

Mechanisms for financing investments in PPPs: the case of the health sector in Morocco

les mécanismes de financement des investissements dans le cadre des PPP : Cas du secteur de la santé au Maroc

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Abstract

Public-private partnerships (PPPs) are contractual mechanisms used today to acquire and maintain public infrastructure, mainly in the areas of transport, social sectors, utilities, and professional services. Governments use these partnerships to meet infrastructure needs, deadlines, and budgetary resources, while maintaining the quality of public services. PPPs harness the private sector's capacity for innovation and financing, foster the emergence of national groups and encourage small and medium-sized enterprises. This article focuses on the financing mechanisms for PPP investment projects in the healthcare sector. The authors pose several research questions, including the definition of PPPs, private financing structures, public financing mechanisms and international partnerships in the healthcare sector. To answer these questions, a descriptive approach to the existing literature was adopted. The researchers conducted a literature search to analyse existing work on PPP financing mechanisms, focusing on the healthcare sector. This study delves into the world of financing Public-Private Partnerships (PPPs) within the Moroccan healthcare sector. Through in-depth interviews with 15 project finance managers, we uncover the diverse funding mechanisms employed and their associated strengths, weaknesses, and influencing factors. This exploration sheds light on both challenges and opportunities for financing PPPs in this crucial domain.

Keywords: public-private partnerships; public financing ; healthcare reforms ; private finance ; project finance.

Résumé

Les partenariats public-privé (PPP) sont des mécanismes contractuels utilisés aujourd'hui pour l'acquisition et l'entretien des infrastructures publiques, principalement dans les domaines des transports, des secteurs sociaux, des services publics et des services professionnels. Les gouvernements ont recours à ces partenariats pour répondre aux besoins en infrastructures, respecter les délais et les ressources budgétaires, tout en maintenant la qualité des services publics. Les PPP exploitent la capacité d'innovation et de financement du secteur privé, favorisent l'émergence de groupes nationaux et encouragent les petites et moyennes entreprises. Cet article se concentre sur les mécanismes de financement des projets d'investissement en PPP dans le secteur de la santé. Les auteurs posent plusieurs questions de recherche, notamment sur la définition des PPP, les structures de financement privé, les mécanismes de financement public et les partenariats internationaux dans le secteur de la santé. Pour répondre à ces questions, une approche descriptive de la littérature existante a été adoptée. Les chercheurs ont mené une recherche bibliographique pour analyser les travaux existants sur les mécanismes de financement en PPP, en mettant l'accent sur le secteur de la santé. Cette étude se penche sur le financement des partenariats public-privé (PPP) dans le secteur de la santé au Maroc. Grâce à des entretiens approfondis avec 15 responsables du financement de projets, nous découvrons les divers mécanismes de financement utilisés et leurs forces, faiblesses et facteurs d'influence associés. Cette exploration met en lumière les défis et les opportunités de financement des PPP dans ce domaine crucial.

Mots clés : partenariats public-privé ; financement public ; réformes des soins de santé ; financement privé ; financement de projets.

Introduction

Today, public-private partnerships (PPPs) have become innovative contractual mechanisms for the acquisition and maintenance of public sector infrastructure, particularly in areas such as transport (e.g. road infrastructure, bridges, tunnels, railways, ports and airports), social sectors, including infrastructure (e.g. hospitals, schools, prisons and social housing), public services (e.g. water supply, liquid and solid sewage), professional services such as communications networks or defence equipment.

Public authorities must therefore step up their efforts to better meet the infrastructure needs of citizens and economic operators, while respecting deadlines, available budgetary resources and the quality of public services. This is why the use of public-private partnership contracts has become necessary to exploit the private sector's capacity for innovation and financing, to support the emergence of national reference groups and to encourage the activity of small and medium-sized enterprises.

This article aims to contribute to the debate on public-private partnerships (PPPs), both in theory and in practice, particularly the mechanisms for financing investment projects under PPPs. To this end, we pose the following research question: What are the mechanisms for financing PPP investment projects in the health sector?

To address this issue we break it down into the following sub-questions:

- What are public-private partnership (PPP) contracts?
- What are the private financing structures for PPP projects?
- What are the different mechanisms of public financing in PPPs?
- What is the nature of international partnerships in the health sector?

To answer our question, we adopted a descriptive approach to the existing literature on the subject of public-private partnerships in order to explore the mechanisms for financing investment projects within the PPP framework, with particular emphasis on the health sector. Thus, we first conducted a literature search to analyse and identify the work carried out on the financing mechanisms of investment projects within the PPP framework. This study delves into the world of financing Public-Private Partnerships (PPPs) within the Moroccan healthcare sector. Through in-depth interviews with 15 project finance managers, we uncover the diverse funding mechanisms employed and their associated strengths, weaknesses, and influencing factors. This exploration sheds light on both challenges and opportunities for financing PPPs in this crucial domain.

The aim of this article is to analyze the financing mechanisms of public-private partnerships (PPPs) in the Moroccan healthcare sector. The first part of the article presents a literature review on PPPs in the healthcare sector. This review will highlight the various PPP financing mechanisms, as well as their advantages and disadvantages. The second part of the article presents PPPs in the Moroccan context. This part will highlight the legal framework for PPPs in Morocco, the situation of the Moroccan healthcare sector, the specific features of the Moroccan healthcare sector, and the issues involved in financing PPPs in this sector.

The third part of the article presents the research methodology used. We adopted a qualitative approach based on semi-structured interviews with 15 project finance managers in the Moroccan health sector. The fourth part of the article presents the research results and conclusions. The results will highlight the PPP financing mechanisms most commonly used in Morocco, as well as the factors influencing the choice of these mechanisms. Discussions will identify the challenges and opportunities associated with PPP financing in the Moroccan healthcare sector.

1. literature review:

1.1. Summary of previous bibliographic research work:

Public-private partnerships (PPPs) are a complex field that has attracted numerous publications from authors and researchers around the world. Here are some of the main authors and publications in the PPP field:

- E.R. Yescombe (2018): A recognized authority on PPP finance, Yescombe's book, "Public-Private Partnerships: Principles of Policy and Finance," serves as a reference point for understanding financing structures, risk management, and intricate financial arrangements within PPPs.
- William Megginson (2010): Megginson's research delves into the advantages and disadvantages of PPPs compared to full privatization, equipping decision-makers with crucial knowledge for choosing the optimal model for delivering public services.
- Eduardo Engel (2000): His work on "Public-Private Partnerships: when and how" delves into the economics of these partnerships, particularly the design of efficient financing and incentive mechanisms that minimize risk, providing valuable guidance for structuring successful PPPs.
- Machete Inês & Marques Rui (2021): Their review of "Financing the Water and Sanitation Sectors" identifies four key areas for deeper understanding: sustainable development, public finance mobilization, project financing instruments, and the role of public policies. Their call for research on applying existing instruments to water and sanitation highlights the need for sector-specific insights to optimize PPPs.

Moving beyond theory, a wealth of empirical studies delve into the practical realities of PPPs across diverse contexts:

- Estache & Iimi (2010) examine the effectiveness of various PPP models for infrastructure projects, highlighting their advantages and disadvantages in terms of efficiency and cost outcomes.
- Hodge & Greve (2007) analyze the UK's PPP experience and compare it with other EU countries, identifying both success factors and challenges encountered in implementing PPPs.
- The World Bank (2016) assesses the results of numerous PPP projects worldwide, pinpointing key factors for success, potential risks, and best practices.

- Ristov (2018) analyzes a successful healthcare PPP case study in Brazil, exploring the implications of PPPs for social infrastructure development in middle-income countries.
- Kosycarz et al. (2019) investigate the obstacles and opportunities for using PPPs to improve public hospitals in Poland, emphasizing the importance of contract changes, economic stability, and risk allocation.
- Yang et al. (2020) examine factors influencing private sector participation in Chinese healthcare PPPs, including attitudes, perceived norms, and facilitating conditions.
- Al-Hanafi et al. (2020) identify legal, environmental, and technological barriers to PPP implementation in Saudi Arabia's healthcare sector, emphasizing the need for transparency, accountability, and a stable regulatory framework.
- DIOUF (2021) examines the use of PPPs in Senegal's water management, highlighting the lack of prior assessment and reliance on crisis situations as justifications for private involvement.
- Hellowell (2019) analyzes a high-profile PPP healthcare deal in Lesotho, showcasing its positive impacts (high clinical standards) alongside challenges like higher-than-expected costs.
- Parker et al. (2019) evaluate the evidence for PPPs in promoting population health, raising concerns about biased evaluations and potential conflicts of interest between private partners and health goals.
- Joudyian et al. (2021) review the use of PPPs in primary healthcare globally, identifying challenges in the start-up and implementation phases and recommending improvements in education, management, and resources.

These studies offer a rich tapestry of insights into the complexities of PPPs, highlighting their potential benefits and challenges across various contexts and sectors. By critically analyzing these diverse perspectives, we can gain a deeper understanding of how to leverage PPPs effectively for the benefit of public services worldwide.

According to the literature review and existing research on PPPs, we have found that research on the financing mechanisms of PPPs is limited and insufficient and requires further investigation in the context of our article.

1.2. Theories mobilized.

The main theoretical underpinnings of Public-Private Partnerships can be summarized in four major theoretical approaches: transaction cost theory, agency theory, incomplete contract theory and property rights theory.

- Incomplete contract theory : This theory was developed by economists such as Oliver Hart and Bengt Holmström in the 1980s and 1990s. Their work on incomplete contracts laid the foundations for understanding complex contracts such as PPPs, where not all eventualities can be foreseen in advance.
- Incentive theory: Richard A. Posner's work in the 1970s on the economic analysis of law contributed to the understanding of incentives in contracts. Later, economists such as Jean-Jacques Laffont and Jean Tirol developed incentive models in the context of PPPs.
- Governance theory: PPP governance theories are often based on the work of researchers in organizational economics, management, and contract law. Researchers such as Ronald Coase (transaction cost theory) and Oliver Williamson (theory of the firm) have influenced the understanding of PPP governance.

1.3. Definition of concepts

Historically, the PPP model was implemented as part of the execution of public works, which appeared in antiquity, particularly in Greece and Rome, named under the franchise model (Gratias & Boyd, 1995). The public decision-makers of the time granted franchisees the power to manage and tax users in return for the construction of a given infrastructure.

Defining the PPP concept is rather difficult due to the complexity of the contractual arrangements (World Bank and PPIAF, 2016). In fact, the emergence of the concept of PPP contracts dates back to the Conservative government in the UK in the 1990s, then in Australia, Canada, South Africa and some Asian countries, expressed as "private sector participation in infrastructure" (Nathalie Perrier, et al. , 2014).

Theoretically, according to Lossa et al. a PPP is a contractual commitment in which a public party delegates a series of tasks (financing, design, construction, operation) to its private partner to provide public infrastructure and services. The contracts are generally long-term and involve both parties sharing the risks and rewards (Lossa et al., 2008).

Yescombe, Farquharson and Edward defined PPP as a contract that combines the following key elements:

- A long-term agreement between the public sector and part of the private sector.

- The private sector operator under the contractual arrangements is required to design, build, and operate the public infrastructure.
- The use of private sector capital to finance all or a substantial part of the construction of the facility.
- Remuneration over the life of the PPP contract to the private sector party for the use of the facility, is made either by the public sector, or by the general public as users of the facility, or both.
- The facility remains in public ownership, or reverts to public ownership at the end of the PPP contract.
- Some form of risk sharing between the public and private sector parties and the provision of a public service.

1.4. Types of PPP:

Several different models exist for introducing private finance into the delivery of public infrastructure (ER Yescombe et al., 2018):

Table 1 : type of PPP

<i>Type</i>	<i>Definition</i>
<i>Concessions:</i>	This is a PPP agreement type in which a private sector entity, the project company, is authorized to charge the public sector a service fee for the use of the facility. Service fees can also be called "user charges" or, in the case of highway concessions, "tolls". The fees compensate the operator for the costs of constructing and operating equipment, which usually returns to the control of the public at the end of the concession period.
<i>Franchises and leasing contracts:</i>	A franchise is the right to operate a facility that has already been built, i.e. that is similar to a concession, except that it excludes the initial construction phase. The franchisee (equivalent to the concessionaire) either pays a fixed amount to the operating authority in exchange for this right or pays a proportion of the income. In EU glossary terms, a franchise is called a "service concession", whereas a concession as defined above involves the construction of a new infrastructure, which is called a "works concession".

Power Purchase Agreements (PPAs)

power purchase agreements (PPAs), are long-term contracts between electricity generators and buyers. PPAs were first developed in the United States in the 1980s, and they have since become a common way to finance and develop renewable energy projects. This agreement was introduced in Europe in the early 1990s. The privatization of the UK electricity sector created a more competitive market for electricity generation, and this led to the development of PPAs between independent power producers and distribution companies.

BOO, BOT et DBFO :
Here we outline three different types of public-private partnership (PPP) contract: build-own-operate (BOO), build-operate-transfer (BOT) and design-build-finance-operate (DBFO).

BOO contracts are the simplest type of PPP contract. In a BOO contract, the private party finances, designs, builds and operates a project, then owns, and operates it for the duration of the contract. At the end of the contract, the project is generally transferred to the public sector.

BOT contracts are like BOO contracts, but with one key difference: at the end of the contract, the project is transferred to the public sector party. This can be done at nominal or zero cost, or the private sector party can sell the project to the public sector party at market price.

DBFO contracts are more complex than BOO or BOT contracts. In a DBFO contract, the private party finances, designs, builds, finances and operates a project. However, the private party does not own the project. The project is owned by a Special Purpose Vehicle (SPV), which is a legal entity created specifically for the project. The SPV is usually owned by both the public and private sector parties.

Source: (ER Yescombe et al., 2018)

The choice of which type of PPP contract to use will depend on several factors, including the complexity of the project, the risk appetite of the private sector party, and the requirements of the public sector party.

1.5. Investment financing mechanisms under PPP contracts:

This chapter covers the basic characteristics of project financing, the factors behind its development and project financing structures.

1.5.1 What is project financing?

Project financing structures differ from one sector to another, and from one transaction to another, because each project has its own specific characteristics. But there are common principles that underpin the project financing approach.

The Export-Import Bank of the United States has defined project finance as the financing of projects that depend on project cash flows for repayment based on the contractual relationships within each project. By their very nature, these types of projects rely on several integrated contractual arrangements to be successfully completed and operated. The contractual relationship must be balanced with the distribution of risk between the parties to ensure the financial viability and success of the project. » (ER Yescombe ,2014).

1.5.2 PPP project financing mechanisms and structures:

PPP contracts are characterized in relation to traditional public procurement by the transfer of responsibility for raising funds to the private sector party to finance public investments. When such transfers occur, the private partner is responsible for identifying investors and establishing the project's financial structure. However, it is important that public sector stakeholders understand the structure of private infrastructure financing and consider the potential implications for governments.

In most PPP contracts, the private entity is a project company created specifically for this purpose, often referred to as a special purpose vehicle (SPV). The project company raises the necessary funds through a combination of shareholder equity, bank loans or debt financed by bonds or other financial instruments.

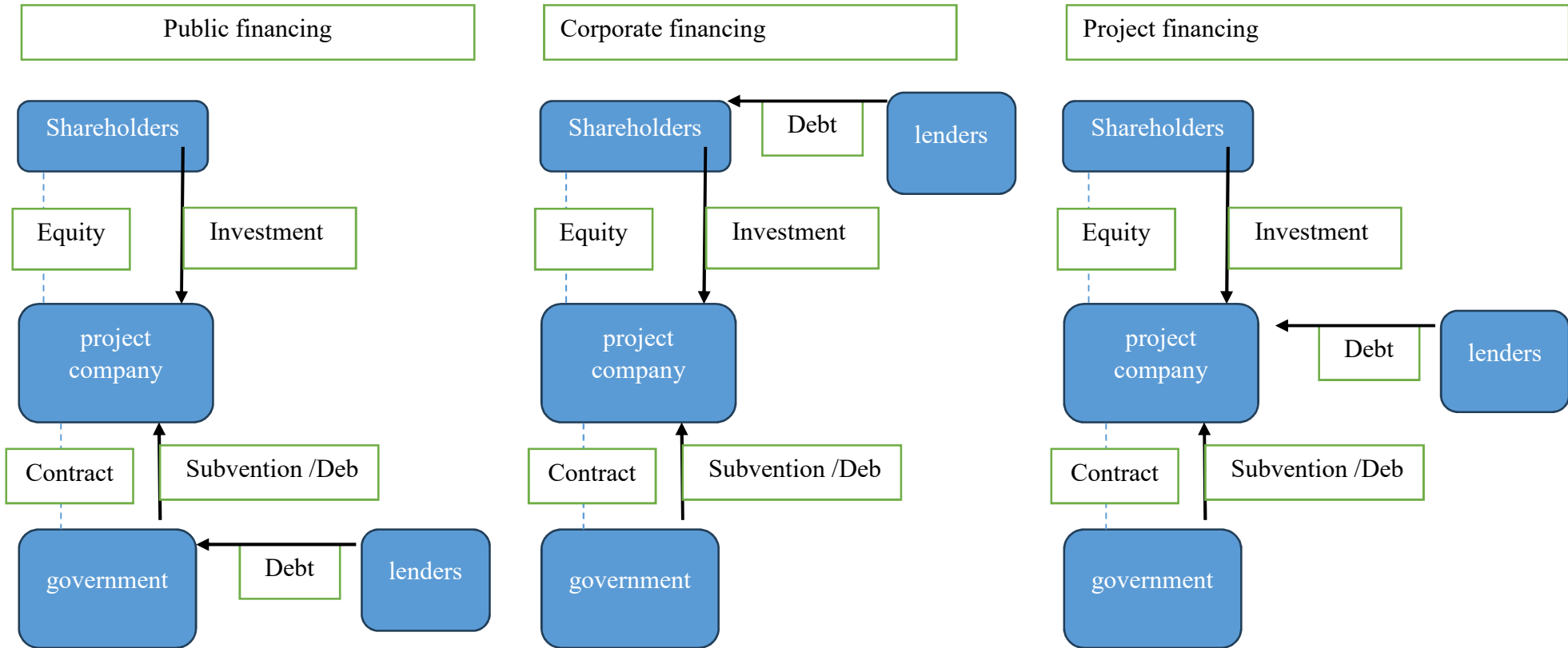
Based on the above, the structure of project financing generally comprises two elements:

- ❖ Equity: contributed by the project's investors, consisting of the company's share capital and other equity.
- ❖ Project finance-based debt: provided by one or more groups of lenders,
- ❖ Subsidies: granted from funds allocated by development partners, notably the government, to balance the project's business plan.

1.5.3 PPP financing sources:

PPPs offer alternative solutions for attracting new sources of private financing and management services, while allowing the state to retain a maintain a presence in terms of ownership and strategic policymaking. These partnerships can optimize the leverage of public funds and have the advantage of entrusting the management and delivery of infrastructure services to highly qualified private companies. The three most common sources of financing for infrastructure projects are as follows (see figure 1.) (Delmon, J., 2010) :

Figure N°1: PPP financing



Sources: (Delmon, J. , 2010)

- ❖ Public financing: The government borrows funds which it allocates to the project through the reallocation of loans, grants, subsidies or debt guarantees.
- ❖ Corporate financing: A company borrows funds based on its credit profile and activities (whether or not the loan is secured by specific assets or revenues) and invests in the project.
- ❖ Project financing: Non-recourse or limited-recourse loans (these terms are generally interchangeable) are granted directly to a special-purpose vehicle (SPV).

1.5.4 The nature of international partnerships in the healthcare sector:

Since the early 2000s, international players have been convinced of the need for partnerships between healthcare players. In 2003, the World Health Organization (WHO) declared in its annual report (p. 7) that "achieving national and global health goals requires new resources and an unprecedented degree of cooperation between multilateral agencies, national authorities, communities, the private sector and other stakeholders", but added that "such mobilization must be based on rigorous scientific evidence, but also on a strong sense of ethics". In its 2005 Charter for the Promotion of Primary Health Care (Bangkok Charter), the WHO stated that one of the necessary steps was to build partnerships and alliances between the public sector, the private sector, NGOs, governments and international organizations and civil society for sustainable action. It was this diagnosis that led to the emergence and multiplication of public-private partnerships in health assistance (table 3). The approach adopted is to build PPPs on a thematic basis, bringing together players who are interested in the same issues, the same themes, and the same objectives (access to healthcare, strengthening the healthcare system, financial mobilization and coordination, etc.).

Table 3: Different types of PPP in the healthcare sector

PPPs aimed at product development (1)	PPP for the development of products designed to improve access (2)	PPPs to strengthen health systems (3)	PPP global and financial coordination (4)	partnership approaches to development policy (5)
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Example	Medicine for Malaria venture (MMV) introduced in 1999	Accelating acces initiative introduced in 2000	African comprehesive HIV Parthinship founded in 2000	Rall back Malaria in 1998	national healthcare plans
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Source: Author's presentation based on (Ndour, 2006).

- ❖ Partnerships targeting product development (category 1): these are generally technical collaborations aimed at remedying the existence of "orphan" diseases. Examples include the Medicine for Malaria Venture, DNDi (Drugs for Neglected Diseases Initiative), the International AIDS Vaccine Initiative, IOWH (Institute for One World Health), Gates Consortium for the Development of Drugs for Trypanosomiasis and Leishmaniasis (led by North Carolina University).
- ❖ Partners who develop products to improve access (category 2) are partners who seek to solve accessibility problems in terms of price and geography.
- ❖ Partnerships aimed at strengthening health systems (Category 3) act on the six pillars that underpin any health system: i) governance and leadership, ii) delivery of care, iii) medicines and technical health, iv) human resources, v) health financing, vi) health information systems and health research.
- ❖ The Global and Financial Coordination Partnership (Category 4) aims to remedy the negative impacts associated with the fragmentation of aid, in particular low mobilization, duplication and high operational costs (costs of drawing up and monitoring contracts).
- ❖ Finally, the partnership approach to development policy (Category 5) refers to programs (health or other sectors) that are drawn up in a participatory manner by governments.

The aim of these partnerships, according to several authors, is to enable governments to take advantage of the capital and expertise of the private sector to implement initiatives at excessive cost. However, the coexistence of a public contracting authority and a private prime contractor, although apparently more popular in certain fields, has raised many concerns in the health sector (YAYA H. S. , 2005).

2. PPPS and the Moroccan context:

2.1 Regulatory framework for PPP contracts:

In 2015, Morocco put in place a legal and regulatory framework for PPP contracts, based on the development of a public procurement management culture based on prior needs assessment, performance analysis, cost control and optimized risk sharing.

Public-private partnership (PPP) contracts are defined in Law No. 86-12 on PPP contracts as follows: “ A PPP is a long-term contract between a public entity and a private partner. The private partner is responsible for carrying out a comprehensive mission that may include the design, financing, construction or rehabilitation, maintenance, and/or operation of a structure or infrastructure, or the provision of services necessary for the supply of a public service.”

This legal and regulatory framework was reinforced by the high positioning of his MAJESTY in his speech on the occasion of the Throne Day on July 30, 2015, and the 62nd anniversary of the Revolution and the People's Speech (August 20, 2015). The monarch highlighted the need for public-private partnerships to develop infrastructure and basic social services, particularly in the Kingdom's most disadvantaged regions. They follow on from the following directives issued by His Majesty:

"We therefore reiterate Our appeal to the government to ensure the conditions of convergence between the various sectoral strategies, and to equip itself with monitoring and evaluation tools to ensure their coherence and measure their effectiveness and the efficiency of the use of the funds allocated to them. Likewise, it is up to the company to be creative in the search for alternative funding sources that can give a strong impetus to such strategies. In this respect, we stress the need to develop contractualization and public-private partnership mechanisms, with a view to optimizing investments. » (His Majesty King Mohamed VI, 2012)

2.2 PPP infrastructure financing mechanisms: the case of the healthcare sector :

2.2.1 Health situation in Morocco:

Morocco is in the midst of an epidemiological transition, with a rise in non-communicable diseases (NCDs), which account for 80% of deaths in the country. The government has made progress in reducing maternal and infant mortality and eliminating major communicable diseases. However, investment in the health sector remains low and direct household spending

high. The Moroccan healthcare system is in the midst of an advanced regionalization process, and the generalization of health insurance for the poor and vulnerable (RAMED) has given 32.1% of the Moroccan population access to free health services in the public sector.

Despite these achievements, the health financing situation in Morocco faces many challenges. Households make a significant contribution to total health expenditure (54%), which represents a significant financial burden for individuals and households. This high proportion of direct household expenditure on healthcare can plunge certain vulnerable groups into poverty and pose health risks by forgoing care. (World Health Organization, 2018).

It is against this backdrop that public-private partnerships aim to improve the effectiveness and efficiency of public services and enhance their financial, operational, and infrastructural viability. Public-private partnerships enable stakeholders to reap mutual benefits through the creation of synergies, the contribution of skills, the sharing of risks and the realization of substantial economies of scale.

2.2.2 Financing mechanisms for a PPP investment project in the healthcare sector:

The financing of healthcare in Morocco is a key parameter for public authorities in their decision-making process. In the Royal Address to participants in the celebration of World Health Day 2019, His Majesty King Mohammed VI, may God assist him, marked the need to rethink health financing mechanisms as part of a modern vision: "... It is therefore necessary, to ensure the effectiveness of primary healthcare, to put in place innovative financing instruments, particularly in view of a general context marked by rising healthcare expenditure, the rapid ageing of the world's population, the prevalence of chronic diseases and the availability of new, high-cost treatments..."

His Majesty King Mohammed VI's speech at the United Nations Summit on the Millennium Development Goals (MDGs) in New York, held from September 20 to 22, 2010, emphasized the need for forward-looking and proactive measures beyond 2015. The aim was to ensure the continuity of current initiatives while preparing adequately for future challenges. Collaborative efforts were called for to establish a balanced and mutually supportive framework for sustainable human development. This framework should operate within a system of global governance characterized by both equity and efficiency.

Furthermore, it was emphasized that our responsibility extends to creating the conditions for future generations to lead a dignified life. This meant building a common future marked by security, stability, progress, and prosperity.

In his speech at the United Nations Summit on the Millennium Development Goals (MDGs) in New York in 2010, His Majesty King Mohammed VI stressed the importance of looking to the future and preparing for the post-2015 period. The aim was to ensure the continued effectiveness of ongoing initiatives, and to be better equipped to face new challenges. King Mohammed VI called for collaborative efforts to establish a balanced and mutually supportive model of sustainable human development within a framework of global governance that is both fair and effective. He also stressed our responsibility to create the conditions for a dignified life for future generations, and to build a common future characterized by security, stability, progress, and prosperity.

The Ministry of Health designed a health financing strategy as part of a collaborative and participatory approach. This strategy has put forward long-term solutions for resource mobilization, with innovative and sustainable proposals including: the taxation of products harmful to health and the taxation of private services such as telecommunications.

In this context this study investigates and identifies mechanisms for financing investments in PPPs in the Moroccan healthcare sector.

3. Methods and material:

This study uses a qualitative data collection method. The data was collected through semi-directive interviews with managers in the field of project financing in the health sector. We conducted 15 interviews with different managers in this field. the themes of these interviews are as follows (Table 4).

Table 4: interview guide themes

Nature of partnerships in the healthcare sector
Sources of financing
The main challenges and issues associated with healthcare PPPs
Recommendations for improving PPPs in the healthcare sector
Prospects for the development of healthcare PPPs in Morocco

In-depth interviews were developed to collect qualitative data on the different financing mechanisms for PPP projects in the Moroccan health sector. The interview was also collected data on the strengths and weaknesses of each financing mechanism, as well as the factors that influence the choice of mechanism. The interviews were also allowed for a more in-depth exploration of the challenges and opportunities for financing PPP projects in the Moroccan health sector. This interview guide aims to explore the different financing mechanisms for PPPs in the Moroccan healthcare sector. It is composed of open-ended and semi-directive questions, which will enable us to obtain detailed and nuanced answers. The qualitative data will be analysed using thematic analysis.

Case study is a qualitative research methodology that involves the in-depth study of a phenomenon or event in its real-life context. It is particularly suited to the study of complex or emerging phenomena, or when quantitative data are not available or sufficient.

In the case of our research on public-private partnerships (PPPs) in the healthcare sector, the case study is a particularly relevant methodology for the following reasons:

- PPPs are complex phenomena involving many actors and factors. PPPs are complex phenomena, involving many actors and factors. The case study approach enables us to grasp the complexity of PPPs by examining the interactions between the various actors and factors, as well as the context in which they operate.
- PPPs are emerging phenomena. The case study makes it possible to track the evolution of PPPs over time and document lessons learned.

The healthcare sector is large and complex and represents a significant cost for governments. PPPs are a financing option that can be used to improve access to care, reduce costs and improve the efficiency of the healthcare system. The study of PPPs in the healthcare sector is therefore an important research topic that can have a significant impact on public health.

4. Results and discussions:

4.1 Nature of partnerships in Moroccan healthcare sector :

According to interviews conducted, the healthcare sector in Morocco has traditionally been dominated by the public sector, which accounts for around **85%** of healthcare provision. However, in recent years, the potential of public-private partnerships (PPPs) to improve access, quality and efficiency of healthcare services has been increasingly recognized. One example is

the construction of a manufacturing plant for Covid-19 and other vaccines, a structuring project that will ultimately help to ensure the Kingdom's and the African continent's vaccinal sovereignty. This industrial unit is part of His Majesty the King's vision to position the Kingdom as a key biotechnology hub in Africa and the world, capable of meeting the Continent's health needs in the short and long term, by integrating pharmaceutical research, clinical development, manufacturing, and marketing of much-needed biopharmaceutical products. This project falls within the framework of PPPs targeting the discovery and/or development of new drugs, vaccines or other healthcare products that can remedy the problem of neglected diseases in poor countries .For example : Medicine for Malaria Venture , DNDi (Drugs for Neglected Diseases Initiative), International AIDS Vaccine Initiative or IOWH (Institute for One World Health) and Gates Consortium for the Development of Drugs for Trypanosomiasis and Leishmaniasis (led by North Carolina University) (Ndour, 2006).

4.2 Sources of financing :

Public-private partnerships (PPPs) in the Moroccan healthcare sector require a variety of funding sources to achieve their objectives of improving access, quality, and efficiency. The results of our interviews with managers have enabled us to draw up a matrix of the advantages, disadvantages, and risks of the various funding sources, as follows (table 5):

Table 5: Matrix of the advantages, disadvantages and risks of the various funding sources

Financing techniques	Risks	Benefits	Disadvantages
<p>Subventions: Subventions account for 80% of the financing arrangements for PPP projects in Morocco's healthcare sector. They are used to cover the costs of feasibility studies, design, or implementation.</p>	<p>Dependency risk: subventions can create a dependency of private partners on public subsidies, which can be detrimental to innovation and competition.</p> <p>Market distortion risk: subventions can create market distortions, as they can give an advantage to companies that benefit from</p>	<p>Reduced risk for the private partner: subventions can be used to reduce the risks associated with the project, which can make it more attractive to private partners.</p> <p>Improved quality of services: subventions can be used to finance investments in the quality of services, which can improve</p>	<p>Cost to taxpayers: subventions are financed by taxpayers, which can represent a significant cost.</p> <p>Risk of corruption: subventions may be misappropriated or used for purposes other than those for which they were intended.</p> <p>Inefficiency: subventions can be mismanaged, resulting in losses for taxpayers.</p>

	subsidies over those that do not.	the health of populations. Increased access to services: subventions can be used to finance projects aimed at improving access to healthcare services, particularly for vulnerable populations.	
Equity financing: Equity financing accounts for 20% of PPP project financing in Morocco's healthcare sector .	Risk of loss of capital: the private partner may lose part or all its investment if the project fails. Risk of capital dilution: the private partner's stake in the project may be reduced if the public authority subscribes to shares or bonds in the project company. Risk of conflict of interest: the private partner may have conflicting interests with the public authority, which could jeopardize the success of the project.	The private partner benefits from greater ownership of the project and greater control over its management. The private partner has no repayment or interest obligations. The project is less dependent on access to external financing.	Equity financing is generally more expensive than debt financing. The private partner must have sufficient cash flow to finance the project

Source: elaborated by the authors on the basis of interviews conducted

Based on the matrix drawn up above, we have found that the financing techniques used in PPPs in the health sector are limited to equity financing (20%) and subsidies (80%). According to the results of our study, debt is not used in this way for several reasons:

- **Default risk:** the private partner may not be able to repay its loans, leading to the bankruptcy of the project company.

- Interest rate volatility risk: a rise in interest rates may increase the cost of debt repayment, which could affect the project's profitability.
- Exchange rate risk: a change in exchange rates may affect the value of the debt, leading to losses for the private partner.
- The risk of health services under-performance.
- The risk of the public sector losing control of healthcare services.

To make the most of PPPs in the healthcare sector, and minimize the risks involved, it is important to design and implement these partnerships properly. Here are a few proposals for financing the healthcare sector through PPPs:

The granting of concessions is a form of PPP in which the public entity grants a private entity the exclusive right to provide a public good or service for a specified period. The private entity is responsible for the construction, maintenance and operation of the good or service. An example of this type of PPP is the project to build and operate a university hospital in Kigali, Rwanda. This project was financed by a partnership between the Rwandan government and a consortium of private companies. The hospital has a capacity of 300 beds and offers a full range of medical services, including primary care, specialized care and long-term care .

In addition, skeptics point to potential risks associated with weaknesses in the government's ability to conduct competitive procurement, formulate comprehensive contracts and budget them effectively. This deficiency in government capacity can pose a threat to public budgets and service providers (Hellowell, 2019). A comprehensive evaluation of 36 PPPs in various high- and low-income countries concluded that some partnerships proved costly and difficult for the public sector to manage effectively (Parker et al., 2019).

4.3 The main challenges and issues associated with healthcare PPPs:

The main challenges and issues related to healthcare PPPs, both from a financial and healthcare delivery perspective, are as follows(table 6) :

Table 6: The main challenges and issues associated with healthcare PPPs

Financial challenges and issues	Challenges and issues in healthcare delivery
<ul style="list-style-type: none"> ▪ The risk of cost overruns: Health PPPs can entail higher costs than publicly provided healthcare services. This is because the private sector needs to make a profit, which can increase costs for patients or taxpayers. ▪ The risk of conflict of interest: The private sector may have interests that diverge from those of the public sector. This can lead to conflicts of interest, which can adversely affect quality of care or costs. ▪ The risk of corruption: Healthcare PPPs can be prone to corruption. This can lead to cost overruns or poor quality of care. 	<ul style="list-style-type: none"> ▪ The risk of loss of control: The public sector may lose control of healthcare services provided by the private sector. This can lead to a reduction in the quality of care or an increase in costs. ▪ The risk of patient exclusion: Healthcare PPPs can lead to the exclusion of patients who cannot afford the services. ▪ The risk of market concentration: Healthcare PPPs can lead to market concentration, which can reduce competition and increase costs.

Source: elaborated by the authors on the basis of interviews conducted

Previous studies have shown that public-private partnerships face multiple challenges, particularly during the start-up and implementation phases. Joudyian, N and al, (2021) grouped these challenges into five areas :

- **Education** : inadequate testing and processing procedures and insufficient knowledge to justify the participation of people in collaborative projects by service providers;
- **Management**: The challenges reported were related to lack of strategic vision and commitment on the part of the various partners, poorly defined roles and expectations, difficulties in coordinating members and a lack of leadership skills;

- **Human resources** : The challenges reported were related to lack of trust between private and public partners, ownership identity, power disparities and lack of ability to undertake non-clinical tasks by staff in private clinical settings.
- **Financial resources**: the problems were related to inadequate and insecure financing, questions about the long-term sustainability of PPPs, lack of confidence in the repayment system used by private partners and the failure to take PPPs into account in the annual budget process;
- **Information and technology systems**: challenges stemmed from unclear policies and regulations concerning the implementation and evaluation of PPPs, documentation and record-keeping problems among private-sector providers, poor capacity to collaborate across sectors or implement regulations, lack of information and lack of standardization. Lack of sufficient monitoring due to lack of defined indicators.

4.4 Recommendations for improving PPPs in the healthcare sector:

The recommendations for improving PPPs in the healthcare sector are as follows:

- **A sound legal and regulatory framework**: A sound legal and regulatory framework is essential to protect the interests of patients and taxpayers. This framework must guarantee transparency and fairness in the bidding and selection procedures for private partners.
- **A strong partnership between the public and private sectors**: A strong partnership between the public and private sectors is essential to ensure the success of PPPs. Both parties need to work together to define project objectives, identify risks and put in place risk management mechanisms.
- **Regular monitoring and evaluation**: Regular monitoring and evaluation of PPP projects is important to identify and mitigate potential risks.

Specific recommendations:

In addition to these general recommendations, there are several specific recommendations that can be implemented to improve PPPs in the healthcare sector. These recommendations include:

- Clearly define the objectives of the PPP: The objectives of the PPP must be clearly defined and understood by all stakeholders. This will ensure that the PPP is aligned with public sector priorities.
- Clearly define stakeholder roles and responsibilities: Stakeholder roles and responsibilities must be clearly defined and understood by all stakeholders. This will help avoid conflicts and ensure that the PPP is implemented effectively.
- Put in place risk management mechanisms: It is important to put in place risk management mechanisms to mitigate potential risks associated with PPPs. These mechanisms can include performance clauses, dispute resolution mechanisms and termination mechanisms.
- Ensure regular monitoring and evaluation: It is important to regularly monitor and evaluate PPPs to identify areas where improvements can be made. This will ensure that the PPP is effective and meets public sector objectives.

4.5 Future prospects for the development of healthcare PPPs in Morocco:

The Moroccan government is committed to developing PPPs in the healthcare sector and has put in place a number of measures to promote these projects.

Factors contributing to the positive outlook for healthcare PPPs in Morocco include:

- Economic growth: Morocco's economic growth is expected to continue over the next few years, which should increase the resources available for investment in the healthcare sector.
- Growing demand for healthcare: Morocco's population is aging, and demand for healthcare is set to increase over the next few years.
- Private sector development: Morocco's private healthcare sector is developing rapidly, offering a pool of potential partners for PPPs.

Healthcare PPPs can help improve access to healthcare, enhance the quality of care and reduce costs. These projects can be an effective tool for addressing the challenges facing the Moroccan healthcare sector.

Here are some specific areas where healthcare PPPs could be developed in Morocco:

- Building and managing hospitals and clinics: PPPs can be used to build and manage hospitals and clinics, which can help improve access to healthcare in rural and underserved areas.
- Providing specialized healthcare services: PPPs can be used to provide specialized healthcare services, such as cardiac surgery or dialysis, which can be costly and difficult for the public sector to provide.
- Managing information and management systems: PPPs can be used to manage information and management systems in the healthcare sector, which can help improve the efficiency and transparency of the healthcare system.

By implementing the above recommendations, Morocco can increase the chances of success of health PPPs in the health sector. After examining the experiences of different countries with healthcare PPPs, several important lessons and recommendations emerge regarding the factors that contribute to or hinder the success of such projects. When contemplating a PPP, governments must carefully assess the project in relation to the overall requirements of the healthcare system. It is essential to have accurate data on current and future healthcare needs and expenses in order to make informed policy decisions regarding the design of the PPP and the appropriate cost structure to adopt (Abuzaineh, N et al., 2018).

Conclusion

The health financing situation in Morocco faces many challenges such as:

- To reduce direct household expenditure, which accounts for almost half of healthcare spending (54%), which represents a significant financial burden for individuals and households. compared with the 25% recommended by the WHO.
- The budget allocated by the State to health does not exceed 6%, whereas the WHO recommends that a minimum of 15% of the general State budget should be devoted to the health sector. This lack of funding has an impact on the financing of the health system.

In this context, PPPs (Public-Private Partnerships) can be a promising solution for the health sector in Morocco, as in other countries. PPPs are collaborations between government and private sector players to deliver public services, such as healthcare, by combining the resources and skills of both parties. Here are some of the potential benefits of PPPs in the health sector in Morocco:

- Improved access to healthcare: PPPs can help increase healthcare delivery capacity by enabling the construction of new hospitals, clinics, or health centres in underserved areas. This can help reduce disparities in access to healthcare between rural and urban areas.
- Improved quality of services: By combining private sector expertise with the management of healthcare facilities, PPPs can help to improve the quality of services provided, by introducing efficient management practices, state-of-the-art technologies, and international quality standards.
- Innovation and technology: Private partners can bring medical innovations, state-of-the-art equipment, and cutting-edge technologies to improve diagnostic and therapeutic capabilities in the country's healthcare facilities.
- Reduced financial burden on government: PPPs can relieve financial pressure on the government by allowing private investors to finance part of the project, including the construction and maintenance of healthcare infrastructure.

- Efficient management of resources: The private sector can provide expertise in management and operational efficiency, which can help to reduce the waste of resources and optimise the use of public funds allocated to healthcare.

However, it is essential to note that PPPs are not a silver bullet, and they also have potential challenges. Some of the challenges associated with PPPs in the healthcare sector include the need for strong regulation to protect public interests, transparency in contracts and agreements, and the risk of prioritising cost-effective care over priority healthcare needs.

In summary, PPPs can offer a complementary approach to improving the health sector in Morocco, but their implementation must be carefully planned and evaluated to ensure tangible benefits for the population and responsible management of public resources.

by way of conclusion , the financing mechanisms for investments under PPPs are an important aspect of the success of PPPs. Policymakers and health system managers need to be aware of the variety of financing mechanisms available and choose the appropriate mechanism based on the needs and objectives of the different actors involved.

The managerial implications of our research on the financing mechanisms for investments under PPPs in the health sector in Morocco are as follows:

- Policymakers and health system managers need to be aware of the variety of PPP financing mechanisms. They need to understand the advantages and disadvantages of each mechanism in order to choose the appropriate mechanism to meet the specific needs of the PPP project.
- Policymakers and health system managers need to ensure that PPP financing mechanisms are transparent and equitable. Risks and benefits should be equitably shared among the different actors involved.
- Policymakers and health system managers need to ensure that PPP financing mechanisms are sustainable. Financing mechanisms need to be viable in the long term in order to ensure the sustainability of PPPs.

The scientific implications of our article on financing mechanisms for investments under PPPs in the health sector in Morocco are as follows:

- The article offers valuable insights into funding mechanisms used for health PPPs in Morocco, expanding knowledge in this area.
- By providing performance data on different mechanisms, the article helps researchers understand their strengths and weaknesses.
- The article identifies untapped research areas, such as PPP financing in developing countries, prompting further investigation.
- This research can inform policy decisions and improve future PPP design, ultimately leading to more effective healthcare partnerships.

In short, the article contributes significantly to PPP research by providing practical knowledge, data, and potential future directions.

Our research opens up several avenues for future research. First, it would be interesting to study in more detail the factors that influence the choice of financing mechanisms for PPPs in the health sector. These factors may include the needs and objectives of the different stakeholders involved, the political and regulatory context, and economic conditions. Second, it would be useful to collect longitudinal data on the performance of the different PPP financing mechanisms. These data could be used to better understand the long-term advantages and disadvantages of each mechanism. Third, it would be important to study PPPs in other countries, including developing countries. This would help to better understand the specific challenges and opportunities associated with the use of PPPs in these contexts.

Our research also raises other important questions that deserve to be explored. For example, it would be interesting to compare the costs and benefits of PPPs with other approaches to financing investments in the health sector. It would also be useful to study the effects of PPPs on access, quality, and efficiency of health services.

Our research has some limitations. First, it is based on a case study of a single country. It would be necessary to conduct similar research in other countries to confirm our results. Second, our study is based on secondary data. It would be useful to collect primary data from stakeholders involved in PPPs.

Despite these limitations, our research provides important contributions to the literature on PPPs in the health sector. It offers a deeper understanding of PPP financing mechanisms, their implications for decision-makers, and the factors that influence their success.

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