monitoring" that fail to provide effective oversight; blind spots giving the upper-hand to the lower levels of execution; political influence in the roots of PAC; a dorment opposition and supervisory boards losing the battle against a Leviathan with more than 50,000 projects.

This is a sad reality, to say the least. But this study has advanced the argument that corruption in infrastructure is not destiny or a necessary outcome of decentralization. While another explanation --- reduced staff, resources and low human capital --- have some merit, the design of PAC is the major reason explaining corruption. Technology is not an obstacle; political will is.

This paper has attempted to make two contributions. First, policy design can be a cause of corruption as much as other elements referred in the literature. Second, supervisory boards, political opposition and citizens are key stakeholders in the process of creating political will to change the *status quo*. Seeing the problem beyond the punishment of "rotten apples" and knowing that policy design may contain in-built incentives for corruption is key to avoiding the cyclical pattern that seems to have installed in the management of infrastructure in Brazil. Finally, studying dynamics in decentralized agents where TCU have already identified irregularities (Petrobras, DNIT, VALEC, *etc*) can provide a broader picture to explain corruption in the sector. Also, expanding the study to state and municipal levels can be a second stage of research.

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Appendices:

Appendix A: List of interviewees

Appendix B: Sample consent form

Appendix C: Semi-structured interview schedule

Appendix D: PAC Management Structure

Appendix E: Example of information available for discussion and strategic decisions in the "Situation Rooms"

Appendix F: Example of monitoring progress provided in PAC Balances

Appendix G: Example of budgetary assessment of PAC results

Appendix H: SisPAC snapshots

Appendix I: Assessment of Refinaria Abreu e Lima

Appendix J: Evolution of PAC and TCU/Fiscobras

Appendix K: Evolution of PAC and CGU

Appendix L: Comparison of firms identified in TCU - Fiscobras 2007 and those investigated in Lava Jato or other operations

Appendix M: Information received after consultation of the Transparency Portal - Ranking and classification of the information requested to the Portal between 2006-2015

Appendix A

List of interviewees

Body of administration	Number of officials interviewed
Presidency Office	1
Ministry of Planning and Budget - SEPAC	2
Ministry of Cities & Urbanization	2
Ministry of Transport	2
Ministry of Energy	4
Ministry of National Integration	2
Ministry of Education	1
Ministry of Health	1
TCU	3
CGU	2
Legislative consultant body for technical and budget matters - Deputy's Chamber	3
TOTAL	**23**

Note: To preserve the sources' identities and to avoid impact on their professional activities, it was asked that all names should remain confidential and that the interviews quotations did not refer to which body of administration the interviewees belonged. All recordings and the research diary produced during the 30 days of field work in Brasília (from 30 June to 30 July) are in possession of the author and can be presented upon request. Interviews were held in Portuguese.

Appendix B

Sample consent form

	Please Initial Box
1. I confirm that I have read and understand the information sheet for this study and have had the opportunity to ask questions	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time	☐
3. I agree to take part in this study	☐
4. I understand that this is an academic study, part of the student's graduation degree and not a political project	☐
5. I agree to the interview being audio recorded	☐
6. I agree to the use of anonymised quotes in publications, without referring to which body of administration I belong	☐

Name of Participant Date Signature

Name of Researcher Date Signature

Appendix C

Semi-structured interview schedule

SEPAC
What is SEPAC's function/attribution/role in monitoring PAC?
In the hierarchy of the programme, to whom/who SEPAC respond to?
How is project monitoring exerted under PAC (in loco, sampling, electronic system)?
How is monitoring exerted in decentralized projects/agents (States, Municipalities, state-owned companies)?
How is the discussion dynamic in the situation rooms? What kind of information/document is available for discussions in the situation rooms?
How is budget monitored and released under PAC?
How SisPAC works? How SGI works?
Is there any integrated system/platform for project monitoring/oversight under PAC?
Are staff, resources and lack of technology preventing the creation of such an integrated information system?
Is SEPAC able to stop projects in case of irregularities?
How does the stamp system work?
How is the interface/relationship between SEPAC and indepedent oversight bodies (TCU/CGU)?
Does SEPAC influence sample selection of Fiscobras/audit assessment of oversight bodies? Does SEPAC participate in the audit proceedings?
Do TCU/CGU reports have any internal repercussion in PAC monitoring design/practices?
Is there any popular/citizen/NGO channel to receive questions/report irregularities? Is it well-used?
What are the consequences (policy, legal, political) of PAC projects being subject of mandatory transfers and *termo de compromisso*?
How is the selection of projects that integrate PAC?
What are potential improvements for a better/more efficient monitoring of PAC?

PO and Sectorial Ministries
Do you have access/use SisPAC and SGI?
What kind of information is available in these systems?
What is the utility of these systems for project oversight?
How is project monitoring exerted by the management teams (in loco, sampling, electronic system)?
Is there any internal system running parallel to SisPAC/SGI? Is it integrated to SisPAC/SGI?
What kind of information is available in these internal systems?
Are all projects registered in the internal database of the ministry? Or only relevant/key/structural projects?
How is monitoring exerted in decentralized projects/agents (States, Municipalities, state-owned companies)? What are the difficulties?
How is the discussion dynamic in the situation rooms?
How is budget monitored and released under PAC?

Is payments release/price escalation/time extension dependent upon physical evidence of activities?
Is there any integrated system/platform for project monitoring/oversight?
Are staff, resources and lack of technology in the way of creating of such an integrated information system?
Does the ministry have access to site documents (e.g: biddings, time-schedules, minutes of meetings, monthly reports of progress, S curves, evidence of cost and time deviation, contracts, amendments, etc)? Where are those documents kept (in ministry or in decentralized agents)?
Is it common to request site documents for confirmation of accuracy of information?
How is the interface/relationship with independent oversight bodies (TCU/CGU)?
Do TCU/CGU reports have any internal repercussion in internal monitoring design/practices?
Did you note an increase in the difficulty of monitoring the programme in the transition from PAC-1 to PAC-2?
Is there any popular/citizen/NGO channel to receive questions/report irregularities? Is it well-used?
Does the capacity of implementation (low human capital) an additional source of difficulty to implement and monitor PAC?
What are the consequences (policy, legal, political) of PAC projects being subject of mandatory transfers and *termo de compromisso*?
How is the selection of projects under PAC?
What are potential improvements for a better/more efficient monitoring of PAC?

TCU
What are the criteria applied for the sampling process in Fiscobras?
It there any influence of executive bodies (SEPAC/Ministries/Presidency)?
Why the number of sampled projects reduced from 119 in 2007 to 36 in 2014?
What are the risks of having a non-representative sampling?
Apart from Fiscobras, what are other mechanisms/tools to control/supervise PAC projects?
How is project monitoring exerted by the audit teams (in loco, sampling, electronic system)?
Does TCU have access/use SisPAC and SGI?
What kind of information is available in these systems?
What is the use of these systems for project oversight?
Is there any integrated system/platform for project monitoring/oversight (integrated with Ministries, prosecution bodies, Federal Police)?
What would be the use of having an integrated information system for better oversight and control of irregularities in PAC? Is it feasible?
Is TCU able to stop projects in case of irregularities?
In the institutional hierarchy, to whom/who do TCU respond to? Which bodies of administration receive Fiscobras?
Are staff, resources and lack of technology in the way of improving the monitoring system of PAC?
Is there any popular/citizen/NGO channel to receive questions/report irregularities? Is it well-used?
What is the impact of media in controlling/reporting irregularities in PAC?

Does the capacity of implementation (low human capital) an additional source of difficulty to implement and monitor PAC?
How does the ombudsman channel work in TCU?
What are potential improvements for a better/more efficient monitoring of PAC?

CGU
What are the criteria applied for the sampling process in CGU audit proceedings?
It there any influence of executive bodies (SEPAC/Ministries/Presidency)?
What is the average number of sampled projects assessed per year?
What are the risks of having a non-representative sampling?
How is project monitoring exerted by the audit teams (in loco, sampling, electronic system)?
Does CGU have access/use SisPAC and SGI?
What kind of information is available in these systems?
What is the utility of these systems for project oversight?
Is there any integrated system/platform for project monitoring/oversight (integrated with Ministries, prosecution bodies, Federal Police)?
What would be the utility of having an integrated information system for better oversight and control of irregularities in PAC? Is it feasible?
In the institutional hierarchy, to whom/who CGU respond to? Which bodies of administration receive Fiscobras?
Are staff, resources and lack of technology in the way of improving the monitoring system of PAC?
Is there any popular/citizen/NGO channel to receive questions/report irregularities? Is it well-used?
What is the impact of media in controlling/reporting irregularities in PAC?
Does the capacity of implementation (low human capital) an additional source of difficulty to implement and monitor PAC?
How does the ombudsman channel work in CGU?
What are potential improvements for a better/more efficient monitoring of PAC?

Legislative technical body
What was the origin of Technical Note 15/2014?
To whom/who Technical Note 15/2014 was addressed to?
What were the difficulties found in the management of SisPAC?
What are the risks identified in terms of the reliability of information/database of PAC projects?
What were the conclusions of the study?
After releasing the conclusion of the study, did the minority party undertook any concrete action?
What are the risks of having an oversight proceeding applying a sampling method? How can managing and oversight bodies reduce that risk?
What are the consequences (policy, legal, political) of PAC projects being subject of mandatory transfers and *termo de compromisso*?
How is the selection of projects under PAC?
How does the ombusman channel work in Congress?
What are potential improvements for a better/more efficient monitoring of PAC?

Appendix D

PAC Management Structure

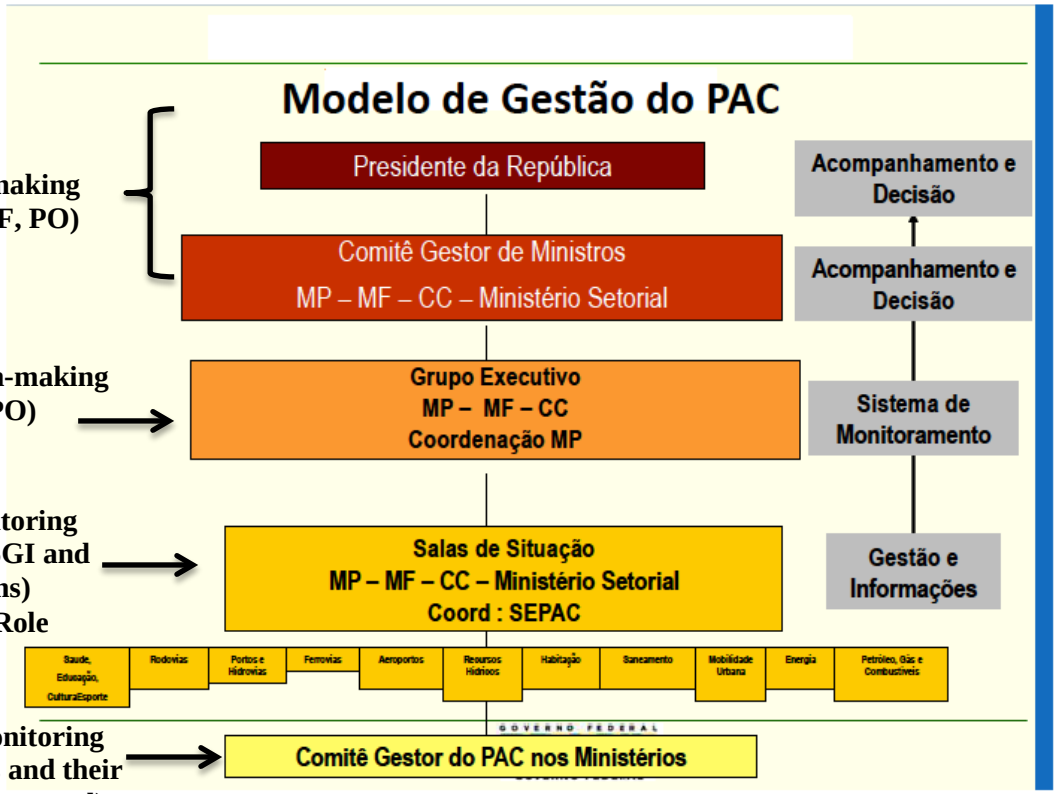
Political decision-making (President, MP, MF, PO)

Strategic decision-making (MP, MF, PO)

First layer of monitoring (SEPAC, SisPAC, SGI and Situation Rooms) Intermediation Role

Second layer of monitoring (Sectorial Ministries and their internal systems of control) Managerial and tatic decision-making

Decentralized agents executing the programme (public and private) Technical decision-making and budget allocation on the ground No specific structure of monitoring and oversight under PAC



Source: MP, 2011, p. 5

Appendix E

Example of information available for discussion and strategic decisions in the "Situation Rooms"

Description
State of Federation
Date of Conclusion
Investment estimation
Stakeholder in charge of executing the project

Results

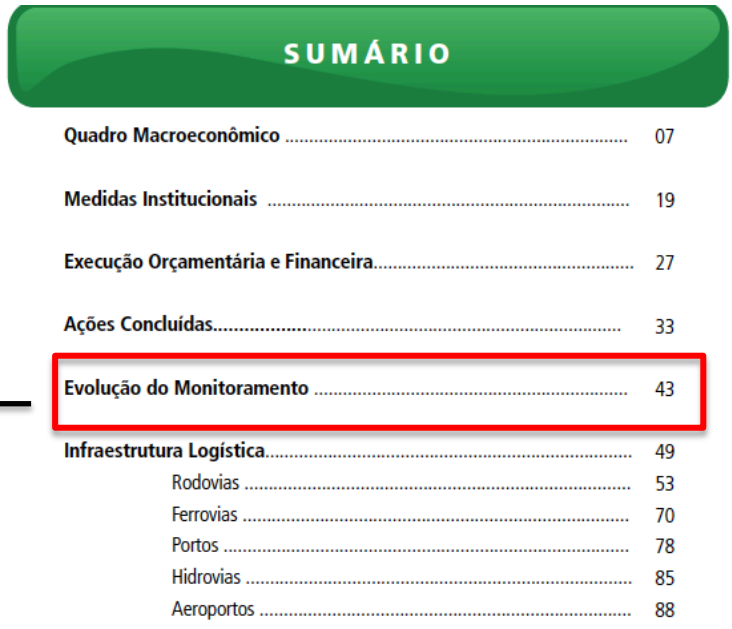
Follow-up

Stamp

Source: MP, 2011, p. 16

Appendix F

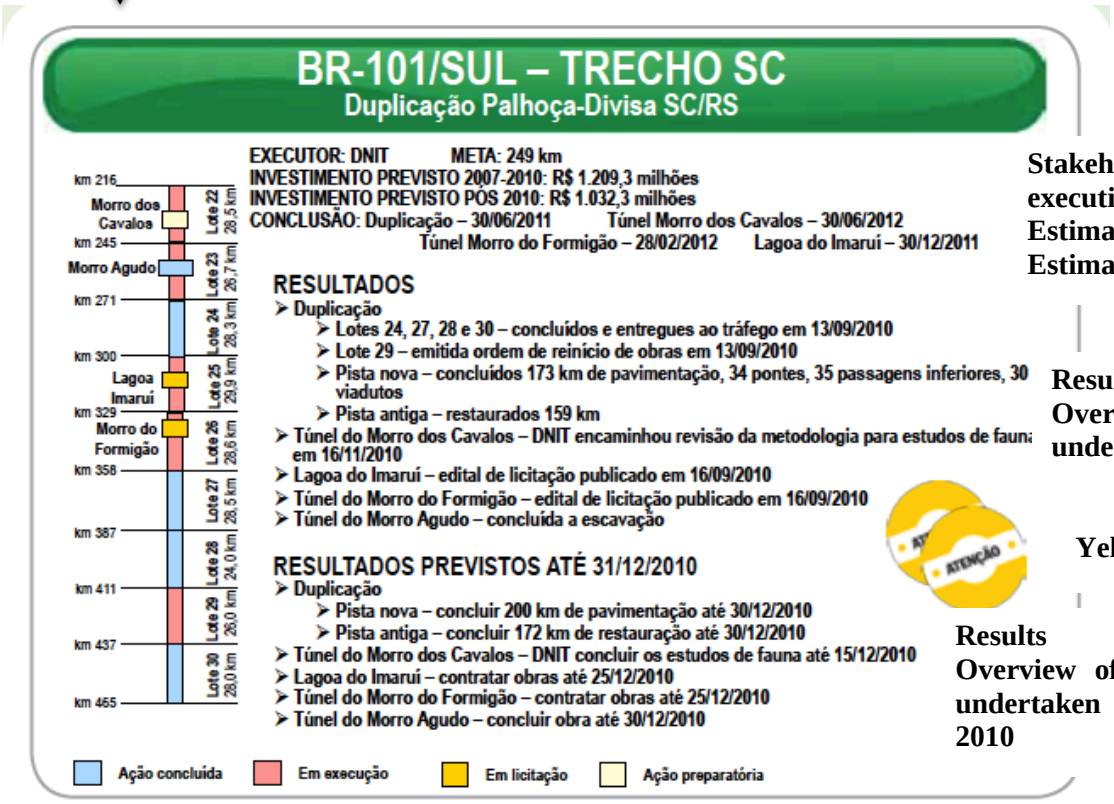
Example of monitoring progress provided in PAC Balances



SUMÁRIO

Quadro Macroeconômico 07
Medidas Institucionais 19
Execução Orçamentária e Financeira 27
Ações Concluídas 33
Evolução do Monitoramento 43
Infraestrutura Logística 49
Rodovias 53
Ferrovias 70
Portos 78
Hidrovias 85
Aeroportos 88

Source: PAC, Balanço 2007-2010, p. 7



BR-101/SUL – TRECHO SC
Duplicação Palhoça-Divisa SC/RS

km 216 – Morro dos Cavalos – km 245 – Morro Agudo – km 271 – km 300 – Lagoa Imaruí – km 329 – Morro do Formigão – km 358 – km 387 – km 411 – km 437 – km 465

Lote 22 28,5 km | Lote 23 26,7 km | Lote 24 28,3 km | Lote 25 29,9 km | Lote 26 28,6 km | Lote 27 28,5 km | Lote 28 24,0 km | Lote 29 26,0 km | Lote 30 28,0 km

EXECUTOR: DNIT META: 249 km
INVESTIMENTO PREVISTO 2007-2010: R$ 1.209,3 milhões
INVESTIMENTO PREVISTO PÓS 2010: R$ 1.032,3 milhões
CONCLUSÃO: Duplicação – 30/06/2011 Túnel Morro dos Cavalos – 30/06/2012
Túnel Morro do Formigão – 28/02/2012 Lagoa do Imaruí – 30/12/2011

RESULTADOS
- Duplicação
  - Lotes 24, 27, 28 e 30 – concluídos e entregues ao tráfego em 13/09/2010
  - Lote 29 – emitida ordem de reinício de obras em 13/09/2010
  - Pista nova – concluídos 173 km de pavimentação, 34 pontes, 35 passagens inferiores, 30 viadutos
  - Pista antiga – restaurados 159 km
- Túnel do Morro dos Cavalos – DNIT encaminhou revisão da metodologia para estudos de fauna em 16/11/2010
- Lagoa do Imaruí – edital de licitação publicado em 16/09/2010
- Túnel do Morro do Formigão – edital de licitação publicado em 16/09/2010
- Túnel do Morro Agudo – concluída a escavação

RESULTADOS PREVISTOS ATÉ 31/12/2010
- Duplicação
  - Pista nova – concluir 200 km de pavimentação até 30/12/2010
  - Pista antiga – concluir 172 km de restauração até 30/12/2010
- Túnel do Morro dos Cavalos – DNIT concluir os estudos de fauna até 15/12/2010
- Lagoa do Imaruí – contratar obras até 25/12/2010
- Túnel do Morro do Formigão – contratar obras até 25/12/2010
- Túnel do Morro Agudo – concluir obra até 30/12/2010

Ação concluída | Em execução | Em licitação | Ação preparatória

Stakeholder in charge of executing the project
Estimated investment
Estimated conclusion

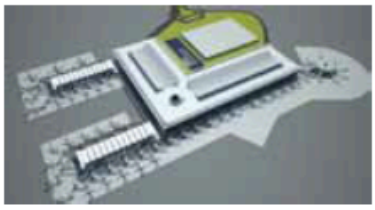
Results
Overview of last actions undertaken

Yellow stamp: attention

Results
Overview of last actions undertaken until 31-Dec-2010

Source: PAC, Balanço 2007-2010, p. 71

BRASÍLIA/DF
Reforma e Ampliação Sul do Terminal de Passageiros



Reforma e Ampliação Sul do TPS

DESCRIÇÃO: Execução das obras e serviços de engenharia para ampliação sul do Terminal de Passageiros

UF: DF META: 160.000m²
DATA DE CONCLUSÃO: 10/04/2013
INVESTIMENTO PREVISTO 2007-2010: R$ 9,7 milhões
INVESTIMENTO PREVISTO PÓS 2010: R$ 139,3 milhões
EXECUTOR: Infraero

RESULTADOS
- Projeto básico – 48% realizados
- MOP – Módulo Operacional – obra concluída em 07/09/2010 – entrada em operação em 10//11/2010
- Projeto do Lote 1 – Reforma do corpo central do TPS – concluído e aprovado em 13/10/2010
- Projeto Executivo iniciado em 01/11/2010
- Publicação do edital de licitação da obra de reforma do corpo central do TPS em 02/12/2010

RESULTADO PREVISTO ATÉ 31/12/2010
- Projeto Básico – 55% realizados

RESTRIÇÃO
- Morosidade na elaboração do projeto básico por parte da empresa projetista contratada

PROVIDÊNCIAS
- Concluir projeto básico até 09/05/2011
- Concluir projeto executivo até 17/11/2011
- Obra de reforma do corpo central do TPS – iniciar até 15/05/2011
- Obra do pátio de aeronaves – publicar o edital até 01/03/2011
- Obra de ampliação do Terminal de Passageiros – publicar o edital até 30/06/2011

Description
Estimated conclusion
Estimated investment
Stakeholder in charge of executing the project

Results
Overview of last actions undertaken

Results until 31-Dec-2010

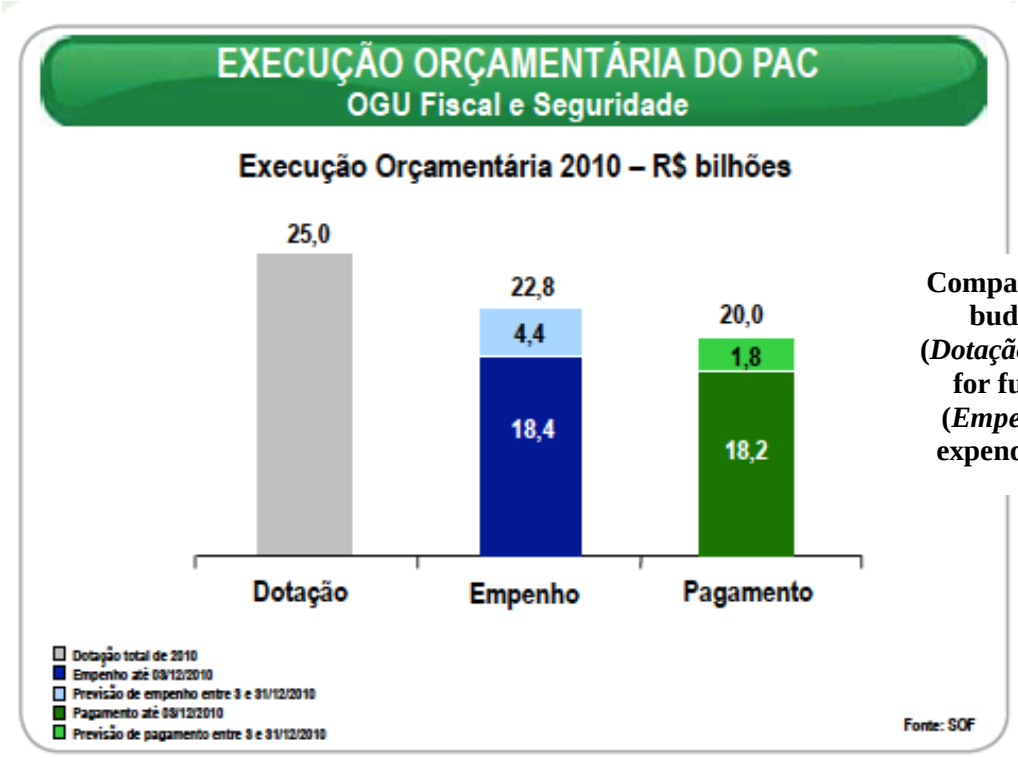
Red Stamp: Concerning

Next steps

Source: PAC, Balanço 2007-2010, p. 95

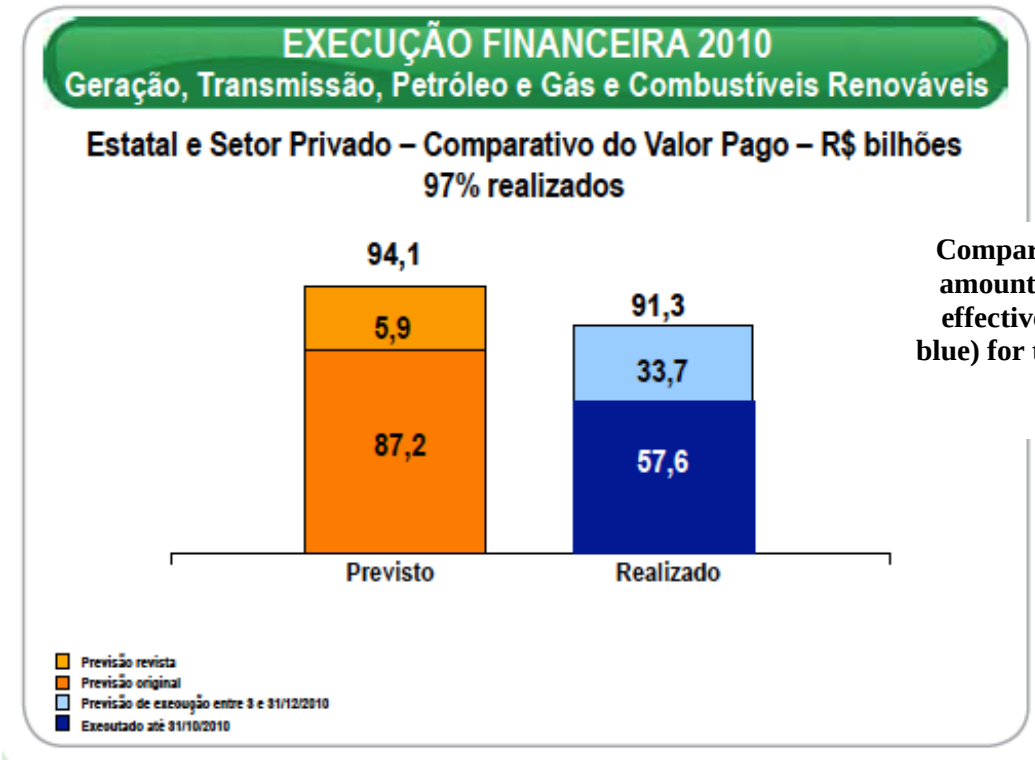
Appendix G

Example of budgetary assessment of PAC results



Comparison of amounts of budgetary planning (*Dotação*), amounts secured for future expenditure (*Empenho*) and effective expenditure (*Pagamento*)

Source: PAC, Balanço 2007-2010, p. 32



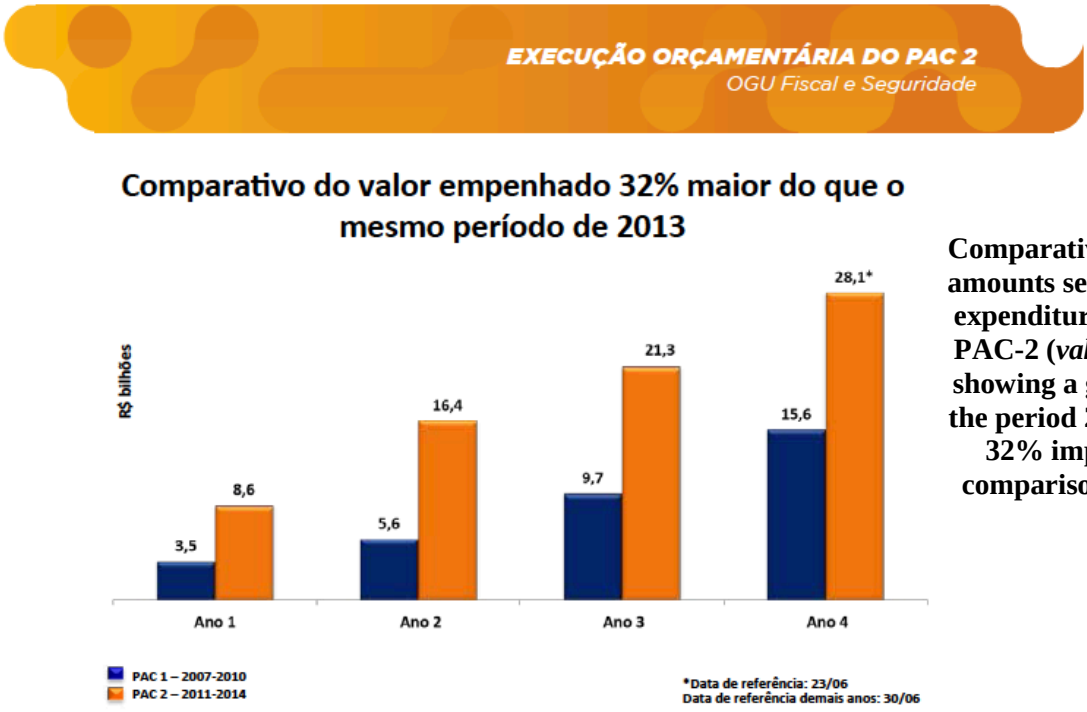
Comparison of estimated amounts (in orange) and effective expenditure (in blue) for the year 2010 in oil and gas

Source: PAC, Balanço 2007-2010, p. 33

Example of budgetary assessment of PAC results (cont.)

PAC-2 evolution of budget execution from the 1st (2011) to 10th Balance (2014), showing a 12.7% increase between Dec-2013 and Dec-2014

Source: PAC, Balanço 2011-2014, p. 25

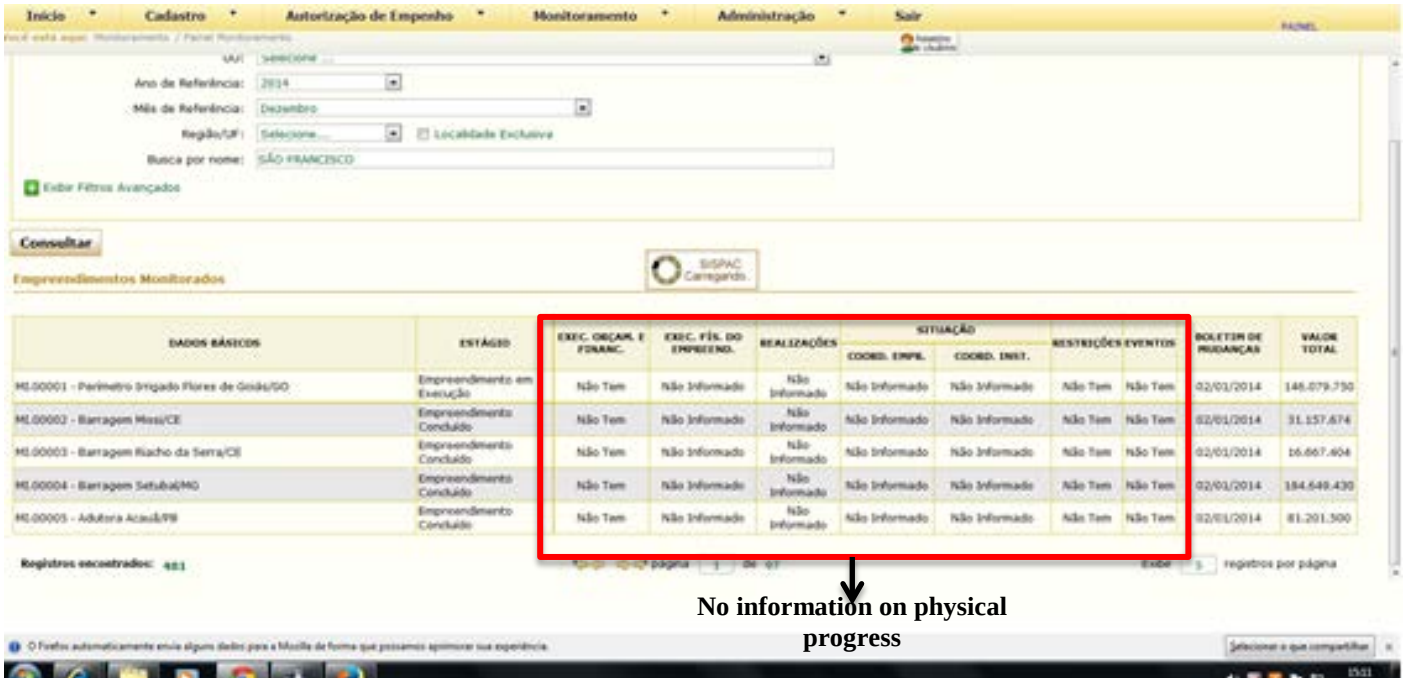


Comparative assessment of amounts secured for future expenditure in PAC-1 and PAC-2 (*valor empenhado*), showing a growing pace in the period 2007-2014 and a 32% improvement in comparison to 2013-2014

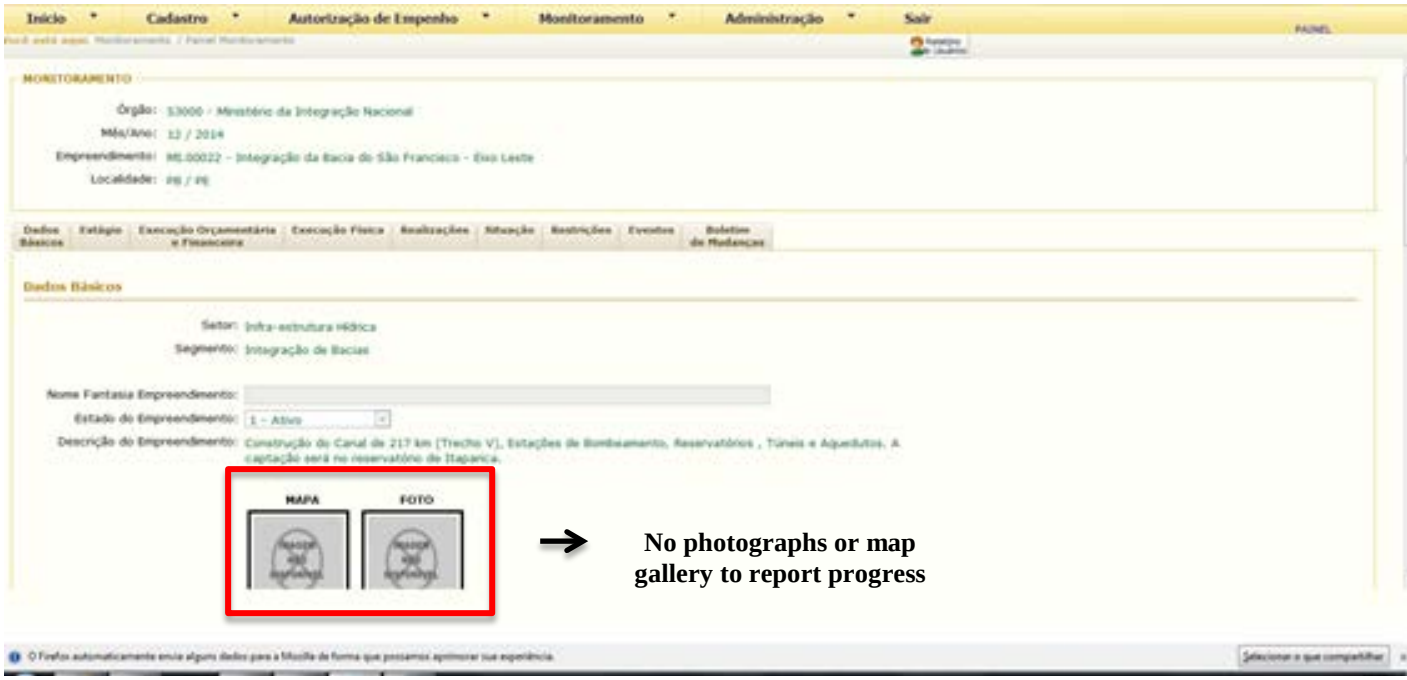
Source: PAC, Balanço 2011-2014, p. 27

Appendix H

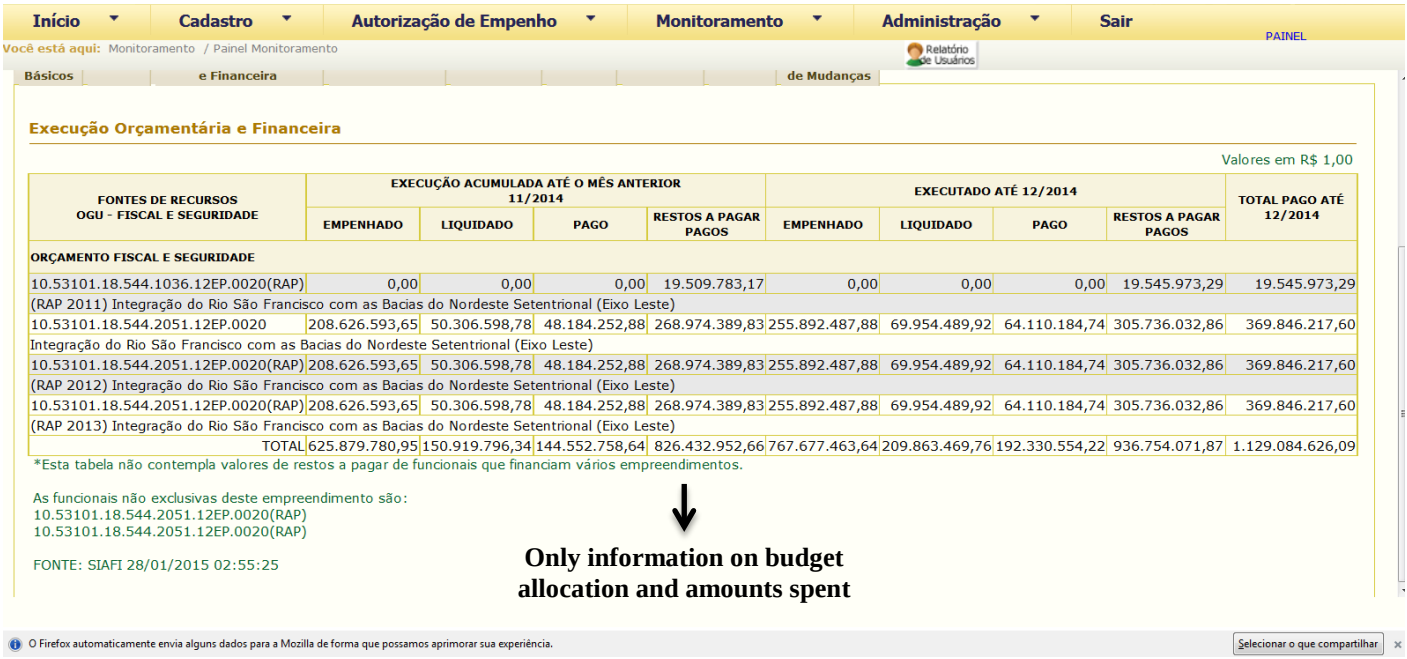
SisPAC snapshots



Source: SisPAC



Source: SisPAC



Execução Orçamentária e Financeira

Valores em R$ 1,00

FONTES DE RECURSOS OGU - FISCAL E SEGURIDADE	EXECUÇÃO ACUMULADA ATÉ O MÊS ANTERIOR 11/2014				EXECUTADO ATÉ 12/2014				TOTAL PAGO ATÉ 12/2014
	EMPENHADO	LIQUIDADO	PAGO	RESTOS A PAGAR PAGOS	EMPENHADO	LIQUIDADO	PAGO	RESTOS A PAGAR PAGOS	
ORÇAMENTO FISCAL E SEGURIDADE									
10.53101.18.544.1036.12EP.0020(RAP)	0,00	0,00	0,00	19.509.783,17	0,00	0,00	0,00	19.545.973,29	19.545.973,29
(RAP 2011) Integração do Rio São Francisco com as Bacias do Nordeste Setentrional (Eixo Leste)									
10.53101.18.544.2051.12EP.0020	208.626.593,65	50.306.598,78	48.184.252,88	268.974.389,83	255.892.487,88	69.954.489,92	64.110.184,74	305.736.032,86	369.846.217,60
Integração do Rio São Francisco com as Bacias do Nordeste Setentrional (Eixo Leste)									
10.53101.18.544.2051.12EP.0020(RAP)	208.626.593,65	50.306.598,78	48.184.252,88	268.974.389,83	255.892.487,88	69.954.489,92	64.110.184,74	305.736.032,86	369.846.217,60
(RAP 2012) Integração do Rio São Francisco com as Bacias do Nordeste Setentrional (Eixo Leste)									
10.53101.18.544.2051.12EP.0020(RAP)	208.626.593,65	50.306.598,78	48.184.252,88	268.974.389,83	255.892.487,88	69.954.489,92	64.110.184,74	305.736.032,86	369.846.217,60
(RAP 2013) Integração do Rio São Francisco com as Bacias do Nordeste Setentrional (Eixo Leste)									
TOTAL	625.879.780,95	150.919.796,34	144.552.758,64	826.432.952,66	767.677.463,64	209.863.469,76	192.330.554,22	936.754.071,87	1.129.084.626,09

*Esta tabela não contempla valores de restos a pagar de funcionais que financiam vários empreendimentos.

As funcionais não exclusivas deste empreendimento são:
10.53101.18.544.2051.12EP.0020(RAP)
10.53101.18.544.2051.12EP.0020(RAP)

FONTE: SIAFI 28/01/2015 02:55:25

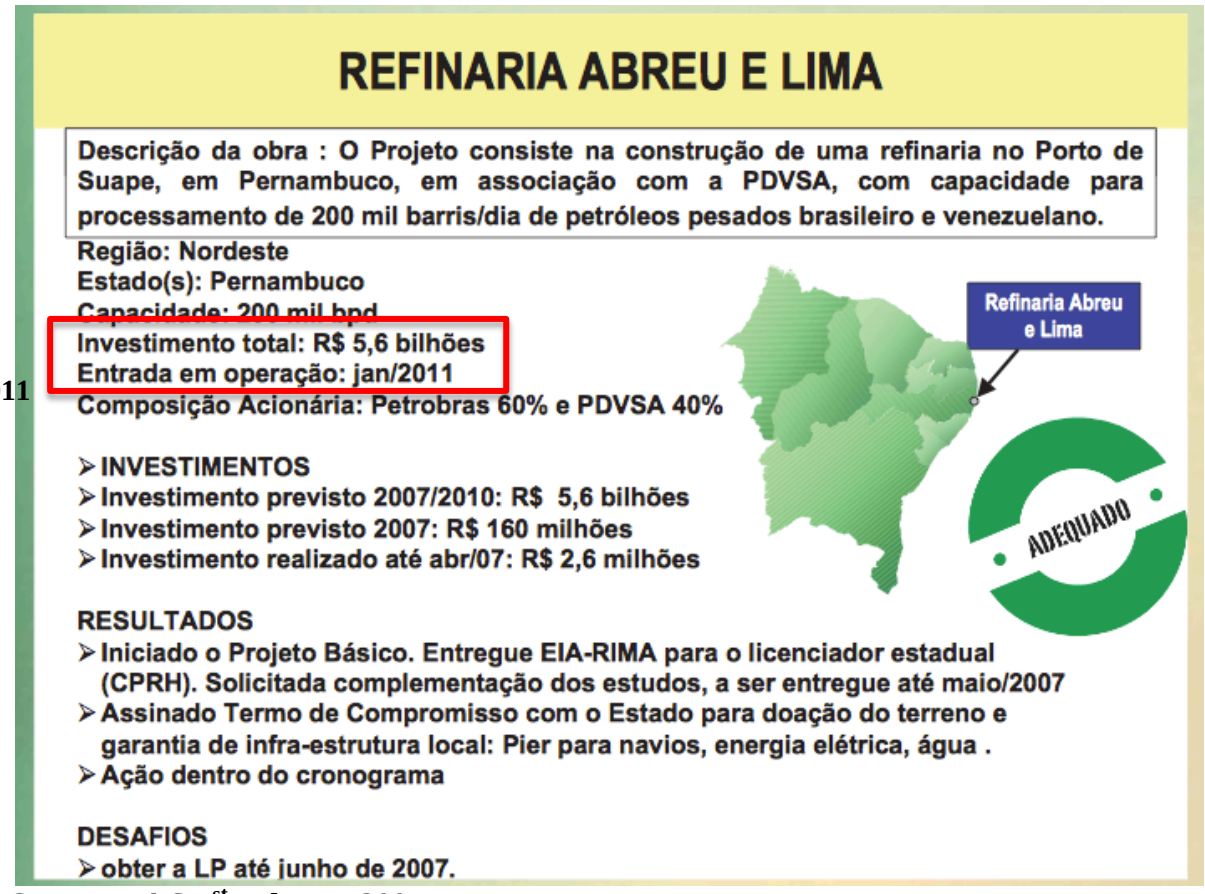
Only information on budget allocation and amounts spent

Source: SisPAC

Appendix I

Assessment of Refinaria Abreu e Lima

Total investment: R$5.6 billion
Start-up date: Jan/2011



Source: PAC 1st Balanço, 2007

REFINARIA ABREU E LIMA

Refinaria Abreu e Lima – terraplanagem

DESCRIÇÃO: Construção de uma refinaria no porto de Suape para processamento de petróleo pesado nacional e venezuelano
UF: PE META: 200 mil bpd de petróleo cru
DATA DE INICIO DE OPERAÇAO: 4° trimestre 2010
INVESTIMENTO PREVISTO 2007-2010: R$ 7,3 bilhões
INVESTIMENTO PÓS-2010: R$ 1,6 bilhão
EMPREENDEDOR: Petrobras
COMPOSIÇÃO ACIONÁRIA: Petrobras 60% e PDVSA 40%

Total investment: R$8.9 billion Start-up date: Dec/2011

RESULTADOS
- Obra em andamento com 13% realizados, sendo 11% em 2008
- Terraplanagem em andamento com 48% de realização

PROVIDÊNCIAS
- Executar 28% até 31/12/2008
- Concluir a terraplanagem até 31/03/2009

Source: PAC 5th Balanço, 2008

REFINARIA ABREU E LIMA

Refinaria Abreu e Lima – terraplanagem

DESCRIÇÃO: Construção de uma refinaria no Porto de Suape para processamento de petróleo pesado nacional e venezuelano
UF: PE META: 200 mil bpd de petróleo cru
DATA DE INÍCIO OPERAÇÃO: 31/03/2011
DATA DE CONCLUSÃO: 31/12/2011
INVESTIMENTO PREVISTO 2007-2010: R$ 1,6 bilhão
INVESTIMENTO APÓS 2010: R$ 21,4 bilhão
EMPREENDEDOR: Petrobras
COMPOSIÇÃO ACIONÁRIA: Petrobras 60% e PDVSA 40%

Total investment: R$23 billion Start-up date: March/2011

RESULTADOS
- Obra em andamento com 19,3% de realização, sendo 6,3% em 2009
- Terraplanagem em andamento com 90% de realização
- Iniciada construção da Casa de Força em 21/01/2009
- Emitidas as Autorizações de Serviço (AS) para execução de:
  - Estação de Tratamento de Água (ETA) – 30/03/2009
  - Tanques 1 e 2 – 27/04/2009 e 30/04/2009
  - Edificações – 04/05/2009
- Recebidas as propostas para a nova licitação de equipamentos em 07 e 08/05/2009
- Retida parcela do pagamento à empreiteira, responsável pela terraplanagem, em atendimento à recomendação do TCU
- Petrobras apresentou justificativas ao TCU em abril/2009

PROVIDÊNCIAS
- Realizar 27% até 31/08/2009
- Concluir a contratação da Unidade de Destilação Atmosférica (UDA) até 15/07/2009
- Concluir a contratação do Hidrotratamento e Geração de Hidrogênio até 31/07/2009
- Concluir a terraplanagem até 31/03/2010

Source: PAC 7th Balanço, 2009

REFINARIA ABREU E LIMA

Montagem dos tanques de água bruta

DESCRIÇÃO: O Projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, em associação com a PDVSA, com capacidade para processamento de 230 mil barris/dia de petróleos pesados, brasileiro e venezuelano

UF: PE META: 230 mil bpd de petróleo cru
DATA DE INÍCIO DA OPERAÇÃO: 31/12/2012
DATA DE CONCLUSÃO: 30/04/2013
INVESTIMENTO PREVISTO 2007-2010: R$ 1,9 bilhão
INVESTIMENTO PÓS 2010: R$ 21,1 bilhões
EMPREENDEDOR: Petrobras
COMPOSIÇÃO ACIONÁRIA: Petrobras 60% e PDVSA 40%

Total investment: R$23 billion
Start-up date: Dec/2012

RESULTADOS

- Obra em andamento com 20,6% realizados, sendo 0,6% em 2010
- Terraplenagem em andamento com 98,7% realizados
- Conclusão da negociação entre Petrobras e PDVSA para a construção da refinaria em 30/10/2009
- Assinados os contratos dos dutos HDT, UGH, UCR e UDA em 02/12/2009
- Recebidas propostas para execução de drenagens e construção de interligações elétricas em fev/10
- Concluída a terraplanagem para implantação das unidades de HDT, UGH, UCR e UDA em março de 2010 – áreas já entregues aos epecistas

PROVIDÊNCIAS

- Concluir o restante da terraplenagem até 31/12/2010
- Assinar o contrato para execução de drenagens e construção de interligações elétricas até 31/08/2010
- Iniciar as obras das unidades UDA, UCR e HDT até 31/08/2010

Source: PAC 10th Balanço, 2010

REFINARIA ABREU E LIMA

Refinaria Abreu e Lima – Vista geral das obras

DESCRIÇÃO: O projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, em associação com a PDVSA, com capacidade para processamento de 230 mil barris/dia de petróleo brasileiro e venezuelano

UF: PE META: 230 mil bpd de óleo

DATA DE OPERAÇÃO: 30/06/2013
DATA DE CONCLUSÃO: 30/06/2016
INVESTIMENTO REALIZADO 2007-2010: R$ 4,5 bilhões
INVESTIMENTO PREVISTO 2011-2014: R$ 21,1 bilhões
INVESTIMENTO PREVISTO PÓS 2014: R$ 941 milhões
EMPREENDEDORES: PETROBRAS 60% e PDVSA 40%

Total investment: R$26.5 billion
Start-up date: June/2013

RESULTADOS

- Obra em andamento com 41% realizados
- Torres de Destilação assentadas em 30/07/2011

RESTRIÇÃO

- Em 08/11/2011, o TCU confirmou a recomendação de paralisação ao Congresso

PROVIDÊNCIAS

- Realizar 49% até 31/12/2011
- Integralizar participação societária da PDVSA até 30/11/2011

Source: PAC-2 2nd Balanço, 2011

REFINARIA ABREU E LIMA

Instalações da Refinaria Abreu e Lima

DESCRIÇÃO: O projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, em associação com a PDVSA, com capacidade para processamento de 230 mil barris/dia de petróleo pesado, brasileiro e venezuelano

UF: PE META: 230 mil bpd de óleo

DATA DE OPERAÇÃO: 30/06/2013
DATA DE CONCLUSÃO: 30/06/2016
INVESTIMENTO REALIZADO 2007-2010: R$ 4,5 bilhões
INVESTIMENTO PREVISTO 2011-2014: R$ 21,1 bilhões
INVESTIMENTO PREVISTO PÓS 2014: R$ 941 milhões
EMPREENDEDOR: PETROBRAS 60% e PDVSA 40%

Total investment: R$26.5 billion
Start-up date: June/2013

RESULTADOS
- Obra em andamento com 50% realizados
- Entrega de 14 Tanques da Estação de Tratamento de Água em dezembro de 2011

PROVIDÊNCIA
- Realizar 50% até 30/04/2012

ADEQUADO

Source: PAC-2 3th Balanço, 2011

REFINARIA ABREU E LIMA

Instalações da Unidade de Coqueamento Retardado (UCR)

DESCRIÇÃO: O projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, em associação com a PDVSA, com capacidade para processamento de 230 mil barris/dia de petróleo pesado, brasileiro e venezuelano, tendo como produtos principais GLP, nafta, diesel e coque

UF: PE META: 230 mil bpd de óleo

DATA DE OPERAÇÃO: 30/11/2014
DATA DE CONCLUSÃO: 31/12/2016
INVESTIMENTO REALIZADO 2007-2010: R$ 4,5 bilhões
INVESTIMENTO PREVISTO 2011-2014: R$ 25,5 bilhões
INVESTIMENTO PREVISTO PÓS 2014: R$ 320 milhões
EMPREENDEDOR: PETROBRAS 60% e PDVSA 40%

Total investment: R$30.32 billion
Start-up date: Nov/2014

RESULTADOS
- Obra em andamento com 69% realizados até 31/12/2012
- Concluída a instalação dos tambores de Coque na base em 14/12/2012
- Concluída a energização da Subestação de Entrada em 18/01/2013

PROVIDÊNCIAS
- Realizar 76% da obra até 30/04/2013
- Conclusão do Sistema de Água Filtrada até 30/04/2013

ADEQUADO

Source: PAC-2 6th Balanço, 2012

REFINARIA ABREU E LIMA

Vista aérea da Refinaria Abreu e Lima

DESCRIÇÃO: O projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, com capacidade para processamento de 230 mil barris/dia de petróleo pesado, tendo como produtos principais GLP, nafta, diesel e coque

UF: PE META: 230 mil bpd de óleo

DATA DE OPERAÇÃO: 30/11/2014
DATA DE CONCLUSÃO: 31/05/2015
INVESTIMENTO REALIZADO 2007-2010: R$ 4,5 bilhões
INVESTIMENTO PREVISTO 2011-2014: R$ 29,9 bilhões
INVESTIMENTO PREVISTO PÓS 2014: R$ 1,4 bilhão
EMPREENDEDOR: PETROBRAS

Total investment: R$35.8 billion Start-up date: Nov/2014

RESULTADOS

- Obra em andamento com 84% realizados até 31/12/2013
- Concluída a obra da unidade de destilação atmosférica em 07/11/2013
- Em andamento as obras da UCR, Pátio de Coque, UHDTs de diesel, faixa de dutos e edificações

PROVIDÊNCIA

- Realizar 89% da obra até 30/04/2014

ADEQUADO

Source: PAC-2 9th Balanço, 2013

REFINARIA ABREU E LIMA

Vista aérea da Refinaria Abreu e Lima

DESCRIÇÃO: O projeto consiste na construção de uma refinaria no Porto de Suape, em Pernambuco, com capacidade para processamento de 230 mil barris/dia de petróleo pesado, tendo como produtos principais GLP, nafta, diesel e coque

UF: PE META: 230 mil bpd de óleo

DATA DE OPERAÇÃO: 30/11/2014
DATA DE CONCLUSÃO: 31/05/2015
INVESTIMENTO REALIZADO 2007-2010: R$ 4,5 bilhões
INVESTIMENTO PREVISTO 2011-2014: R$ 31,2 bilhões
INVESTIMENTO PREVISTO PÓS 2014: R$ 1,7 bilhão
EMPREENDEDOR: PETROBRAS

Total investment: R$37.4 billion Start-up date: Nov/2014

RESULTADOS

- Obra em andamento com 87% realizados até 30/04/2014
- Concluída a obra da estação de tratamento de água em 07/03/2014
- Iniciada a pré-operação das caldeiras a óleo combustível em 19/05/2014

PROVIDÊNCIA

- Realizar 91% da obra até 31/08/2014

ADEQUADO

Source: PAC last Balanço, 2011-2014

Appendix J

Evolution of PAC and TCU/Fiscobras

PAC Year by Year	Total of projects	PAC projects audited by TCU/Fiscobras	% of audited projects by TCU/Fiscobras
2007	2,083	119	5.71%
2008	2,378	84	3.53%
2009	2,471	99	4.00%
2010	2,561	147	5.73%
2011	18,683	161	0.86%
2012	29,904	132	0.44%
2013	44,098	78	0.17%
2014	47,266	36	0.076%

Source: PAC Balanços 2007-2010, TCU Fiscobras 2007-2014, TCU CG 2007-2014

Appendix K

Evolution of PAC and CGU

PAC Year by Year	Total of projects	PAC projects audited by CGU	% of audited projects by CGU
2007	2,083	83	3.98%
2008	2,378	52	2.18%
2009	2,471	80	3.23%
2010	2,561	30	1.17%
2011	18,683	47	0.25%
2012	29,904	29	0.09%
2013	44,098	22	0.04%
2014	47,266	18	0.038%

Source: Request of Information - Transparency Portal (correspondence below)

PRESIDÊNCIA DA REPÚBLICA
Controladoria-Geral da União
Secretaria Federal de Controle Interno

N.º Processo: 00075.000664/2015-90
Interessado: M.G.F.A.P.
Assunto: Pedido de Informação

Prezado(a) Senhor(a),

1. Em atendimento a sua solicitação a respeito do o número de projetos/empreendimentos do PAC (Programa de Aceleração do Crescimento) que foram objeto da auditoria anual realizada pela CGU informamos os dados abaixo:

Exercício	Total de Ações distintas relacionadas ao PAC
2007	83
2008	52
2009	80
2010	30
2011	47
2012	29
2013	22
2014	18
2015	[Sem trabalhos concluídos relacionados ao PAC cujo exercício de referência seja 2015]

Atenciosamente,

SECRETARIA FEDERAL DE CONTROLE INTERNO
Controladoria-Geral da União

Appendix L

Comparison of firms identified in TCU - Fiscobras 2007 and those investigated in Lava Jato or other operations

	FIRMS REFERRED IN FISCOBRAS 2007 WITH HIGHEST LEVELS OF IRREGULARITY	INVESTIGATED IN LAVA JATO	OTHER CORRUPTION INVESTIGATIONS
1	GEOSOLO ENGENHARIA, PLANEJAMENTO E CONSULTORIA LTDA.		
2	CONSTRUTORA GAUTAMA LTDA.	☐	
3	CONSTRUTORA OAS LTDA.	☐	
4	CONSTRUCAP CCPS ENGENHARIA E COMERCIO S/A	☐	
5	SPA ENGENHARIA INDUSTRIA E COMERCIO S/A	☐	
6	EGESA ENGENHARIA S/A	☐	
7	CMT ENGENHARIA LTDA.		☐
8	CONSTRUTORA ANDRADE GUTIERREZ S/A	☐	
9	CONSTRUTORA TRIUNFO S/A	☐	
10	CONSTRUMIL - CONSTRUTORA E TERRAPLENAGEM LTDA.		
11	CONSTRUTORA QUEIROZ GALVAO S/A	☐	
12	ARG LTDA.		☐
13	TOP ENGENHARIA LTDA.		☐
14	SIEMENS LTDA.		☐
15	CONSTRUCOES E COMERCIO CAMARGO CORREA S/A	☐	
16	CONSTRUTORA NORBERTO ODEBRECHT S/A	☐	
17	AREVA TRANSMISSÃO & DISTRIBUIÇÃO DE ENERGIA LTDA.	☐	
18	HALLIBURTON SERVICOS LTDA.		
19	DELTA CONSTRUCOES S/A	☐	
20	CONCREMAT ENGENHARIA E TECNOLOGIA S/A		
21	IESA - PROJETOS, EQUIPAMENTOS E MONTAGENS S/A	☐	
22	ABB LTDA.		☐
23	ARTECHE DO BRASIL LTDA.		
24	ENECON S/A - ENGENHEIROS E ECONOMISTAS CONSULTORES		
25	GALVÃO ENGENHARIA S/A	☐	
26	CCM-CONSTRUTORA CENTRO MINAS LTDA.	☐	☐
27	PLANSERVI ENGENHARIA LTDA.	☐	☐
28	FLOWSERVE DO BRASIL LTDA.		
29	ATP - ASSESSORIA, TECNOLOGIA E PLANEJAMENTO LTDA.		

30	ENGEVIX ENGENHARIA S/C LTDA.	☐	
31	PROJECTUS LTDA.		
32	MAIA MELO ENGENHARIA LTDA.		☐
33	CONTÉC TÉCNICA LTDA.		☐
34	CBEMI-CONSTRUTORA BRASILEIRA E MINERADORA LTDA.		
35	SETAL ENGENHARIA, CONSTRUÇÕES E PERFURAÇÕES S/A	☐	

Appendix M

Information received after consultation of the Transparency Portal - Ranking and classification of the information requested to the Portal between 2006-2015

Resultados estatísticos de mensagens respondidas do Fale conosco - Portal da Transparência

QUANTIDADE

CÓDIGO	TIPO MENSAGEM	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
1	SUGESTÃO	85	60	90	73	75	60	29	21	55	13	561
2	SOLICITAÇÃO	0	30	338	394	106	65	230	971	607	163	2904
3	RECLAMAÇÃO/CRÍTICA	210	96	72	29	53	153	98	497	393	125	1726
4	DÚVIDA	1423	806	798	760	719	786	112	203	414	303	6324
5	ELOGIO	43	7	37	16	11	5	5	13	0	1	138
6	DENÚNCIA	195	107	7	6	1	1	0	2	23	0	342
7	NÃO REFERE PORTAL	0	0	10	20	10	18	50	411	339	135	993
TOTAL		1956	1106	1352	1298	975	1088	524	2118	1831	740	12988

PERCENTUAL (%)

CÓDIGO	TIPO MENSAGEM	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
1	SUGESTÃO	4,35	5,42	6,66	5,62	7,69	5,13	5,53	0,99	3,00	1,76	4,32
2	SOLICITAÇÃO	0	2,71	25	30,35	10,87	4,32	43,89	45,85	33,15	22,03	22,36
3	RECLAMAÇÃO/CRÍTICA	10,74	8,68	5,33	2,23	5,44	12,96	18,70	23,47	21,46	16,89	13,29
4	DÚVIDA	72,75	72,88	59,02	58,55	73,74	75,71	21,37	9,58	22,61	40,95	48,69
5	ELOGIO	2,2	0,63	2,74	1,23	1,13	0,27	0,95	0,61	0,00	0,14	1,06
6	DENÚNCIA	9,97	9,67	0,52	0,46	0,1	0,13	0,00	0,09	1,26	0,00	2,63
7	NÃO REFERE PORTAL	0	0	0,74	1,54	1,03	1,48	9,54	19,41	18,51	18,24	7,65
TOTAL		100	100	100	100	100	100	100	100,00	100,00	100,00	100,00

***