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Tax Risk Management: A Lever for Reducing the Tax Gap

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Abstract

In an increasingly complex global economic context, each country continuously adjusts its tax system to maintain fiscal stability in relation to the observed tax gap. Achieving this goal requires strengthening tax compliance and implementing effective tax risk management. This paper examines how the tax risk management strategies adopted by tax administrations contribute to narrowing the tax gap, thereby enhancing compliance with fiscal obligations and optimizing public revenue. The research relies on a qualitative approach that includes semi-structured interviews with administrators and auditors from the Regional Directorate of Taxes (Direction Régionale des Impôts, DRI) of Fès, as well as an analysis of secondary data. The findings reveal that a proactive and integrated approach to risk management not only improves taxpayer compliance but also significantly enhances the performance of tax administrations. The results further underscore the importance of adopting advanced risk management frameworks, leveraging technological tools, and fostering cooperation among various stakeholders to achieve optimal outcomes in tax governance.

Keywords: tax gap, tax risk management, tax compliance, tax administration, strategies, tax revenue.

Introduction

Taxation remains a fundamental lever for the economic development of nations, particularly in developing countries. The ability to effectively mobilize tax revenues is essential for financing public expenditures that support the achievement of the Sustainable Development Goals (SDGs), including poverty reduction, enhanced public services in key sectors such as education and health, and infrastructure investments that foster inclusive and sustainable growth (OECD, 2015).

This necessity has become even more pressing in a global context characterized by rising public debt and declining official development assistance, which compels developing countries to strengthen both the efficiency of tax collection and the management of public spending (Ruud de Mooij et al., 2020). However, mobilizing tax revenues remains a major challenge for many developing economies. On average, the share of tax revenues in GDP ranges between 10% and 20% in developing countries, compared with 25% to 50% in developed economies (OECD, 2021). These substantial gaps indicate not only inefficiencies in tax systems but also a narrow tax base resulting from tax evasion and avoidance, as well as the limited performance of tax administrations in revenue collection and compliance enforcement (IMF, 2019).

Morocco provides a particularly relevant illustration of these challenges. Despite continuous efforts to modernize its tax administration and expand the tax base, the country still faces a

considerable tax gap (El Aoufi, 2018). The tax gap defined as the difference between theoretical tax revenues and those actually collected reflects both the weaknesses of tax collection systems and taxpayers' non-compliant behavior. This underscores the need to develop effective tax risk management strategies aimed at improving compliance and optimizing fiscal performance.

Tax risk management represents a strategic component in reducing the tax gap, especially in developing countries where tax evasion and the informal economy significantly hinder revenue mobilization (Boudi & Zahrane, 2021). In Morocco, several initiatives have been introduced to strengthen tax compliance, including the modernization of management systems, the expansion of digital taxation, and the implementation of proactive tax risk management tools such as electronic verification and data analytics (Hassan, 2017). Nevertheless, these efforts continue to face persistent challenges, notably the shortage of skilled human resources and insufficient coordination among key stakeholders.

The objective of this paper is to examine how the strategies adopted by the Moroccan tax administration contribute to narrowing the tax gap, with a particular focus on tax risk management, technological innovation, and stakeholder collaboration. This analysis seeks to provide practical recommendations to enhance the effectiveness of Morocco's tax system and strengthen the country's capacity to mobilize adequate tax revenues in support of sustainable economic development.

1- Literature Review: Fiscal Capacity and the Tax Gap

Fiscal capacity refers to a state's ability to mobilize sufficient tax resources to finance public expenditure while maintaining equity and efficiency in the tax system. It is a key indicator of national financial health, especially during periods of economic instability, fiscal crises, or structural reforms.

Several authors have analyzed this concept from complementary perspectives. Besley and Persson (2013) define fiscal capacity as the government's ability to collect tax revenues to fund public spending and improve service delivery, emphasizing its role in promoting development and good governance. Gaspar, Jaramillo, and Wingender (2016) similarly view fiscal capacity as central to strengthening institutions that ensure proper market functioning, highlighting its connection to the quality of economic and political systems.

Benitez et al. (2023) expand this notion by including political, institutional, and technical dimensions necessary for efficient tax mobilization, stressing the need for well-structured and institutionalized tax management. In this sense, fiscal capacity also serves as a performance indicator for tax administrations, reflecting their efficiency in revenue collection and their ability to limit losses caused by evasion, fraud, or insolvency (Mansour, 2015; Mourji, 2011).

According to Taufik (2018), fiscal capacity reflects a government's ability to mobilize resources while ensuring fairness and efficiency in managing public finances. Other scholars link it to fiscal space, that is, a country's ability to generate additional resources for development objectives. Heller (2005) associates' fiscal capacity with a government's flexibility to finance its policies, while Heuty (2006) relates it to poverty reduction through the equitable use of fiscal resources.

Moreover, Emran and Stiglitz (2005) point out that ineffective tax exemptions and weak collection mechanisms create economic distortions and reduce competitiveness, whereas sound fiscal management promotes stability and growth. In short, fiscal capacity extends beyond revenue collection: it encompasses the institutional, political, and technical foundations of sustainable public finance. Strengthening it enhances revenue predictability, builds public trust, and contributes to narrowing the tax gap.

1-1 Level of tax revenues in Morocco

An analysis of the share of tax revenues in Morocco's GDP between 2009 and 2023 reveals three key stages:

1. **Stagnation (2009–2019):** Tax revenues remained relatively stable, averaging around 18% of GDP. A slight decline to 17.5% was observed after 2015, with a sharp drop in 2020 due to the COVID-19 crisis.
2. **Recovery (2021–2023):** The post-pandemic rebound and fiscal measures adopted since 2021 led to a significant increase in revenues, resulting in a budget surplus of 2.2% of GDP in 2023.
3. **Consolidation (2023):** Continued reforms and improved collection mechanisms sustained an upward trend, with tax revenues representing 17.5% of GDP, confirming stronger fiscal performance and resilience.

Overall, these stages reflect the gradual strengthening of Morocco's tax system amid persistent economic and structural challenges.

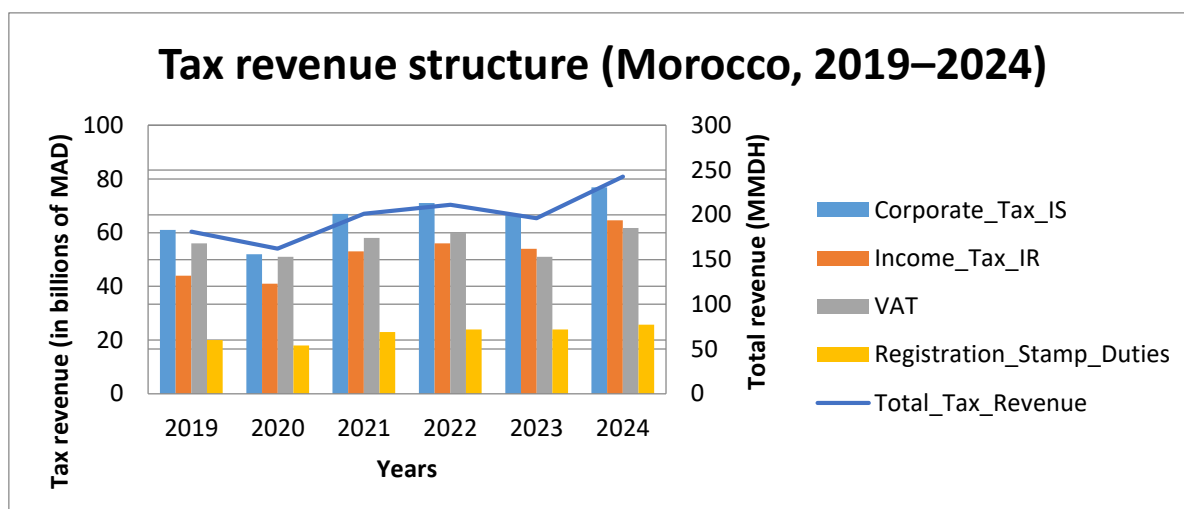


Figure 1: Evolution of tax revenues 2009-2023.

Source: Activity report of the Ministry of Economy and Finance (MEF).

1-2 Structure of tax revenues

Morocco's tax capacity is primarily structured around direct and indirect taxes, with a strong reliance on Value Added Tax (VAT) as a key source of fiscal revenue. The Moroccan tax system rests on a broad base, where VAT plays a dominant role due to its connection with household consumption. Between 2010 and 2024, VAT represented on average around two-thirds of indirect taxes and nearly 30% of total tax revenues, generating approximately 5% of GDP annually. In 2024, VAT revenues continued to increase, reaching nearly MAD 77 billion, driven by a significant rise in domestic VAT receipts, while import VAT revenues slightly declined due to measures supporting the agricultural sector and lower import levels. Direct taxes also showed steady growth, notably through corporate income tax (CIT) and registration and stamp duties, the latter maintaining a contribution close to 1.3% of GDP between 2015 and 2024.

Overall, the structure of Morocco's tax revenues has evolved toward greater diversification and improved collection efficiency, reflecting the government's efforts to enhance fiscal capacity and ensure budgetary stability amid economic and financial challenges.

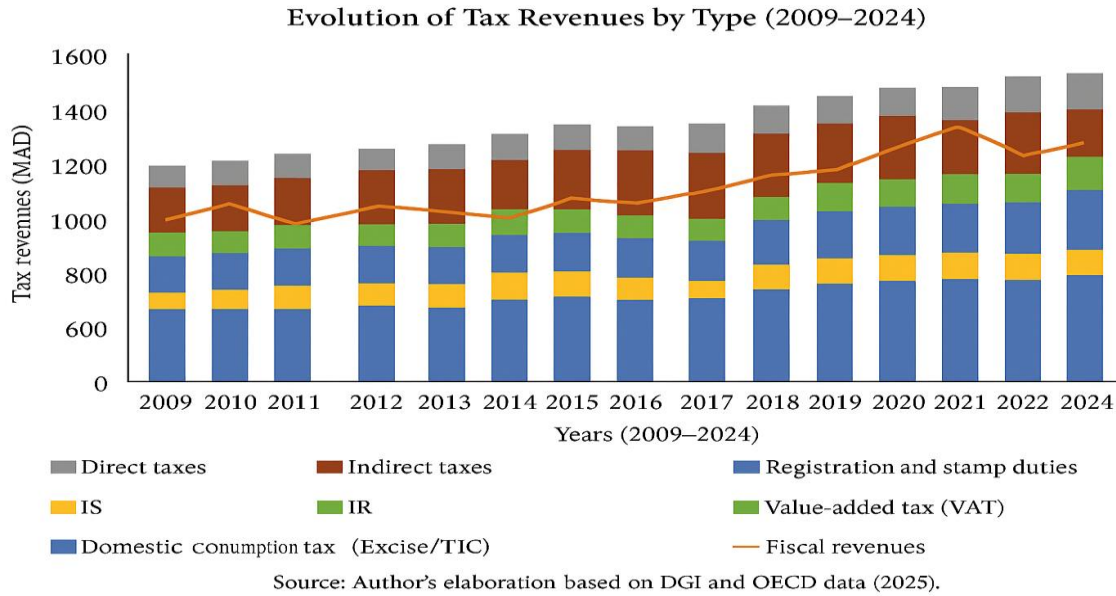


Figure 2: Structure of tax revenues in Morocco 2009-2023.

2-The Tax Gap and Fiscal Capacity

Before demonstrating the relationship between fiscal capacity and the fiscal gap, it is essential to remove any conceptual ambiguity surrounding our basic concept of *the "fiscal gap"*.

2-1 The tax gap

2-1-1 Definition of the Tax Gap

At first glance, the tax gap deserves special attention, as it is an essential measure of the differences between theoretical tax revenues and actual tax revenues. In other words, the tax gap represents the difference between theoretical tax revenues and those actually collected by the state (OECD 2020). It illustrates not only the efficiency of existing tax systems, but also potential opportunities for tax revenue growth through improved collection. , is an essential indicator for assessing the efficiency of a tax system. Indeed, the tax gap highlights several aspects of the tax system, including:

-Tax compliance by taxpayers: The larger the gap, the more it may indicate a low rate of compliance by taxpayers with their tax obligations.

-Tax evasion and fraud: A high tax gap may reflect significant tax evasion, where taxpayers use strategies to avoid paying their share of tax. According to (Slemrod, 2007), tax evasion

and fraud account for a significant portion of this gap. Understanding tax behaviour is crucial to reducing this gap and improving tax systems.

-Tax administration efficiency: An efficient tax system should minimise this gap, which requires robust collection mechanisms and rigorous audit policies.

2-2 Link between tax gap and fiscal capacity

As noted above, the tax gap the difference between theoretical and actual tax revenues is closely tied to a country's tax capacity. A low fiscal capacity often results in a high tax gap, reflecting weaknesses such as tax evasion, collection inefficiencies, and administrative shortcomings. In Morocco, despite significant reforms to enhance revenue collection, persistent challenges remain, particularly related to the informal economy, tax fraud, and complex tax procedures.

The Court of Auditors 2019 report identified the tax gap as a major issue undermining public finances, calling for structural reforms and improved compliance. To narrow this gap, Morocco must continue modernising its tax institutions, promoting transparency, and combating tax evasion, with the aim of optimising fiscal resources and reinforcing overall tax performance.

2-3 Factors Influencing the Tax Gap

The tax gap highlights major challenges in public finance management due to factors such as tax evasion, aggressive tax planning, and assessment errors. It results from voluntary or involuntary behaviour, making it difficult to assess. This gap may stem from voluntary non-declarations or structural flaws linked to inadequate tax laws. An effective tax system requires accurate assessment of these gaps in order to develop mitigation strategies and encourage taxpayer compliance. According to Tanzi (1999), administrative inefficiency and the complexity of tax laws contribute to this gap, making transparency and tax education crucial to reducing it.

The factors influencing the tax gap are diverse and include:

- ✓ **Tax compliance:** Taxpayers who comply with their tax obligations help to reduce the tax gap. Public policies that promote transparency and simplification of tax laws have a direct impact on increasing compliance, which can help to reduce this gap (**Alm & Torgler, 2006**).

- ✓ **Tax evasion:** The use of strategies to legally reduce the tax burden, often through complex means, is a significant cause of the tax gap. (**Slemrod, 2007**) discusses how tax planning strategies, although legal, can have effects similar to those of tax evasion.
- ✓ **Tax fraud:** Illegal behaviour aimed at reducing or avoiding taxes, such as concealing income, is also a major factor in the tax gap. The extent of tax fraud depends largely on the ability of tax authorities to detect and punish such behaviour.

2-4 Economic Theories Related to the Tax Gap

Economic theories related to the tax gap provide an analytical framework for understanding the differences between projected and actual tax revenues. These theories highlight the underlying mechanisms that contribute to the tax gap, taking into account not only the actions of economic agents, but also tax policies and the rationality of decision-makers.

2-4-1 The Theory of Bounded Rationality

Introduced by Simon (1957), this theory suggests that individuals, whether governments or private economic agents, do not always have all the necessary information or cognitive abilities to correctly assess the consequences of their fiscal decisions. This implies that estimation errors can arise, leading to significant tax gaps. Fiscal decision-makers may not have complete or accurate data to accurately project tax revenues, which can lead to misestimation of expected revenues and, consequently, a fiscal gap.

2-4-2 Incentive Theory

Developed by (Laffont and Tirole, 1993), this theory is based on the idea that the behaviour of economic agents is influenced by the structure of tax incentives put in place by the state. According to this theory, the information gap between tax authorities and taxpayers, combined with poorly calibrated tax incentives, can encourage tax evasion and optimisation. Individuals and businesses may actively seek to reduce their tax burden through legal means (tax planning) or illegal means (tax fraud), which exacerbates the tax gap. Poorly designed tax policies or regulatory loopholes can thus encourage tax evasion strategies.

2-4-3 Human Capital and Economic Behaviour Theory

Developed by **Becker (1964)**, this theory emphasises the importance of educational resources and the competence of economic agents in their ability to understand and comply with tax

obligations. A lack of understanding of tax obligations can lead to unintentional errors, but also to a sense of mistrust towards the tax authorities, which can undermine the willingness to fulfil one's obligations. A low level of tax education and a negative perception of the tax authorities can encourage tax evasion, thereby exacerbating the tax gap.

Indeed, exploring economic theories related to the tax gap enriches our understanding of the various mechanisms that exacerbate this phenomenon. These theories invite us to reflect deeply not only on the rationality of economic agents, but also on the role of tax policies and human behaviour. They highlight the need to adopt tax risk management strategies that take these complex dynamics into account. The interaction of these different theoretical perspectives highlights the importance of proactive-informed tax risk management to mitigate gaps and improve the predictability of tax revenues. Thus, by understanding the economic theories that explain the underlying causes of the tax gap, it becomes essential to put in place appropriate management mechanisms to reduce these gaps and ensure more accurate and equitable tax collection.

2-4 Mechanisms for Managing the Tax Gap

Tax gap management relies on strategies designed to reduce the difference between theoretical and actual tax revenues. These strategies focus on four main dimensions:

1. Improving tax compliance: This involves both incentives and enforcement. Incentive measures such as simplified tax procedures, reduced rates for compliant taxpayers, and awareness campaigns help foster a positive tax culture (Alm & Torgler, 2006). Enforcement mechanisms, including stronger penalties, more frequent audits, and digital fraud detection tools, increase compliance through deterrence.

2. Strengthening control mechanisms: Enhanced monitoring, auditing, and data analysis capabilities are essential. The use of modern technologies and electronic management systems enables tax administrations to track and verify transactions more effectively, thereby reducing evasion risks.

3. Simplifying tax legislation: Complex rules often lead to errors or non-compliance. Simplified, transparent, and consistent tax systems improve compliance and administrative efficiency. As noted by Tanzi (1999), clear and well-structured tax frameworks help narrow the tax gap.

4. Promoting taxpayer education: Raising awareness of civic responsibility and the benefits of fair taxation strengthens voluntary compliance and trust in the tax system.

2- Tax risk: literature review

2-1 Definition of tax risk

Tax risk is a complex concept that refers to the uncertainty surrounding the application of tax rules and the potential impact of non-compliance or inadequate tax management on businesses or tax administrations. There are different interpretations of this concept depending on the context and perspective of researchers.

Rossignol (2002) defines tax risk as encompassing two facets: on the one hand, voluntary or involuntary non-compliance with tax rules and, on the other hand, ignorance of favourable tax provisions, which can result in significant revenue shortfalls for the state. This definition highlights the potential consequences for both taxpayers and tax authorities, thus emphasising the risks associated with poor management of tax information. Similarly, **(Freedman et al, 2009)** echo this distinction, stating that tax risk can arise from two main causes: intentional or unintentional non-compliance with tax rules and regulations, and ignorance of favourable tax provisions that could have led to significant tax savings.

Other authors also approach tax risk from a more institutional perspective. **(Brühne et al, 2022)** emphasise that tax risk is a multifaceted concept, highly dependent on the context in which it is observed. This perspective highlights that tax risks vary depending on tax systems and the specific situations of taxpayers or governments. In this sense, **(A. Firmansyah and R. Muliana, 2018)** introduce the distinction between narrow tax risk and broad tax risk. The former refers specifically to the risk of tax non-compliance, i.e. taxpayers' failure to meet their tax obligations. Broad tax risk, on the other hand, covers a wider range of risks related to a state's inability to fulfil its functions, resulting from problems in tax collection, management or policy.

2-2 Types of Tax Risks

Tax risk can be classified into several categories to better understand its manifestations and effects. According to **Russ (2008)**, it represents the uncertainty arising from the application of tax rules to specific economic situations. This uncertainty is often linked to legislative changes or differing interpretations of tax law by courts and tax authorities.

Neuman et al. (2020) add that tax risk may stem from legislative instability and errors in processing tax information by companies or administrations, highlighting the challenges created by economic volatility and the complexity of tax systems.

Other scholars distinguish between objective and subjective tax risks. As noted by Xiao-ling Xu and Li-jia Huang (2017), tax risk is universal—affecting all firms regardless of size—but also subjective, since companies seek to minimise their tax burden while authorities aim to maximise revenues.

A broader typology proposed by Guedrib (2013) includes not only risks of non-compliance but also the loss of legitimate tax benefits or the adoption of aggressive yet legal tax strategies contrary to public policy objectives.

Overall, tax risk is a multidimensional concept, encompassing legislative uncertainty, administrative errors, and strategic behaviour by taxpayers. Understanding its diverse forms helps governments design more effective tax risk management and compliance strategies.

2-3- Tax risk management strategies

The last decade has been marked by a global phenomenon that is becoming increasingly important in the discourse of tax authorities, known as "*tax risk management*". The need to manage tax risk stems in part from the existence of uncertain and inadequate tax legislation. Risk management strategies often reflect how organisations, and more specifically internal tax specialists, deal with this uncertainty.

2-3-1 Tax risk management process at the tax administration level

Tax authorities must manage tax risk, which results from illegal actions by taxpayers to reduce their tax bases. Every year, the state loses significant amounts of money due to tax evasion and non-payment of taxes. These losses represent a tax risk, defined as the uncertainty surrounding the achievement of the tax objective, resulting in the tax gap between expected and actual revenue (Klonowska, 2016). This risk is influenced by the self-assessment model of tax systems, where taxpayers are responsible for calculating and paying their own taxes, often using evasion or fraud strategies. Tax authorities, often limited in human and technical resources, must estimate and minimise this risk. According to (D'Ascenzo, 2015), poor resource allocation could increase this risk, making the use of tax risk management crucial. This management aims to identify, prioritise and address risks to improve the efficiency of the tax system. These risks may include non-compliance, tax fraud or taxpayer insolvency. According to the European Commission (2010), **compliance risk management (CRM)** comprises five essential steps for managing these risks effectively, as outlined in the figure below:

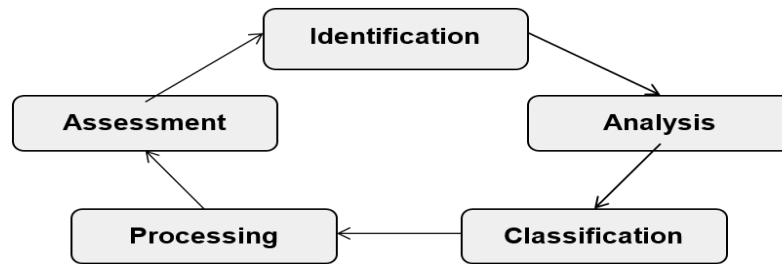


Figure 3: Non-compliance risk management.

Source: European Commission (2010), Guide to managing non-compliance risk for tax administrations.

Effective tax risk management follows a structured process encompassing identification, analysis, ranking, treatment, and continuous monitoring of risks.

1. **Risk identification** involves either a top-down macroeconomic approach or a bottom-up case-based approach to understand the behavioural and structural factors driving taxpayer compliance.
2. **Analysis and ranking** consist of assessing each risk's likelihood and impact using historical data, statistical tools, or qualitative evaluation, in order to prioritise intervention areas.
3. **Treatment** includes measures such as targeted tax audits, improved data collection, staff training, and the implementation of corrective mechanisms.
4. **Continuous monitoring** ensures ongoing evaluation and adjustment of strategies to maintain efficiency over time.

According to the European Commission (2010), sound tax risk management allows administrations to ensure fairness, focus audits on high-risk taxpayers, optimise resource allocation, and promote voluntary compliance. It also helps anticipate behavioural shifts that could lead compliant taxpayers to become non-compliant.

2-4 Tax risk management and tax gap:

Tax risk management therefore plays a central role in reducing this gap by enabling tax administrations to better understand, assess and mitigate the risks associated with tax collection.

2-4-1 The importance of tax risk management in reducing the tax gap

Tax risk management encompasses strategies implemented by tax administrations to mitigate risks related to tax collection. According to Mansour (2015) and Mourji (2011), effective

management reduces tax losses by addressing evasion, administrative errors, and non-compliance. The more efficiently these risks are managed, the narrower the tax gap becomes.

Such practices involve enhancing compliance, optimising collection systems, and using advanced technologies to track payments and detect fraud. As noted by Neuman et al. (2020) and Russ (2008), tax risk also arises from legislative uncertainty, divergent interpretations, and aggressive tax planning. Proactive management of these risks helps not only reduce the tax gap but also improve revenue predictability and taxpayer compliance. Building on the literature linking tax gap determinants and risk management, the following proposals are formulated to deepen the understanding of the relationship between these two dimensions.

Proposal 1: *Proactive tax risk management reduces the tax gap by improving taxpayer compliance and reducing tax evasion and fraud.*

Proposal 2: *Improving administrative efficiency and using advanced technologies in tax collection helps reduce the tax gap by optimising payment tracking processes and quickly detecting irregularities.*

This proposition can be tested by asking questions about specific technological innovations or administrative reforms implemented to improve tax collection and their impact on the tax gap.

These two proposals aim to assess the effectiveness of tax risk management in reducing the tax gap. The figure above represents our conceptual framework, which we believe will enable us to proceed with a coherent framework capable of providing answers to our main question regarding the influence of tax risk management on the tax gap.

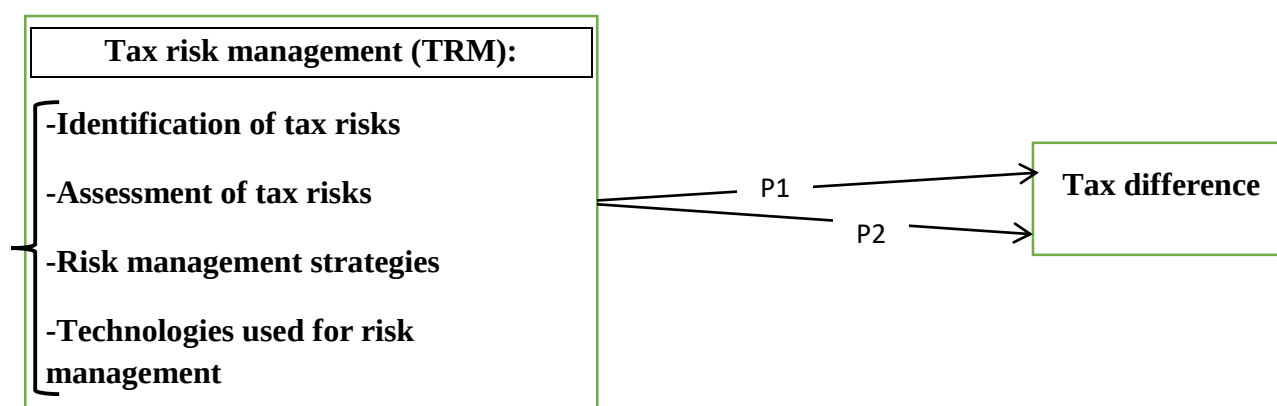


Figure 4: Conceptual framework taken from the literature.

3- Research methodology :

1- Analysis and results of qualitative data:

In order to obtain the data necessary for content analysis, we conducted semi-structured interviews with certain officials from the DGI (Directorate General of Taxes). The interviews, which lasted 20 to 30 minutes, were conducted with seven (7) auditors from the FES-MEKNES regional tax administration responsible for on-site audits and three (3) administrators responsible for conducting document-based audits. Participants were selected based on their years of experience and their involvement and expertise in various aspects of the tax process. Our semi-structured interview guide gave interviewees freedom of speech while providing a structured framework for the process. It included an introductory phase designed to explore the interviewees' positions and years of experience in tax auditing. We then addressed five key themes, which can be detailed as follows:

Theme 1: *Identification of Tax Risks.*

Theme 2: *Risk Assessment*

Theme 3: *Risk Reduction Strategies*

Theme 4: *Technologies Used for Risk Management*

Theme 5: *Risk Control and Monitoring*

Theme 6: *Impact of tax risk management on tax differences.*

Our qualitative study focused on three main operations, presented below: Prepare and analyse the responses collected. After verifying the reliability of the interview transcripts, we then identified the themes for analysis in relation to our research questions. These were then grouped into categories, initially defined on the basis of the literature and then adjusted according to the data collected. This approach allowed us to structure our analysis while remaining open to new emerging information. This enabled us to present our sample. The data was processed using thematic and textual content analysis with Nivo 12 software. The interviews were recorded and transcribed into Word documents. The table above shows the composition of the sample interviewed.

Table 1: Presentation of the exploratory study sample:

	A : fonction du répondant ▼	B : genre répondant ▼	C : année d'expérience ▼
1 : administrateur...	administrateur	Homme	7ans
2 : administrateur...	administrateur	Femme	8ans
3 : administrateur...	administrateur	Homme	8ans
4 : vérificateur 1 ...	vérificateur	Homme	10ans
5 : vérificateur 10...	vérificateur	Homme	12ans
6 : vérificateur 2 ...	vérificateur	Homme	10ans
7 : vérificateur 3 ...	vérificateur	Femme	8ans
8 : vérificateur 4 ...	vérificateur	Homme	8ans
9 : vérificateur 8 ...	vérificateur	Homme	7ans
10 : vérificateur 9...	vérificateur	Homme	10ans

Source: NVIVO software

This table categorises respondents according to three criteria: role, gender and years of experience. By analysing the two criteria, we can examine the results in the table to better understand the variations and trends that emerge based on the respondents' roles and experience.

Table 2: Distribution of responses according to profile and years of experience

Interview	Respondent's role = auditor (7)				Respondent's role = administrator (3)		Total (10)
	Years of experience = 8 years (2)	Years of experience = 10 years (3)	Years of experience = 12 years (1)	Years of experience = 7 years (1)	Years of experience = 8 years (2)	Years of experience = 7 years (1)	
Topic 1 Risk identification	16.67	15.79	16.67	16.67	16.67	16.67	16.39
Theme 2 Risk assessment	16.67	21.05	16.67	16.67	16.67	16.67	18.03
Theme 3 Risk reduction strategies	16.67	15.79	16.67	16.67	16.67	16.67	16.39
Theme 4 Technologies used for risk management	16.67	15.79	16.67	16.67	16.67	16.67	16.39
Theme 5 Control and monitoring of tax risks	16.67	15.79	16.67	16.67	16.67	16.67	16.39
Theme 6 Impact of risk management on the tax gap	16.67	15.79	16.67	16.67	16.67	16.67	16.39
Total	100	100	100	100	100	100	100

Source : Nvivo 12.

The table shows the distribution of interview responses according to the **respondent's role** and **years of experience**. The distribution percentages are equal to 16.67% for each category, with the exception of the results for administrators (respondent role), where the distribution remains equally consistent, but with a slight adjustment in the category of respondents with 12 years of experience (16.39%).

In fact, the percentages equal to 16.67% for each theme across all respondents show a balanced perception of the impact of tax risk management on the tax gap, regardless of the respondents' profile. There is no significant variation based on role or experience, which could suggest that opinions on this subject are relatively uniform among the different groups of respondents. This finding may reflect a shared view of the importance of tax risk management in reducing the tax gap. Having noted a certain similarity between the responses, we analysed the **degree of correlation** between respondents' perceptions using **Pearson's correlation coefficient**. This coefficient measures the strength of the linear relationship between the responses of different groups of respondents. The table above shows the various results obtained.

Table 3: Pearson's correlation coefficient:

<u>File A</u>	<u>File B</u>	<u>Pearson correlation coefficient</u>
Auditor 3 E GRF and EF	Verifier 2 E GRF and PAF	0.917923
Verifier 2 E GRF and EF	Verifier 1 E GRF and PAF	0.914737
Auditor 8 E GRF and EF	Administrator 7 E GRF and PAF	0.913698
Auditor 10 E GRF and EF	Administrator 5 E GRF and PAF	0.909654
Auditor 10 E GRF and EF	Administrator 7 E GRF and PAF	0.905894
Auditor 10 E GRF and EF	Administrator 6 E GRF and PAF	0.902884
Administrator 7 E GRF and PAF	Administrator 6 E GRF and PAF	0.90162
Auditor 8 E GRF and PAF	Auditor 1 E GRF and PAF	0.896634
Auditor 3 E GRF and PAF	1 E GRF and PAF verifier	0.89439
Administrator 7 E GRF and PAF	Administrator 5 E GRF and PAF	0.894123
Auditor 1 E GRF and PAF	Administrator 7 E GRF and PAF	0.893131
Auditor 8 E GRF and PAF	Auditor 10 E GRF and PAF	0.892959
Administrator 6 E GRF and PAF	administrator 5 E GRF and PAF	0.892427
Auditor 9 E GRF and PAF	Administrator 6 E GRF and PAF	0.888526
Auditor 10 E GRF and PAF	Auditor 1 E GRF and PAF	0.888017
Auditor 9 E GRF and PAF	8 E GRF and PAF verifier	0.883885
Auditor 4 E GRF and PAF	administrator 5 E GRF and PAF	0.883837
Auditor 8 E GRF and PAF	Administrator 6 E GRF and PAF	0.882591
Auditor 4 E GRF and PAF	Auditor 2 E GRF and PAF	0.882478
Auditor 9 E GRF and PAF	10 E GRF and PAF verifier	0.880176

Auditor 9 E GRF and PAF	Administrator 7 E GRF and PAF	0.878117
Auditor 8 E GRF and PAF	Auditor 3 E GRF and PAF	0.876402
Auditor 4 E GRF and PAF	3 E GRF and PAF verifier	0.875656
Auditor 9 E GRF and PAF	administrator 5 E GRF and PAF	0.875442
Auditor 2 E GRF and PAF	Administrator 6 E GRF and PAF	0.874827
Auditor 4 E GRF and PAF	Auditor 1 E GRF and PAF	0.874575
Auditor 3 E GRF and PAF	administrator 7 E GRF and PAF	0.874135
Auditor 8 E GRF and PAF	Auditor 2 E GRF and PAF	0.873756
Auditor 2 E GRF and PAF	administrator 7 E GRF and PAF	0.873049
Auditor 8 E GRF and PAF	Administrator 5 E GRF and PAF	0.871667
Auditor 9 E GRF and PAF	Auditor 3 E GRF and PAF	0.870462
Auditor 1 E GRF and PAF	Administrator 6 E GRF and PAF	0.870304
Auditor 3 E GRF and PAF	Administrator 6 E GRF and PAF	0.868251
Auditor 9 E GRF and PAF	Auditor 2 E GRF and PAF	0.868195
Auditor 3 E GRF and PAF	verifier 10 E GRF and PAF	0.866461
Verifier 2 E GRF and PAF	10 E GRF and PAF verifier	0.866388
Auditor 3 E GRF and PAF	administrator 5 E GRF and PAF	0.863228
Auditor 4 E GRF and PAF	Auditor 10 E GRF and PAF	0.861017
Auditor 1 E GRF and PAF	administrator 5 E GRF and PAF	0.858856
Auditor 2 E GRF and PAF	Administrator 5 E GRF and PAF	0.858533
Auditor 9 E GRF and PAF	Auditor 1 E GRF and PAF	0.857192
Auditor 9 E GRF and PAF	verifier 4 E GRF and PAF	0.855186
Auditor 4 E GRF and PAF	Administrator 6 E GRF and PAF	0.852081
Auditor 4 E GRF and PAF	Administrator 7 E GRF and PAF	0.850092
Auditor 8 E GRF and PAF	Auditor 4 E GRF and PAF	0.847351

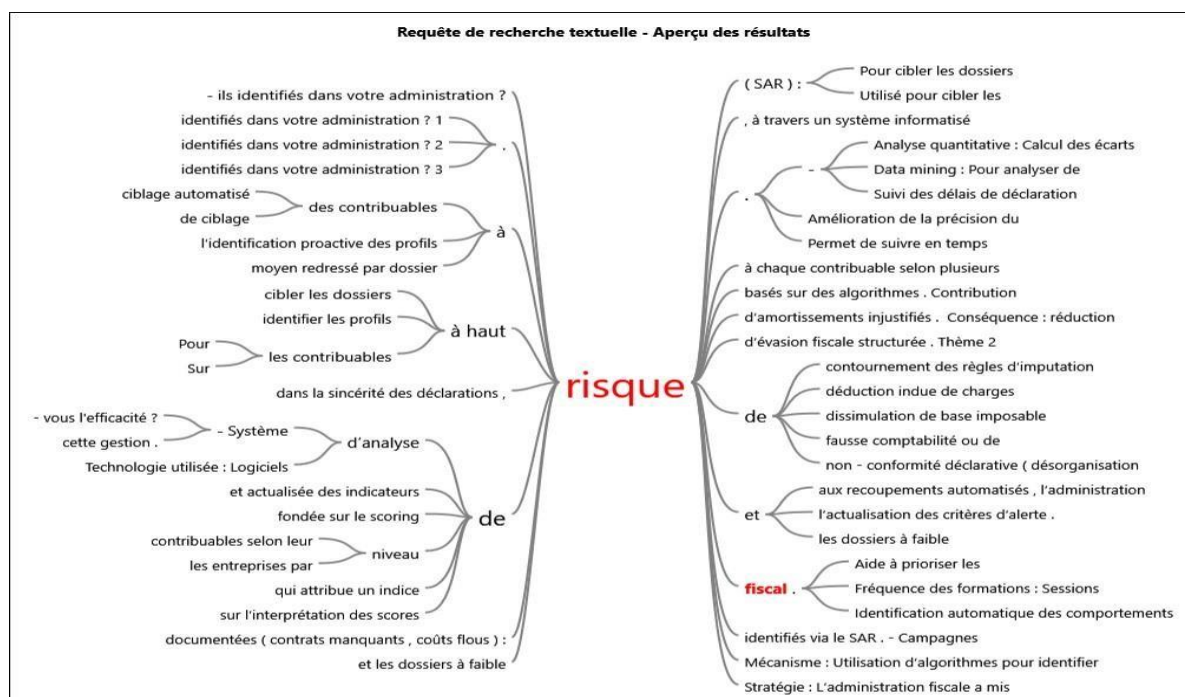
Source : NVIVO 12.

The table shows high correlations, often above **0.85**, indicating a strong similarity in responses. For example, the pair "auditor 3 E GRF and EF" and "auditor 2 E GRF and EF" has a coefficient of **0.917923**, suggesting almost identical responses. The weakest correlations, around **0.85**, remain significant, showing overall consistency among respondents. These results suggest a notable consensus on tax risk management issues, despite differences in role and experience.

Textual analysis:

The textual analysis of the interview responses is represented in the form of a word cloud, shown in the figure above. This cloud highlights the terms most frequently cited by respondents in relation to **tax management** and **the tax gap**. The words "**tax**", "**management**" and "**gap**" appear in large font, indicating their high frequency in the responses and highlighting the importance attached to tax risk management in reducing the tax gap.

Figure 6: Textual search query.



Source: Nvivo 12

Text query result:

The text query tree highlights the complex relationships between key concepts in tax risk management. At its centre, the term “*risk*” connects to elements such as “*targeting files*” and “*identifying taxpayers*”, underscoring the importance of focusing on high-risk cases to enhance the efficiency of tax procedures.

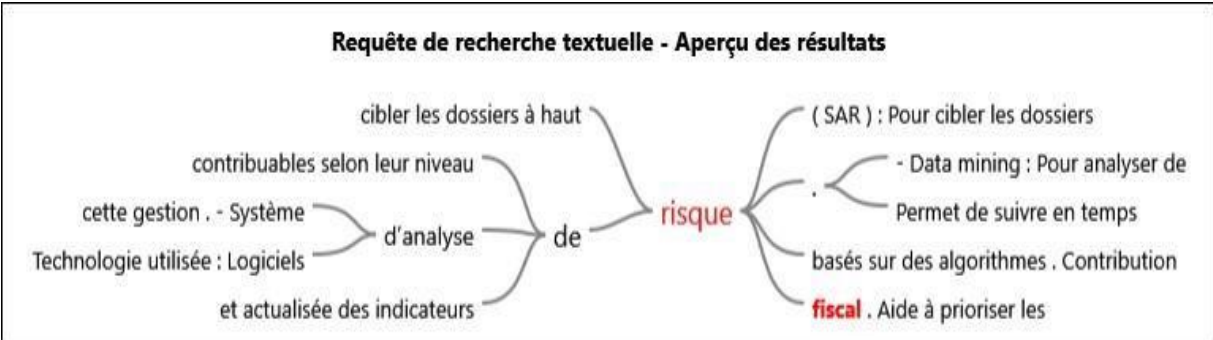
The analysis also reveals the growing role of technology in risk management. Terms like “*analysis system*”, “*software*”, and “*scoring*” indicate that digital tools are now essential for processing tax data, assessing risk levels, and improving compliance. Respondents emphasise the need to better identify high-risk taxpayers and verify the accuracy of declarations, highlighting the importance of reliable monitoring systems.

Furthermore, the tree points to the contribution of automation, algorithms, and staff training in reducing the tax gap and strengthening institutional capacity. These strategies enable more effective fraud detection and continuous improvement in risk management practices.

Overall, the findings suggest that respondents view technology, targeting, verification, and training as interconnected pillars of efficient tax risk management and a sustained reduction of the tax gap. As illustrated in Figure 7, the sub-tree focusing on taxpayer trust shows how

transparency, efficient collection, and fair enforcement reinforce the legitimacy and effectiveness of tax administrations.

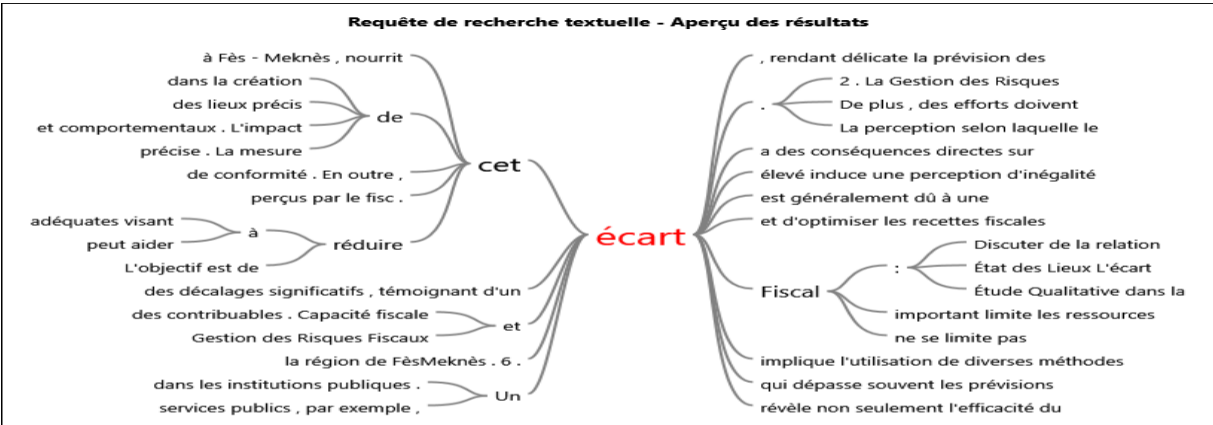
Figure 7: Tree diagram of tax ri



Source: Nvivo12 software

In a second sub-tree, shown in Figure 7, we will take a closer look at how structured risk management and the use of advanced technologies, such as data mining and analysis systems, make it possible to target and prioritise high-risk cases, thereby contributing to more targeted and effective management of tax resources and reducing the tax gap.

Figure 8: Tree diagram on reducing the tax gap.



Source: Nvivo 12 software

These sub-trees provide a deeper understanding of the factors influencing tax risk management and their interconnections. Figure 8 presents a mind map centred on the concept of the “tax gap”, illustrating its various dimensions and implications within tax risk management. The central keyword “gap”, shown in red, branches into two main axes: one addressing its causes and effects, and the other outlining strategies to reduce it.

On the left-hand side, the tax gap reflects both structural constraints and behavioural factors of taxpayers. It is influenced by fiscal capacity, compliance measures, and reporting practices,

particularly within the Fez-Meknes region. This gap results from discrepancies between expected and collected revenues, revealing weaknesses in policy design and local implementation. Adopting a contextual approach, tailored to institutional and regional specificities, is therefore crucial to designing effective compliance strategies. On the right-hand side, the focus shifts to the analytical and strategic challenges of managing the tax gap. This imbalance affects revenue forecasting and may foster a perception of tax inequity among citizens. Hence, tax risk management extends beyond technical procedures to a more qualitative and multidimensional approach, combining behavioural analysis, local governance, and risk anticipation.

Ultimately, this conceptual framework underscores that reducing the tax gap requires coordinated actions at the local level, improved understanding of taxpayer behaviour, and proactive risk management to enhance both fiscal equity and policy efficiency.

5. Discussion

The qualitative analysis conducted with officials from the Directorate General of Taxes (DGI) in the Fez-Meknes region revealed significant convergence between the perceptions of actors in the field and the theoretical findings from the literature review. This section discusses these major convergences and divergences around six themes.

1. Identification and assessment of tax risks: The literature emphasises that rigorous identification of tax risks is a crucial first step in any strategy to reduce the tax gap (European Commission, 2010). This position is confirmed by the field results, where respondents, regardless of their position or seniority, attach great importance to this step (see homogeneous distribution around 16.67%). The consensus among participating s shows a shared understanding of the need for proactive and analytical risk identification, supporting the theories of Klonowska (2016) and Neuman et al. (2020) on the effectiveness of advanced analysis systems.

2. Risk reduction strategies and tax compliance: The literature refers to the importance of strategies that balance coercive and incentive measures to improve tax compliance (Alm & Torgler, 2006). The interviews confirmed this view: tax officials believe that improving compliance requires not only more rigorous audits, but also increased tax education. The word cloud and query tree show a high frequency of the terms "compliance", "strategy" and

"declaration", highlighting a focus on reducing the gap through more strategic management of tax returns.

3. Technologies used in risk management: the work of Gaspar et al. (2016) and Hassan (2017) emphasises the need to digitise tax management. Empirical data fully confirms this approach: respondents frequently cite the use of software, targeting algorithms and automated systems as key tools for scoring files and detecting fraud. The integration of technological tools such as data mining therefore supports the idea that technology is at the heart of a new Moroccan tax paradigm.

4. Impact of practices on reducing the tax gap: There is strong alignment between field perceptions and the literature regarding the impact of management practices on the tax gap. The concept map (Figure 8) confirms that agents see risk management as a direct lever for reducing the tax gap, a relationship that is also supported in theoretical proposals (Mansour, 2015; Mourji, 2011). The Pearson correlation of over 0.85 between the different groups surveyed attests to this shared conviction.

5. Uniformity of perceptions despite diversity of functions: A striking finding of the study is the homogeneity of responses between auditors and administrators. This general consensus contrasts slightly with some studies (Brühne et al., 2022) that highlight differences in perception between hierarchical levels. Here, the results suggest a strong institutional culture and strategic alignment between field actors and central guidelines.

6. Institutional management and the human dimension of tax risk: Finally, the theoretical review emphasises the importance of human capital (Becker, 1964) and transparency in building a relationship of trust between taxpayers and the administration. This perspective has also been validated empirically: the agents surveyed emphasise the importance of continuing education and education for taxpayers as an essential condition for long-term tax success.

From the above, we can clearly see that the empirical results largely confirm the findings in the literature. Our study shows that tax risk management practices, although faced with operational challenges, are consistent with international best practices. Morocco seems to be moving towards a proactive tax management model that is technologically supported and humanly rooted in the reality on the ground.

Conclusion

In conclusion, our study has explored in depth the relationship between tax risk management and the reduction of the tax gap in Morocco, based on both a review of the literature and a qualitative survey of tax administration officials in the Fez-Meknes region, namely administrators and auditors. The results confirmed that the implementation of structured risk management strategies, particularly through the identification, assessment and monitoring of tax risks, is a key lever for strengthening the state's fiscal capacity and reducing revenue losses due to fraud, evasion and non-compliance.

The theoretical analysis emphasised the importance of fiscal capacity in mobilising public resources, highlighting the impact of systemic failures on the efficiency of tax collection. For their part, the empirical results revealed a consensus among practitioners on the centrality of technology, continuous training and a culture of compliance in optimising fiscal performance. The strong correlation between the responses of the different categories of respondents reflects a shared vision of tax issues, demonstrating growing institutional maturity in public finance governance. Furthermore, this research confirms that the proactive and technological approach adopted by the Moroccan tax administration, although still perfectible, is aligned with the international standards promoted by the OECD and the IMF. Data analysis tools, tax r taxpayer scoring systems and smart targeting policies appear to be essential innovations for anticipating risks and taking effective action. However, the study also highlighted certain persistent challenges, such as the complexity of tax laws, the lack of inter-institutional coordination and the limitations in terms of skilled human resources. If these obstacles are not removed, they could compromise the efforts undertaken and reduce the effectiveness of the tax policies implemented. Our research thus confirms that tax risk management is not only a tool for reducing the tax gap, but also a fundamental pillar of strengthening tax justice and fiscal sustainability.

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