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Lessons from the past and hopes for the future

Understanding the performance of Public-Private Partnerships (PPPs) in Lebanon

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Lessons from the past and hopes for the future: Understanding the performance of Public-Private Partnerships (PPPs) in Lebanon[1]

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April 2019

1. Introduction

In April 2018, the CEDRE conference (conférence économique pour le développement du Liban par les réformes et avec les entreprises) in Paris concluded with the international community pledging over $11 billion to fund Lebanon's Capital Investment Program (CIP). The programme outlaid a plan to upgrade the country's crumbling infrastructure in particular in the water, waste management, transport, and electricity sectors.[2]

The CEDRE commitment was conditioned on a stable political outlook through the formation of a government cabinet, which finally happened at the end of January 2019, nine months after the legislative elections, and economically, on deep fiscal reforms with the objective of a five point reduction in the fiscal deficit in the next five years.[3]

However, on October 17, 2019, widespread protests erupted, initially triggered by the government's suggestion that they would tax calls made through internet-based services such as Whatsapp, ultimately leading to the prime minister's resignation. Protesters are taking aim at a deep-rooted system of corruption and sectarian politics catering to private interests rather than the public good.

The current protests occur in a context of extreme macro-financial fragility, characterised by large fiscal and current account deficits (currently over 8 and 21 percent of GDP respectively), an unsustainable debt to GDP ratio (currently around 155%), and sluggish output growth (around 1 percent in 2018). The damaged situation of infrastructure plays a big part in explaining these macroeconomic imbalances and the poor growth outcome.

First, Lebanon has traditionally relied on its banking system to attract capital inflows into the local economy. Since 2011, ongoing political deadlock and regional turmoil have hurt its position as a financial hub in the region as well as its real estate and touristic sectors, leaving the country with little growth potential.[4] Indeed, deficient telecom, transport, and energy networks constitute strong bottlenecks for private sector development. For example, the lack of governance in the telecom sector has led mobile services to be among the most expensive in the region. Similarly, the transport network has been characterised by a steady deterioration over the last ten years, leading to heavy congestion in urban areas. The Ministry of Public Works and Transport estimates that only 15% of the network is in good condition, and the

[1] I thank IGC for initiating and financially supporting this work, and Moussa Saab and Ijaz Nabi for support and discussions during the visit in Lebanon. Moussa Saab, Ijaz Nabi, and Rossi Abi-Rafeh helped improve this note with their extensive comments on the first draft. All errors remain mine.

[2] See the CEDRE déclaration conjointe, last accessed at https://www.diplomatie.gouv.fr/IMG/pdf/fr_finale_cle8c8318.pdf on Feb. 5, 2019.

[3] Bank Audi, Lebanon Weekly Monitor, week 32, 2018.

[4] World Bank (2018).

World Economic Forum's 2016-17 Global Competitiveness Index ranks Lebanon's quality of roads in 124th place out of 138 countries.[5]

The energy sector remains the biggest bottleneck. Electricité du Liban (EdL) production and distribution capacity falls way short of existing demand. Energy services operate based on rolling blackouts of several hours a day throughout the country, seriously hampering the ability of consumers and firms to rely on the service. This has forced most firms to invest in private diesel generators leading to high energy costs, negative environmental externalities, and productivity losses and entry barriers, especially among small and medium sized firms.[6]

In addition to the strong disincentives to the private sector, the situation in the electricity sector also has a direct bearing on the country's fiscal situation. EdL combines high generation cost, because of a reliance on expensive diesel fuel, very high levels of transmission and distribution losses (up to 40 percent), and prices that are well below cost recovery levels. The ensuing inefficiencies have forced the government to cover EdL losses, and this soft-budget constraint situation has crippled Lebanon's public finances, representing about half of the total fiscal deficit between 2008 and 2017 (World Bank, 2018). This has also been the results of an inadequate regulatory structure, characterised by the lack of independence of the electricity regulatory agency and political interferences in the price setting process, leading to tariffs that have barely increased in the last two decades.

As a result, generating a new productive model to tackle Lebanon's social and economic problems will be difficult without remedying the deficient infrastructure endowment and solidifying the governance and regulatory environments. Lebanon urgently needs to invest and modernise its infrastructure, but the lack of fiscal space makes further public investments unrealistic in the short run. Moreover, external capital support from the CEDRE conference is conditioned on a gradual reduction of the fiscal deficit, reducing the government's room of manoeuvre even further.

Given this, the outgoing government had put its hope in the rollout of public-private partnerships (PPPs) projects. According to this strategy, the objective is to attract private investors in some key sectors to cover the needed investments. This corresponds to the stated objective in the CEDRE final statement of having private investors covering around 35% of total investments.[7] Among the projects being discussed are wind farm electricity generation projects in the North of the country, the Khaldeh-Nahr Ibrahim expressway, a national data centre, and the modernisation of Beirut Airport.[8] Following the start of the protest, the outgoing government doubled down on its drive to rely on private investors and announced in October its intention to rely on a large-scale privatisation plan, including the two mobile telephony companies, and several other sectors, including the ports and Middle East Airlines among others.[9]

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[5] Byblos Bank, Lebanon this week, Issue 497, June 19 - July 1, 2017, last accessed at https://applications.byblosbank.com/library/assets/Gallery/Publications/LebanonThisWeek/Lebanon%20This%20Week%20497.pdf on March. 7, 2019.

[6] These effects have been documented in the economic literature. See for example Alby, Dethier, and Straub (2013), and Allcott, Collard-Wexler, and O'Connell (2016).

[7] "Le Gouvernement du Liban a présenté son ambitieux Programme d'investissement (Capital Investment Program), qui se concentre sur le développement et la réhabilitation des infrastructures. Le coût total de la première phase de ce programme (d'une durée de six ans et couvrant les travaux préparatoires et la mise en œuvre) est estimé à 10,8 milliards de dollars des États-Unis (frais d'expropriation compris), dont environ 35 % pourraient être apportés par des investissements privés." (CEDRE declaration, see footnote 2)

[8] See HCP (2018) for a full list of tentative projects.

[9] See L'Orient Le Jour, October 29, 2019.

However, a look at Lebanon's recent history shows a rather uneven performance of the PPPs that have been implemented. As in many other developing and emerging countries, there were both success and failure stories. In fact, more often than not, PPPs have faced important governance and political hurdles leading to inefficiencies, poor services, cost overruns, and renegotiations. This has raised doubts on the suitability of this solution with the current status quo.

Finally, as highlighted by the protest movement, the difficult economic situation is compounded by political arrangements that result in ministerial allocations among intensely competing political parties, anchored in sectarian roots, that jealously safeguard their domains of influence via their hold on line ministries. For example, in the infrastructure realm, the Ministry of Telecommunications corresponds to the Sunni Future Movement of the current prime minister, the Ministry of Public Works and Transport to the Maronites Marada movement, and the Ministry of Energy and Water to the Christian Free Patriotic Movement. Given the need for coordination across different ministries involved in specific projects, this makes consensus building a potentially complex task and, worse, fuels systematic corruption in the handling of projects.

This note draws on extensive interviews conducted during a field visit in Lebanon, as well as the literature on the topic. The aim is to analyse the outcome of past Lebanese PPPs and to understand under which conditions and implementation modalities future PPPs might be successful in Lebanon. Due to the limited number of PPPs that are reviewed here and the lack of systematic data, the note is qualitative in nature.

In Lebanon's specific context, we will consider a PPP project as successful if the service targeted by the initial contract has been consistently provided to the public, ensuring good quality and affordability, a reasonable rate of return to the private party, and avoiding the build-up of explicit or implicit fiscal liabilities for the public sector.

The note is structured as follows. It first starts by laying out the main messages from the meetings with different PPP stakeholders across a wide range of sectors held in Lebanon in November 2018. It then discusses, in light of the country's recent experience with PPPs and the existing literature, possible reasons for the observed pattern of successes and failures. It discusses Lebanon's political economy context relevant to the question. Finally, it analyses the two current ongoing initiatives to develop new PPPs in Lebanon, namely the one led by the High Council for Privatization and PPPs (HCP) through the recent PPP law, and the one led in parallel by the Ministry of Energy and Water, trying to understand how both strategies are likely to play out in the current institutional and political environment

2. Review of past PPPs

The past portfolio of PPPs in Lebanon spans a wide array of sectors; from telecom (mobile telephony) to postal services, electricity, waste management, and tourism. This section lays down a review of four of these PPPs and of the surrounding legal and political environment in which they took place. The more systematic analysis of the reasons for their performance is left to the subsequent section.[10]

[10] Mrs. Maya Chamli (HCP) provided extensive material and discussion on the issues covered in this section.

Mobile Services[11]

Following the 1975-1991 civil war, the Lebanese government sought to modernise the telecom sector by awarding two Build-Operate-Transfer (BOT) contracts in the Global System for Mobile communications (GSM) market. Two contracts were granted in 1994 for 10+2 years to Cellis, a joint venture involving France Telecom (66.6%) and local investors (33.3%) and Libancell, a joint venture between Telecom Finland (14%) and local investors (86%).[12] The contracts stipulated a sharing rule on gross revenues from voice calls, going from 20% in the first eight years to 40% in the next two years, and 50% beyond that.

Technically, these PPPs could initially be considered a success. By June 2001, the two companies had a combined subscription base of over 750 thousand, covering 80% of the Lebanese territory and offering a service at one of the lowest rates in the world (Jamali, 2004). Notably, the cellular market growth had far exceeded the cap set by the government at 125,000 subscribers for each operator, and the companies were making large profits, partly because they developed additional services that were not included in the revenue sharing agreement.

Contractual and legal conflict ensued, leading in 2001 to early termination of the contracts by the government based on claims of contract violation. [13] The Ministry of Post and Telecommunications (MPT) then created two joint stock companies to hold the assets that were reverted to the government, in the hope of rapid privatisation through the sales of those assets and the issuing of licenses. Two unsuccessful attempts took place in 2003 and 2007, and to date, the mobile sector's assets are still in the hand of the government, which has granted management contracts to Kuwait's Zain Group and Egypt's Orascom.[14]

The situation is compounded by the deficiency of the regulatory arrangements in the sector. The telecom regulatory board was not renewed in 2008, so the agency lacks any decision power. As a result, several distortions plague the sector. Tariffs have now become among the highest in the region because of the lack of competition, and the fixed line operator OGERO has long blocked the deployment of a fibre network that would be necessary for broadband connections.

Among the reasons likely to explain these failures, one can mention the fact that the mobile sector generates substantial revenues for the government (around 50% of total non-tax revenue in 2017)**,** and that the initial arrangements were soon perceived as too favourable for the companies. Indeed, the growth of the consumer base was much faster than envisioned when the contracts were signed. Subsequently, privatisation- a contentious topic in Lebanon's political economy- was blocked because of disagreements between different parts of the government, with some of them arguing for a sale while other were in favour of maintaining the status quo as a revenue generating scheme.

Similarly, the lack of willingness of the line ministry to relinquish power to an independent regulatory agency, a recurrent theme in Lebanese politics, largely explains the regulatory vacuum.[15] Following the recent protests, the government has also announced it would finally privatise the two telecom operators, allow entry of a third one partially under public control, and urgently name new members of the telecom regulatory authority. Whether this will materialise, however, remains to be seen.

[11] We thank Mr. Gilbert Najjar for extensive discussion on this issue.

[12] See Jamali (2004) for a detailed description of the contracts.

[13] An international arbitration process later led to the companies winning an amount of $286 million in compensation.

[14] See https://hcp.gov.lb/hcp.gov.lb/au-8a16m.html#telecommunications, last accessed on April. 10, 2019.

[15] See a more detailed discussion of regulatory independence in Section 3 below.

Postal Services (LibanPost)[16]

Following the civil war, the Council for Development and Reconstruction (CDR) sought the rehabilitation of postal services by bringing in private sector participation. A 1996 BOT tender based on technical scoring was won by a group composed of Canada Post Systems Management Limited (CPSML) and ProFac Management Group, a company jointly owned by Bracknell Corporation and SNC-Lavalin, and a local Lebanese partner for the remaining one third of the capital, leading to the signature of the 12-year contract in 1998. The Canadian partner left the venture after a few years, and Lebanese interests took over.

The initial duty of the private operator was to invest $70 million over 12 years to re-establish the basic postal services –stamp and mail carriage services- that had been interrupted during the war period. This was achieved through a large infrastructure overhaul. Post offices, previously shared with the fixed telecom company OGERO, were modernised, automated, and new offices were opened, complemented by more than forty kiosks in malls and four mobile post offices. LibanPost also committed to keep the entire workforce from the older postal services and to share revenues of the postal services with the government according to a schedule gradually increasing from 5 to 40%.

Currently, LibanPost handles over two million transactions and 10 million pieces of delivery per year. Additionally, LibanPost rapidly innovated to propose services not included in the initial contract. It now acts as an intermediary offering a host of governmental services, such as passport delivery, certification of official documents, and car plates delivery.[17] As a result, around 65% of LibanPost revenues are from non-postal services, and the operator is profitable. It is claimed that the entry of politically connected Lebanese investors to replace the initial Canadian partners was instrumental in securing the authorisations to operate these new services.[18]

These results have taken place in a complex environment. LibanPost had universal service obligations, which put strong pressure on its financial results, and was initially granted exclusivity over local mail delivery and the mail operations of the main state utilities such as OGERO (for the distribution of fixed lines bills) and EdL, although these last terms were not respected.

The government was responsible for guaranteeing local monopoly rights, setting the tariffs and guaranteeing a minimum revenue level to mitigate demand risk. The contract was subsequently subject to several waves of amendments and renegotiations. Among the adjustments made, the investment horizon was extended, the employment obligations were made slightly more flexible, and tariff increases were planned. In 2001, the Canadian counterpart left, and there were other later changes in the composition of shareholders. In exchange of concessions to the operator, the government also obtained the right to audit revenues, costs, and operation figures, to extend the revenue sharing to non-postal services under certain conditions, to revise the contract every five years, and to possibly terminate it.

The agreement proved relatively robust, despite the absence of law and specific provision for conflict resolution, and is often cited as the success story of Lebanese PPPs. Over the years, the company has gathered numerous international awards in recognition for its achievements both in terms of efficiency and of corporate social responsibility: for example, it won the World Post & Parcel Award in the “Corporate Social Responsibility” Category in 1998, after having

[16] This section is based on extensive discussion with Mrs. Nada Genadry (LibanPost HR Director), as well as private communications from the company and from Mrs. Maya Chamli (HCP).

[17] LibanPost’s portfolio includes over 150 services. See https://www.libanpost.com/english/individuals/governmental/service-listing, last accessed on Feb. 11, 2019.

[18] L’Orient Le Jour, October 29, 2019: https://www.lorientlejour.com/article/1192981/letat-va-t-il-brader-ses-actifs-pour-renflouer-ses-caisses-.html.

won in 2016 the award often regarded as the Oscar for the mail and express industry, for the "Innovation" Category.[19] LibanPost's high-level management stresses the importance of Lebanese ownership and of leadership and flexibility to successfully navigate the business relationship with the government.

IBC Saida Waste management project[20]

In contrast to postal services, the solid waste management project of Saida has faced numerous problems since its inception at the end of the 1990s.

Saida has long been plagued by what was known as 'the *Makab* crisis', i.e., the existence of a mountain of waste South of the city, which had huge negative health and environmental externalities. The founder of IBC came back from the US in 1996 and designed the project of a treatment plant to address this issue. He commissioned Studies from US universities, and based on German technology, designed the project as one in which fresh waste would be collected, separated and downsized, subjected to anaerobic digestion, potentially together with wastewater, to produce methane gas and ultimately electricity, as well as organic fertiliser as a by-product of the process.

This was a technologically and logistically ambitious project, which took time to get off the ground. IBC presented the plans in 1999, and following three years of negotiations, in particular, due to the need to bring several governmental entities such as the ministries of municipalities, public works, and interior to the table, a 20-year BOT contract was signed in 2002 with the municipality of Saida.

Under this contract, IBC would finance, build, operate and maintain a waste treatment facility capable of treating 250 tons of solid waste per day and was granted the right to sort and sell recyclable materials contained in the solid waste. Responsibility for solid waste collection remained with Saida Municipality.

The project then faced delays for many reasons, including financing issues, and tensions between the Municipality and the Ministry of Transportation and Public Works. Indeed, due to the unavailability of land, the site of the project had to be reclaimed from the sea, which required the approval of the ministry.

However, the biggest problem came from the fact that the waste delivery chain was not managed according to the technological requirements of the treatment plant. Indeed, the municipality insisted on maintaining garbage cans outside of houses, allowing for a manual search of recyclable materials and their resale by municipal contractors. This, in turn, makes the collection of fresh waste for the anaerobic digestion process impossible, as the time elapsed implies that the aerobic digestion has already started. This is incompatible with the technological design of the plant, and generated several interruption and delays, leading to the main process never being implemented.

The plant was stopped for three years and the contract renegotiated. The separation and anaerobic treatment of waste was abandoned, and an arrangement involving free transport and a fixed fee (at $95/ton) for the simple treatment was made. Under this arrangement, the plant initially designed for a local population of 300 thousand does not have the sufficient capacity to treat the waste generated by a population that has reached 550 thousand, to which must be added 150 tons shipped daily from Beirut. As a result, a mountain of waste has again been rising in the vicinity of the treatment plant. Also, the area does not count with a

[19] See https://www.libanpost.com/english/media/press/world-post-amp-parcel-award-2018, last accessed on March 12, 2019.

[20] This section is based on extensive discussion with Mr. Hamza Moghrabi (IBC founder), as well as private communications from the company.

wastewater treatment plant, which could have provided sludge to the IBC digester, leading to wastewater being discharged into the sea.

The project owner paints an overall quite negative balance. He considers that theft, corruption, and the lack of enforcement of an otherwise potentially efficient contract, have prevented the implementation of a modern industrial process and has led to huge negative environmental externalities. Other political sources mentioned that the project awarding process was perceived from the start as non-transparent by some political actors, generating a low willingness to facilitate it and the ensuing coordination problems between IBC and public institutions.

Jeïta Grotto (Tourism)[21]

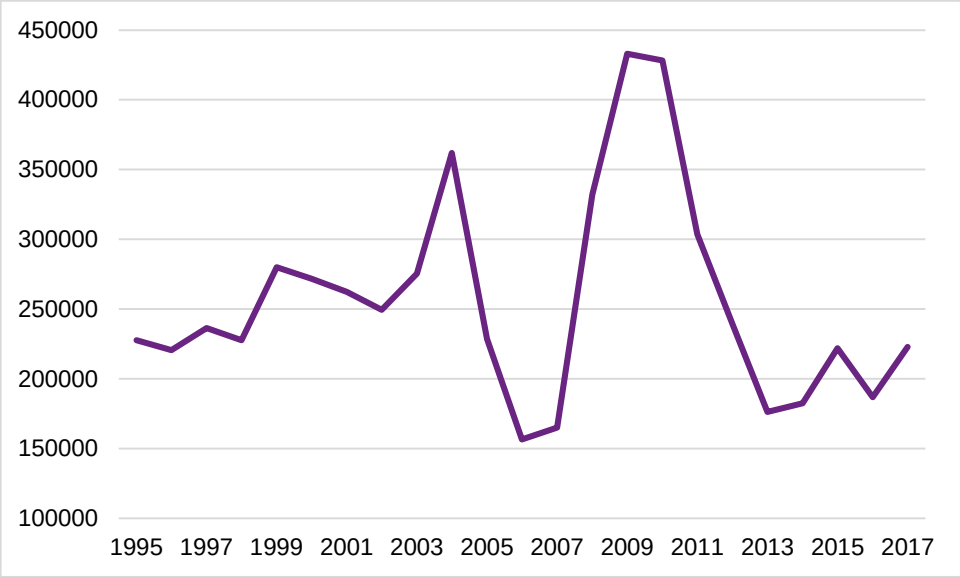
The Jeïta Grotto is a natural site 18 km North of Beirut, composed of two limestone-crystallised caves characterised by concretions of stalactites and stalagmites. After the civil war, the site infrastructure was badly damaged, its caves and surroundings filled with weapons and mines. In 1993, the ministry of Tourism awarded a 30 years BOT contract to Mapas Co., for the rehabilitation and subsequent operation of the site. It was the first PPP in Lebanon after the civil war. The caves were reopened to the public in July 1995.

The site has been in activity ever since, with some short interruptions due to political events. It comprises, in addition to the upper and lower caves, a small zoo, transport systems around the area, souvenir shops and restaurants among others. The Grotto employs up to 140 persons in high season and generates significant economic spillovers for the wider area. A lot of attention was put in preserving the natural environment, both outside and inside the caves, as witnessed by several international praises and awards.

Between 1996, the first full year of activity and 2017, there was a yearly average of around 260,000 visitors. This made the grotto the most visited site in Lebanon and ensured its financial viability, which requires at least 225,000 visitors per year. However, the site has also suffered from high volatility related to security concerns and regional turmoil, as witnessed by the steep declines in visitors after Prime minister Rafic Hariri's assassination in 2005, the 2006 Israel War, and the 2011 Syrian War, as can be seen in Figure 1.

[21] This section is based on extensive discussion with Dr.-Eng. Nabil Haddad (head of MAPAS Co.), as well as private communications from the company.

Figure 1: Annual visits to the Jeïta Grotto



Source: Jeïta Grotto, MAPAS Co.

Over the life of the project, tensions have arisen between the operator and public counterparts. The private party mentions, in particular, the high turnaround of Ministers of Tourism, interferences in the hiring process of employees, and disagreements between public institutions, for example, the Jeïta municipality and the central government, as reasons for this. One major point of contention has been the adjustment of the tariffs charged to visitors. While inflation and exchange rate related increases were contemplated in the contract, successive ministers have opposed such adjustments on unclear grounds. In the absence of income guarantee, this has put strong pressure on the site viability, given that over 40% of overall income is transferred to the government.[22] The concessionaire went to court and was finally granted an increase in tariff after eight years of procedure. Similarly, the site's investment capacity is heavily reliant on imported materials for caves' maintenance, but the firm was not able to obtain specific tariff reductions.

3. Lessons from past PPPs

As is apparent from the case studies above, existing PPP projects have been subject to ongoing tensions between the public and private counterparts with several instances of renegotiations, and in all cases, the projects had to deal with a complex political and confessional system.

Surprisingly, in this environment, some projects appear to strive while others have failed to deliver. As described above, telecom PPPs, although initially successful in delivering a modern service, can be considered ex post as a failure, as they were terminated early on, the arbitration process did not deliver, and the consequence is an unsatisfactory service to this day. The Saida waste management PPP can also be classified as a failure. Indeed, although the project is still alive, it has not delivered the expected solution to the waste problem of the area. The other two projects are on the positive side. The Jeïta grotto project complies with its stated objective of offering access to this unique touristic site, and its quality is recognised, although

[22] From general income, 11 percent correspond to VAT payments, 20 percent to the ministry of tourism, while 10 percent of tickets entry fees and 5 percent of caves entry fees goes to the municipality of Jeïta.

this has taken place in the context of an ongoing conflictive relationship with public counterparts and as a result, it is barely profitable. Finally, in a similarly complex environment, the LibanPost project has managed to strive, providing world level quality services and even innovating to develop new services not included in the initial contract.

What explain these stark differences in PPPs performance? The answer must lie in the differential ability of these projects to evolve and adapt in a complex political environment, where both de jure and de facto aspects of the contracts were subject to permanent tensions. This differential ability, in turn, can be traced to several fundamental characteristics of the projects, among which the nature of initial contracts, sectoral regulatory environment, the configuration of public counterparts that the project management had to deal with, and the technological nature of the projects.

To understand the performance of Lebanese PPPs, it is useful to start by summarising what is known from the literature.

Insights from the Literature on PPP renegotiation

Due to their long-term nature, the large uncertainty about future states of the world, and the fundamental incompleteness of contracts in this context, PPP renegotiations have been pervasive across countries and sectors. Guasch, Laffont, Straub (2007, 2008) show, using data from Latin America between 1989 and 2000, that 55% of the projects in transport and 74% of those in water were renegotiated. Moore, Straub, and Dethier (2014) extend the same transport data to 2011, finding 399 renegotiations for 124 PPPs in Brazil, Chile, Colombia and Peru. Engel, Fischer and Galetovic (2009) report that in Chile, 50 PPPs for roads, airport, prisons, water reservoirs, etc., experienced 147 renegotiations between 1993 and 2007. Similar incidence has been recorded in developed countries, as reported for example by Reis and Sarmento (2017) for Portuguese highways and Beuve et al. (2013) who report a 73 percent renegotiation rate for French car parks from 1965 to 2008.

Several papers have developed theoretical foundations and analysed the determinants of these renegotiations. Guasch, Laffont and Straub (2007) develop a “principal-agent” model with adverse selection, in which the PPP contract is characterised by fundamental information asymmetry in the sense that the firm knows its costs better than the public counterpart. In this context, there is a commitment problem if the concessionaire, when losing money ex post, wishes to renegotiate, and importantly these renegotiations are not Pareto improving, meaning that they benefit one party at the expense of the other one and, crucially, are likely to hurt consumers. Moreover, Guasch, Laffont and Straub (2008) analyse a second type of non-Pareto improving renegotiations, namely those triggered by the government for opportunistic reasons, such as the proximity of elections or fiscal considerations. The papers predict that both types of renegotiations are more likely when the quality of the bureaucracy is low, there are economic shocks (macroeconomic volatility), and elections are close.[23] Regarding specifically the regulatory environment, the frequency of renegotiations increases when the regulator is not present is inexperienced, or captured, when the firm faces a “high-powered” regulation, such as a price cap, and there are income guarantees clauses. These predictions are supported by empirical evidence based on Latin American PPPs in transport and water.

Importantly, through these channels, renegotiations may have important distortionary effects on the selection of projects considered for PPPs and on the set of private partners attracted to them. In particular, the scope for opportunistic behaviour may lead firms to place strategically

[23] Consistently with this last point, Engel, Fischer, and Galetovic (2015) argue, based on evidence from Chile, that renegotiations are an instrument for politicians seeking to ease the fiscal constraint, especially before elections, shifting subsequent costs to future administrations.

low bids and therefore to a selection bias in a set of winners. This may be implicitly encouraged or tolerated by the public counterpart.

In contrast to these contributions, which stress the opportunistic dimensions of renegotiations, Bajari and Tadelis (2001), based on observations from the US construction industry, focus on how a contract may optimally balance the tension between the ex ante provision of incentives and the ex post cost of renegotiations. In their model, simple projects lead to very "complete" contracts, regulated by high-powered incentives (fixed prices), while more complex projects, for which renegotiation cost would be higher ex post, are handled through more "incomplete" contracts and regulated by low-powered mechanisms (cost plus).[24]

Overall, this suggests two different ways to look at renegotiations, either as a failure to be avoided as much as possible or as a normal feature given economic uncertainties and the nature and/or the complexity of the projects. First, some incidence is likely to be related to the absence of a market test, to errors in the contracting and awarding process, and to regulatory and governance failures. Such conflicts are welfare-reducing and could be reduced with suitable reforms and improvement in the way PPPs are prepared, negotiated and regulated.

In addition, some incidence of renegotiation should also be expected and may be unavoidable due to "fundamentals", such as the nature of public contracts, and the complexity and irreducible uncertainty surrounding long-term projects. From that point of view, adaptability is welfare improving and renegotiations may be a useful tool to help projects adjust to a changing environment. Contracts and regulation should be designed with this flexibility in mind.

How does regulatory independence play out in such a context? Its implementation has been a central element of the standard policy recommendations regarding sound regulation of utilities in general in developed and emerging economies. There is a large body of theoretical literature on this issue (see for example Montoya and Trillas, 2014, for a review). While the independence of regulators may help solve commitment and time-inconsistency problems, its impact on issues of regulatory capture may be ambiguous (Faure-Grimaud and Martimort, 2007). Additionally, this discussion assumes that *de jure* independence translates in *de facto* independence, which in weak governance environment is far from warranted, as shown for example for the case of telecom in several African countries by Sutherland (2016), and for Egypt by Badran (2017).

The importance of these different ingredients as determinants of the observed renegotiations and of the final performance of PPP projects is, of course, likely to be very context specific. In what follows, we review how these different aspects play out in the Lebanese context.

Contract renegotiation in the Lebanese case

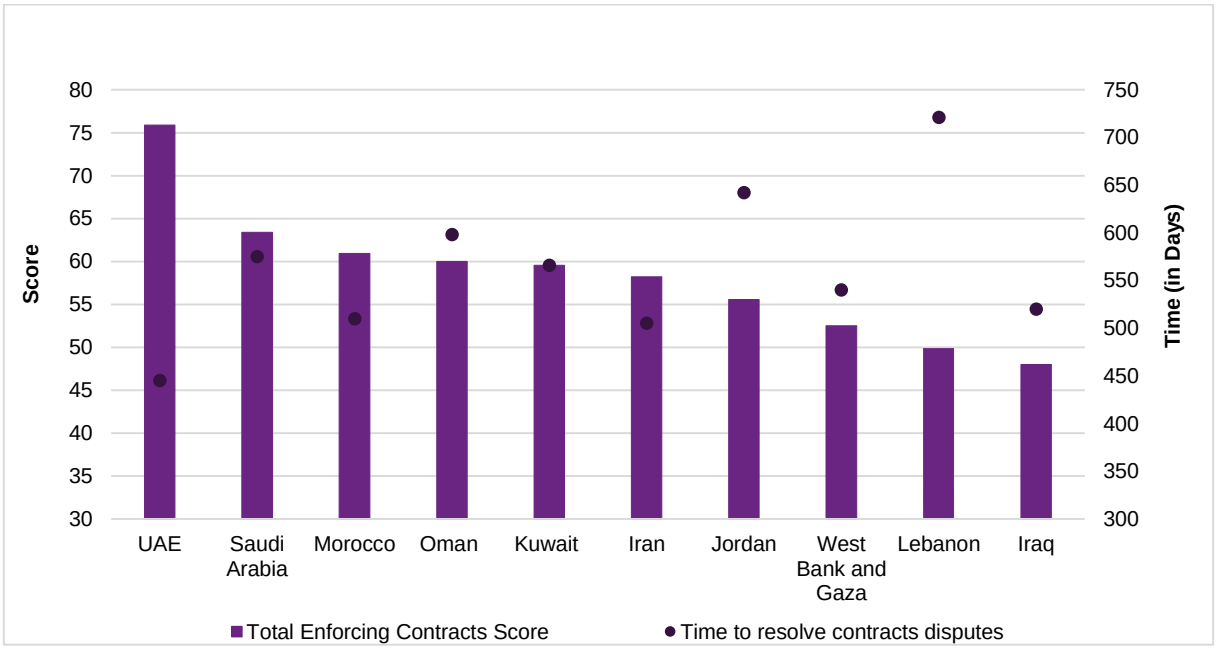
What would a unified model look like and what does it imply in the case of Lebanon? Given the high "fundamental" uncertainty stemming from macroeconomic fluctuations as well as political bickering and patronage, and the possibility of highly disruptive events such as civil conflicts and political interference from neighbouring countries, Lebanese PPPs are likely to require extensive and frequent adjustments. This in itself suggests a bias towards "optimal incompleteness," in the sense that the environment calls for contracts that are as easy to adjust as possible. However, such an environment also makes awarding and contracting errors potentially more damaging to the projects. This suggests that open ended, flexible contracts will be more resilient if two additional aspects are combined:

[24] A different argument related to the fundamental nature of PPP contracts is made by Spiller and Moszoro (2014), who stress the fact that public contracts are by nature formal and rigid because the public sector is subject to a "responsibility risk", especially in industries where rents, and hence the risk of public partners opportunism is high.

1- First, important investments must be made to build regulator capacity and relative independence. Given the caveats on the possibility of *de facto* regulatory independence in weak governance and corrupt environments mentioned above, a basic objective should be to at least ensure they have local credibility and the ability to act as key partners to facilitate informal negotiation and mitigate tensions between the parties as the contracts face adjustments. Such an arrangement may prove more useful than exogenously imposed arbitration procedures that may end up not being respected, especially given the poor contract enforcement performance of the country (see Figure 2).
2- Second, given the low long-term commitment ability of authorities, low-powered incentives, where revenue sharing agreements are adjusted along the way, may prove more robust than fixed rules that lead to unexpected windfalls for the private counterpart or, on the contrary, to excessive pressures on their revenues.

The case of telecoms illustrates well many of the potential pitfalls of PPPs, as it represents a set of projects in one of the major infrastructure sectors, which ultimately led to a breakup of the contracts and to this day to a clear lag in the quality of the service provided to users. Its setup and the institutional context in which the telecom PPPs occurred to provide a useful contrast to the suggestions above.

Figure 2: Contract enforcement in selected in Middle Eastern countries



Source: Doing Business, World Bank (2019)

Telecom is typically a complex sector with fast-evolving technology. Strikingly, the initial contracts seem to have been ill suited to that reality. Indeed, contracts were hardly forward looking and were probably too complete given the uncertainty surrounding the sector and the evolution of the Lebanese economy, as witnessed for example by clauses limiting the consumer base of the companies to 125,000, a number that quickly turned out to be vastly out of line with the evolution of the mobile phone market. This lack of adaptability of the contractual relationship was compounded by a glaring lack of regulatory expertise and independence. As large short-term gains from expropriation were expected by the public counterpart, especially

from the potential sale of licenses, the combination of complex fundamentals and flaws in the contract definition opened the road to opportunistic behaviours. Sensible adjustments to the contracts were not considered, making conflict and ultimate failure unavoidable.

The Saida waste management project shares some of the same characteristics. It was an overly complex project, both in term of technology and because it involved several public partners (the municipality of Saida as well as several ministries), with difficult coordination issues. The complexity of the project required a complete overhaul of the industrial organisation of the waste management sector in the region, something that was hardly possible given the lack of regulatory expertise and the inability, or lack of willingness, of local authorities to curb the vested interests of other local operators previously active in the sector. This led from the start to a high likelihood of conflict and to the inability of the partners to flexibly adapt to these unexpected contingencies, in large part because of the absence of a single public counterpart with decision power.

The Jeïta Grotto contract also had to deal with complex institutional characteristics on the public side, in particular the need to negotiate with several, uncoordinated public partners. However, the relative simplicity of the contract, with its well-defined objectives and technology, was such that the project managed to withstand the ongoing difficulties created by the changes in the political situation.

The postal service initially involved a simpler, well-defined service, devoid of excessive technological complexity. Also, the history of the project reveals a high degree of flexibility in allowing for several successive adaptations of the contract. This is supported by the view expressed by LibanPost leadership that the agreement was relatively robust, despite the absence of a specific law or provisions for conflict resolution. The relative “incompleteness” of the contract is also illustrated by the degree of freedom awarded to the private party in developing a large number of new services. Interestingly, many of these services were targeted at easing the relationship between the public and governmental institutions, hence increasing the acceptability of this public-private partnership.

Finally, all projects had to deal with a complex web of political connections, sometimes with conflicting demands from different public institutions, and their success was in part linked to the ability of the main stakeholders to navigate this environment.

4. Looking forward

The conclusions above shed light on the current prospects of new PPPs in Lebanon. Currently, two approaches stand out. On the one hand, the HCP has prepared a portfolio of potential projects (see HCP, 2018) and is seeking to formalise the process based on the new PPP law adopted in 2017. On the other hand, the ministry of energy and water is pushing three wind farm electricity PPP projects, largely bypassing the formal process defined in the recent PPP law. This lack of institutional consensus is mostly the result of political tensions between different parts of the government that predate the adoption of the 2017 law and illustrates well the trade-offs regarding renegotiations in PPPs discussed above. It is difficult to predict at this stage which approach is more likely to succeed, partly because they both contain flaws of their own.

The HCP most advanced project under the new legal framework is the national data centre. This centre will offer cloud infrastructure, platform and software services to both the public (mobile phone companies and the fixed phone company OGERO for around 40 percent of its capacity) and private sectors. The private sector counterpart is expected to design, build, finance, operate and maintain the data centre infrastructure for 10-20 years, with a total investment estimated between $80 and 150 million, and to assume the demand risk and

recover its investment from user payments. Pre-feasibility studies have been completed, previous conflict with OGERO over the deployment of fibre by the private company GDS has been settled in court, and construction is expected to take one or two years. To proceed, the project must rely on the establishment of a 'PPP Project Agreement', which formalises all aspects of the relationship, such as financing, performance indicators, amendment procedures, and conflict resolution. It also requires a 'PPP Project Committee', which will be in charge of the whole process, from the prequalification of bidders to the organisation of the bidding process, and the final award of the contract (see HCP, 2018, for details). This Project Committee is chaired by the HCP secretary general and is composed of representatives of the relevant ministry, the Ministry of Finance, and, where applicable, the authority regulating the relevant sector.

The ministry of energy and water, on the other hand, is pushing forward with three wind farm projects, outside of the scope of the 2017 legal framework, under the auspices of Bank Audi. The wind farms, located in Akkar in the North of the country, should produce 200 MW, covering about one fifth of the country aggregate shortage. Following a 2013 request for proposal (RFP), and the expression of interest from three companies, the negotiation process culminated in the signing of a power purchase agreement (PPA) in 2018. The process has been characterised by successive changes in the identity of potential investors, and several aspects are still uncertain. For example, the technical arrangements to feed the energy produced into EdL grid, and the ownership of the land needed for the projects are yet to be defined. Despite this, the stakeholders indicate that the urgency in the energy sector justifies bypassing the PPP law procedures.

The difference in the way these two projects are managed can be related to our discussion above. The data centre project is an endeavour characterised by complex technological challenges in a fast evolving sector. It also implies the need to deal with several public entities, including some as clients. In that context, and given the precedent of the telecom PPPs in the 1990s, the very formalised, complete contract approach undertaken under the new PPP law raises the risk that conflicts arising once the project starts operating will be difficult to manage. While it is important that the legal framework provides a positive signal of security to potential investors, especially foreign one, it is also crucial in that context that the contract is defined in a very flexible way to allow for the adjustments that might be needed down the road.

The wind farm projects, on the other hand, exemplify an attempt to proceed under very flexible arrangements, even at the project definition stage. While the technology underlying these projects can be considered less complex than the telecom data centre case above, the complexity here stems mostly from the interactions with the public counterparts at several junctions, The promoters are betting on 'incompleteness' as a shortcut to avoid political roadblocks, potentially reducing the risk of opportunistic political interventions that would derail the projects. However, the wind farm projects raise important regulatory issues that seem unresolved at present given the fact that the electricity regulator is not involved in the process and lacks independence from the line ministry. The first one is the implementation and enforcement of the long-term PPA that is crucial for the economic viability of the wind farms. Any change to these arrangements would de facto amount to expropriating the assets of the private counterparts.

In addition, the PPA agreement generates long-term financial obligations for the public sector, but there is no visibility in terms of the evolution of prices paid by users. As such, there is a high risk that the wind farm operations will generate the need for extra transfers from EdL, worsening the impact of the electricity sector on the fiscal situation, as described in the introduction. To avoid this, arrangements should be made for gradual price adjustments, given that the network price is far below the cost currently faced by users appealing to alternative self-provision arrangements. In addition, in a scenario in which end-prices increase and/or

billing is improved, there is a need to develop a framework allowing for the entry of additional private generators on the side of the wind farm PPPs.

How can policymakers make the most of the current competing approaches to private sector delegation, and increase the likelihood of PPPs working out well in Lebanon while minimising the macroeconomic risks and providing confidence to potential outside investors?

First, the legal and contractual frameworks must strike the right level of incompleteness. The objective is to ensure that there is room for high value-added technical or organisational innovations to develop new services with important benefits to the population, as in the case of LibanPost intermediary services or cheap mobile phone connections in the early phase of the telecom PPPs, without generating conflict. This calls for flexible clauses to generate revenue sharing of the potential windfalls as the project firms develop.

Second, a model of flexible political oversight arrangements that would allow the different parts of the government to better cooperate is needed. The HCP mandate, through the project committee, could be extended to include approval of the projects at different stages including the final one, instead of referring to the Council of Ministers, to avoid political bargaining.[25] The composition of the project committee should also be reconsidered. In particular, it is unclear that the sector regulators should be present at the ex ante planning, design, and delivery stages. Instead, it is desirable that their perimeter of action overlaps as little as possible with that of the PPP unit (HCP).

In turn, to be effective, Lebanon should invest heavily in the development of flexible and skilled regulatory agencies that can mediate conflicts in such cases and avoid abrupt termination. While the model of independent regulators is probably unrealistic in this case, investments in capacity are paramount, so technical regulators can offer credible and respected advice in contentious cases.

Finally, these arrangements for new PPPs will have to be made considering that the dark side of flexibility is the risk of corrupt deals, at the expense of the end users. The case for some type of voucher scheme involving the participation of the public in the capital of the PPP companies, with the aim of creating a popular constituency with a strong interest in the success of the projects, could also be explored.

To conclude, a clarification is in order regarding the government's fiscal motivation behind PPPs. Long-lived infrastructure projects usually display large time mismatch between the potential cash flow that accrues over time from users and/or taxpayers and is largely back-loaded (the funding), and the initial investment needs for construction and the start of operation (the financing needs).[26] Cash- and credit-constrained governments often consider that PPPs help them relieve their tight budgets, as they shift the financing structure and the timing of payments and revenues related to the project.

However, it is by now well known from the academic literature that this accounting trick in no way represents a "free fiscal lunch", as there is a form of 'Ricardian equivalence', by which the present value of investment and (foregone) revenues is strictly equivalent between public procurement and PPP.[27]

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[25] Some version of a "gateway" approval process could be implemented; see https://pppknowledgelab.org/guide/sections/31-institutional-responsibilities-review-and-approval, last accessed April, 10, 2019.

[26] See Fay, Martimort, and Straub (2018) for a theoretical presentation of this argument.

[27] See Engel, Fischer, and Galetovic (2013, 2014) for a detailed discussion. While a common argument to support PPPs is that the private sector has an efficiency advantage that might undo this equivalence at the margin, there are also reasons to think that other channels actually make PPPs more costly, including the need to provide private partners with a risk premium, and additional financing costs among others.

Despite this, a common and recurrent reason that pushes governments to embrace PPPs is to postpone or avoid altogether fiscal costs, as they are able to push fiscal liabilities off-balance, in the absence of reasonable fiscal accounting rules. This has clearly been one of the motivations in Lebanon, as the dire fiscal situation described in the introduction has long prevented the public sector to do large strategic investments in infrastructure.[28]

An additional argument for using PPPs is that the government is current strongly credit-constraint, but would return to higher credit-worthiness a few years down the road thanks to the fiscal adjustment and debt reduction process called for in the CEDRE agreement. While a theoretical case could be made, there are several reasons to doubt it, given the existing track record of PPPs. In particular, given the lack of integration of PPP-related debt in the public budget, this scenario is endangered by the potential realisation of implicit fiscal liabilities, such as minimum income guarantees and the large tail risks falling on the public counterpart in case of project failure.

In any case, this calls for a proper ex ante analysis of the fiscal implications of future PPPs, both in terms of changes in the time profile of expenditures and revenues and in present value terms.

[28] It is considered best practice to legally restrict the ability of governments to use PPPs for "debt hiding," as is done for example in France with the Sapin law since 2011.

References

Alby, P., Dethier, J.J., and S. Straub. (2013). “Firms Operating under Electricity Constraints in Developing Countries?” *The World Bank Economic Review*, 27(1), 109–132.

Allcott, H., A. Collard-Wexler, and S.D. O'Connell (2016). “How Do Electricity Shortages Affect Industry? Evidence from India.” *American Economic Review*, 106(3), 587-624.

Badran, A. (2016) “Revisiting regulatory independence: The relationship between the formal and de-facto independence of the Egyptian telecoms regulator,” *Public Policy and Administration*, Vol. 32(1) 66–84

Bajari, P. and S. Tadelis. 2001. “Incentives versus Transactions Costs: A Theory of Procurement Contracts.” *Rand Journal of Economics*, 32(3): 387-407.

Beuve, J., J. De Brux and S. Saussier. (2013). Renégocier pour Durer, une Analyse Empirique des Contrats de Concessions. *Revue d'Economie Industrielle*, 141 (1), 117-148.

Engel, E., R. Fisher and A. Galetovic (2009). “Soft Budget and Renegotiations in Public-Private Partnerships.” NBER working paper 15300.

Engel, E., R. Fisher and A. Galetovic (2013). “The Basic Public Finance of Public-Private-Partnerships.” *Journal of the European Economic Association*, 11: 83-111.

Engel, E., R. Fisher and A. Galetovic (2014). *The Economics of Public-Private Partnerships. A Basic Guide*. Cambridge University Press.

Antoine Faure-Grimaud, , David Martimort, (2007), Political Stabilization by an Independent Regulator, in Vivek Ghosal, Johan Stennek (ed.) *The Political Economy of Antitrust (Contributions to Economic Analysis, Volume 282)* Emerald Group Publishing Limited, pp.383 - 415

Fay, M., D. Martimort, and S. Straub. (2018). “Funding and Financing Infrastructure: The Joint Use of Public and Private Finance.” Policy Research Working Paper 8496, World Bank, Washington, DC.

Guasch, J.L., J.-J. Laffont and S. Straub. (2007). “Concessions of Infrastructure in Latin America: Government-led Renegotiation.” *Journal of Applied Econometrics*, 22(7), 1267–1294.

Guasch, J.L., J.-J. Laffont and S. Straub. (2008). “Renegotiation of Concession Contracts in Latin America, Evidence from the Water and Transport Sectors.” *International Journal of Industrial Organization*, 26(2), 421–442.

High Council for Privatization and PPPs (2018). “Invest in Lebanon. The PPP Guide for Private Companies.” Beirut.

Jamali, D. (2004). “Success and failure mechanisms of public private partnerships (PPPs) in developing countries. Insights from the Lebanese context.” *The International Journal of Public Sector Management*, 17(5), 414-430.

Montoya, M. A. and Trillas J., F. (2014). “Independent Regulators: Theory, Evidence and Reform Proposals.” Working Paper Series, Centro Asia Pacifico.

Moore, A., S. Straub, and J.-J. Dethier. (2014). “Regulation, Renegotiation and Capital Structure: Theory and Evidence from Latin American Transport Concessions.” *Journal of Regulatory Economics*, 45(2), 209–232.

Reis, R.F. and Sarmento, J.M. (2017), “Cutting Costs to the Bone: the Portuguese Experience in Renegotiating Public Private Partnerships after the Financial Crisis”, *Transportation,* 1-18.

Spiller, P. and M. Moszoro (2014) “Third-Party Opportunism and the Theory of Public Contracts: Operationalization and Applications,”, in Brousseau, E. and J.M Glachant, *Institutional Foundations of Markets*, Cambridge University Press.

Sutherland, E. (2016). “The independence of telecommunication regulators,” ECPR Biennial Conference on Regulatory Governance, Tilburg.

World Bank (2018). “Lebanon Economic Monitor. De-Risking Lebanon.” Global Practice for Macroeconomics, Trade and Investment. MENA region, The World Bank.

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