Measuring the Effects of Investment Policy on SME Financing: The Case of Morocco's 2022 Charter

Hector Botello

Washington State University
hector.botello@wsu.edu

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Abstract

We examine the impact of Morocco's 2022 Investment Charter Reform on SME financing using firm-level panel data from 2019 to 2023. The Reform aims to stimulate private investment and ease credit constraints by offering tax incentives, streamlined administrative procedures, and expanded credit support mechanisms SME-focused. We use a difference-in-differences design to compare SMEs and large firms. Our findings indicate that the Reform led to modest improvements in foreign ownership for SMEs and reduced their reliance on internal funds. However, SMEs did not experience significant gains in access to bank or non-bank financing. Regional analysis reveals that Casablanca-Settat and the East benefited more from the Reform, while the North and South showed little change. Sector analysis shows that food SMEs attracted additional foreign capital. These results align with previous studies that highlight persistent structural barriers in SME financing, such as strict collateral requirements and limited credit histories. We discuss the need for complementary risk-sharing mechanisms, improved credit information systems, and regionally targeted interventions to enhance the Reform's effectiveness. Our study contributes to the literature on regulatory policy and SME finance, providing insights for policymakers seeking to improve financial inclusion in emerging markets.

JEL Classification: G21, L25, O16, D22

Keywords: Investment Charter Reform, SME Financing, Financial Inclusion, Difference-in-Differences, Morocco, Firm Performance.

1 Introduction

Small and medium-sized enterprises (SMEs) are central to economic growth, employment, and innovation. In Morocco, SMEs represent over 95% of firms, account for nearly 40% of private-sector investment, and contribute around 30% of national exports (OECD, 2022). Despite their economic importance, SMEs face persistent financing constraints due to collateral requirements, high interest rates, and risk-averse lending practices by financial

institutions (World Bank, 2023). These barriers limit business expansion, productivity growth, and broader financial inclusion, making SME financing a key policy challenge in developing economies.

Over the past three decades, Morocco's financial sector has undergone substantial liberalization as part of broader structural adjustment programs. The banking sector reforms of the 1990s and early 2000s sought to reduce government intervention, strengthen financial institutions, and deepen credit markets (Yu, Hassan). While these reforms contributed to macroeconomic stability, SME credit access remained disproportionately constrained. Large firms benefited more from financial liberalization, while SMEs continued to rely on informal financing channels (African Development Bank, 2023). Empirical evidence suggests that access to finance in Morocco remains highly uneven, reflecting both structural inefficiencies and risk perceptions in the banking sector (OECD, 2022).

To address these challenges, the Moroccan government introduced the 2022 Investment Charter Reform, aimed at stimulating private investment and improving SME access to finance (Government of Morocco, 2022). The Reform introduced tax incentives, streamlined investment approval processes, and encouraged commercial banks to expand SME lending. Similar policies in Chile, Malaysia, and South Korea have successfully increased financial inclusion and credit allocation to SMEs (OECD, 2020). However, the extent to which the Moroccan Reform has improved SME financing remains uncertain. Historically, Moroccan SMEs have relied heavily on retained earnings and informal credit rather than formal banking channels (World Bank, 2023). Structural barriers, including asymmetric information and high transaction costs, may limit financial institutions' responsiveness to policy incentives (African Development Bank, 2023). Moreover, existing studies on SME financing in Morocco have largely focused on macroeconomic indicators rather than firm-level financing behavior (Yu, Hassan).

This study examines whether the 2022 Investment Charter Reform has enhanced SMEs' access to formal or foreign financing . We employ a Difference-in-Differences (DID) methodology using firm-level panel data from the *World Bank Enterprise Surveys* (WBES) for Morocco, covering the period 2019 and 2023. The analysis compares financing structures of SMEs and large firms before and after the Reform, focusing on key financial indicators such as the share of working capital financed by banks, firm age, employment levels, and industry classifications.

This paper contributes to the literature in three key ways. First, it provides empirical evidence on the effectiveness of investment policy reforms in improving SME financial inclusion, addressing a critical gap in the development finance literature. Second, it offers insights for policymakers and financial institutions on designing effective credit market interventions for SMEs. Third, by employing a quasi-experimental approach with firm-level microdata, it strengthens methodological frameworks for assessing investment reforms in emerging economies.

The remainder of the paper is structured as follows. Section 2 reviews the literature on SME financing and investment policy reforms. Section 4 outlines the data and methodology, detailing the DID approach and key variables. Section 5 presents empirical findings, including descriptive statistics and DID estimates. Section 6 discusses policy implications, and Section 7 concludes by summarizing the study's contributions and suggesting avenues for future research.

2 Literature Review

Access to finance remains one of the most significant challenges facing small and medium-sized enterprises (SMEs) in developing economies. SMEs are widely recognized as key drivers of economic growth, employment, and innovation, yet their expansion is often constrained by limited access to formal financial markets. The lack of financing stems from structural barriers such as high collateral requirements, information asymmetries, and risk aversion among financial institutions (Beck & Demirgüç-Kunt, 2006). Governments and international organizations have increasingly focused on policy reforms to alleviate these constraints, using financial liberalization, credit guarantee programs, and investment incentives to enhance SME financial inclusion.

The Moroccan financial sector has undergone multiple waves of Reform aimed at improving financial intermediation, yet SME credit accessibility has remained suboptimal (World Bank, 2023). The 2022 Investment Charter Reform represents a pivotal step in the government's strategy to enhance private investment and SME financing, particularly in underdeveloped regions. However, the extent to which this Reform will succeed remains uncertain, as previous attempts at financial liberalization have yielded mixed results across different contexts. This literature review examines the theoretical and empirical foundations of SME financing and policy reforms, situating Morocco's reform efforts within a broader global framework.

2.1 Theoretical Framework

The financing gap for SMEs stems largely from information asymmetry. Stiglitz and Weiss (1981) show that banks struggle to differentiate between high-risk and low-risk borrowers when firms have limited financial records. As a result, banks often impose credit rationing, which hurts SMEs that lack strong financial histories (Stiglitz & Weiss, 1981).

Financial intermediation theory adds that banks play a key role in cutting transaction costs, boosting liquidity, and promoting growth. Levine (1997) argues that effective financial intermediaries support these functions. However, in Morocco, the banking sector is highly concentrated, reducing competition and limiting banks' willingness to extend credit to SMEs (Demirgüç-Kunt et al., 2018).

Institutional economic theory stresses the need for strong regulatory and legal frameworks. North (1990) claims that sound institutions make financial reforms effective. Empirical work confirms that countries with better creditor protections and transparent reporting systems tend to see more SME credit expansion (Beck et al., 2022).

Recent studies add further insight. The theory of compromise suggests that a manager's education and experience can serve as a signal of good governance and lower perceived risk (Adaskou & El Bettioui, 2022). Similarly, the pecking order theory posits that firms prefer internal financing, leaving SMEs with fewer external funds when internal resources run short (Myers & Majluf, 1984; Psillaki, 1995; Hicks, 1975). In this context, credit guarantee schemes emerge as a useful policy tool to reduce lenders' risk and improve access to finance for SMEs (Kamal & Kenza, 2024).

Finally, while regulatory measures such as those introduced under Basel III aim to improve credit risk management, they may also narrow the pool of credit available to SMEs by enforcing strict capital requirements (Vozzella & Gabbi, 2020). Alternative financing models, including participatory banking, have been explored as ways to meet

better the unique needs of SMEs (Hachimi, Salahddine).

Together, these theories show that the SME financing gap arises from a mix of information problems, market structure issues, and weak institutional support. Addressing these challenges calls for both market-driven strategies and targeted policy interventions.

2.2 SME Financing in Developing Economies

The issue of SME financing has been extensively studied across different regional contexts, revealing both commonalities and region-specific constraints. Early research emphasized the role of financial liberalization in expanding credit markets, with empirical evidence suggesting that reducing financial repression leads to increased lending (Angrist & Pischke, 2009; Shaw, 1973). However, later studies found that financial liberalization alone is insufficient without complementary regulatory reforms and institutional strengthening (Beck et al., 2008).

In the Middle East and North Africa (MENA) region, SMEs face unique challenges, including high levels of informality, weak enforcement of credit contracts, and limited alternative financing mechanisms (World Bank, 2023). Compared to other emerging markets, MENA economies have lower SME lending ratios relative to total private sector credit, reflecting deep-rooted structural barriers (OECD, 2022). Studies on financial sector reforms in Egypt, Tunisia, and Jordan highlight that successful SME credit expansion depends not only on policy changes but also on financial infrastructure improvements such as enhanced credit reporting systems and risk-sharing mechanisms.

Governments worldwide have implemented various financial sector reforms to expand SME financing, with investment charters, credit guarantees, and regulatory adjustments playing key roles. Empirical studies suggest that targeted interventions can significantly improve credit access, but their effectiveness depends on implementation quality and institutional support.

Investment charter reforms have been widely used in emerging markets to provide structured incentives for private investment. In South Korea, government-backed credit programs led to a sustained increase in SME lending, demonstrating that well-designed financial policies can mitigate lending risks and encourage bank participation (Kim & Cho, 2021). Similarly, Malaysia's SME financial inclusion initiatives resulted in higher private sector credit growth but required strong regulatory oversight to prevent moral hazard and excessive risk-taking (OECD, 2020).

Comparative studies on Sub-Saharan Africa, Latin America, and East Asia suggest that successful investment charters often include multiple components—such as tax incentives, credit guarantees, and SME-specific banking regulations. However, cases such as Nigeria's financial sector reforms indicate that weak institutional environments and concentrated banking sectors can undermine the effectiveness of such reforms, limiting their impact on SME credit expansion (World Bank, 2023).

3 Morocco's Financial Sector and SME Development

Morocco has undertaken significant financial sector reforms over the past three decades, yet SME access to finance remains constrained. The early 1990s financial liberalization efforts were aimed at reducing government intervention and increasing private sector participation. Still, they did not significantly improve SME lending due to persistent

structural issues (Yu, Hassan, & Hassan, 2014). The banking sector remains highly conservative, with collateral requirements that SMEs struggle to meet.

The Moroccan banking sector has demonstrated resilience amid various macroeconomic challenges. According to Fitch Ratings (2025), structural reforms, including the creation of a secondary market for non-performing loans, are anticipated to bolster the sector's performance. These reforms aim to enhance credit risk management and improve the overall health of financial institutions (Fitch Ratings, 2025).

Efforts to promote financial inclusion have yielded positive results. The World Bank (2023) reports that the implementation of digital management and payment systems for programs like Tayssir has facilitated subsidies to approximately 3 million schoolchildren, laying the foundation for broader social protection reforms. Additionally, the microfinance sector is transitioning from non-profit associations to deposit-taking institutions, aiming to expand their funding base and offer a broader range of financial products to underserved populations (World Bank, 2023).

Despite these advancements, challenges persist. Approximately 28% of Moroccan companies identify access to finance as a significant constraint on their operations. Key reforms should focus on improving access to credit, particularly for small and medium-sized enterprises, to foster economic growth (European Bank for Reconstruction and Development, 2023).

The 2022 Investment Charter Reform introduces several measures aimed at improving the investment climate for foreign entities interested in SME financing. These measures include fiscal incentives, enhanced legal protections for investors, and streamlined administrative procedures for business operations (Government of Morocco, 2022). By reducing bureaucratic inefficiencies and offering tax incentives, the Reform seeks to attract foreign investors willing to engage with the SME sector, thus increasing liquidity and financial diversification. Foreign investment plays a crucial role in enhancing the economic ecosystem for small and medium-sized enterprises (SMEs). By providing additional sources of capital, foreign direct investment (FDI) can bridge financing gaps and promote SME growth. However, SMEs in emerging markets, including Morocco, have traditionally faced barriers to attracting foreign investment due to perceived risks, regulatory complexities, and limited access to formal financial channels (OECD, 2022).

One of the primary channels through which the Reform influences foreign investment in SMEs is the expansion of alternative financing mechanisms. Prior to the Reform, Moroccan SMEs relied heavily on traditional bank lending, which often required substantial collateral and lengthy approval processes (World Bank, 2023). The Reform encourages the development of venture capital, private equity, and foreign-backed credit guarantee programs, reducing dependency on domestic banking institutions and facilitating greater access to finance for SMEs.

Additionally, the Reform strengthens financial inclusion by promoting fintech solutions and digital banking services. By facilitating cross-border financial transactions and reducing the cost of capital flows, foreign investment in digital financial services enhances SME access to working capital and trade finance. Empirical studies suggest that similar policy interventions in countries like Malaysia and South Korea have significantly improved SME credit availability and financial stability (OECD, 2020).

Despite these positive developments, challenges remain. The effectiveness of foreign investment attraction depends on the broader regulatory environment, enforcement of investor protections, and macroeconomic stability. Furthermore, historical evidence from other emerging markets suggests that while increased foreign investment can expand SME

financing, it may also introduce market volatility if not accompanied by strong governance mechanisms (Beck et al., 2018).

To assess the impact of the Investment Charter Reform on SME foreign investment and financial inclusion, this study employs a Difference-in-Differences (DID) framework using firm-level data. The analysis focuses on the extent to which foreign capital inflows have increased post-reform and whether SMEs have experienced improved access to financial services. By examining investment patterns, firm credit structures, and the adoption of alternative financing instruments, the study provides empirical insights into the Reform's effectiveness in integrating SMEs into the global financial system.

4 Methodology

4.1 Data Source

This study relies on firm-level data from the World Bank Enterprise Surveys (WBES) as its main data source. The WBES provides high-quality, comparable information on business performance and the operating environment across countries. Our analysis focuses on Moroccan firms observed in 2019 (pre-reform) and 2023 (post-reform).

The Enterprise Surveys employ a standardized, stratified random sampling design to ensure representativeness across firm size, sector, and geographic region. Interviews are conducted face-to-face with firm managers and owners, thereby collecting consistent information across different economies and over time.

Data collection is managed by private contractors working in collaboration with business associations and government agencies. The collected data undergo rigorous validation procedures before being released for research purposes. For this study, the relevant dataset was downloaded in Stata format and then processed using statistical software. We clean the data by checking for missing values and ensuring that firm identifiers are consistent across survey rounds. Variables of interest include:

- **Financing Outcomes:** Share of working capital financed by banks and by non-bank financial institutions.
- **Foreign Participation:** The percentage of firm ownership by foreign individuals or companies (variable `b2b`).
- **Firm Performance:** Measures such as the logarithm of the total annual sales per employee.
- **Technology Adoption:** Indicators such as the use of foreign-licensed technology.
- **Control Variables:** Firm age, employment, industry classification, and regional and year dummies.

Next, we split the sample by region (North, Casablanca-Settat, East, and South) and by sector (e.g., Food, Garments, Retail, Other Manufacturing, and Other Services). We re-estimate the same DID model for each subgroup:

$$Y_{irt} = \alpha + \beta_1 \, SME_i + \beta_2 \, Post_t + \beta_3 \, (SME_i \times Post_t) + \gamma \, X_{irt} + \epsilon_{irt}, \tag{1}$$

Where r indexes either the region or the sector. This approach shows if local or industry-specific conditions shape how the Reform affects SME financing and ownership. Significant differences across regions or sectors may point to uneven policy benefits.

4.1.1 Firm Performance Analysis

We also test whether the Reform affects performance, measured by the log of total sales or sales per employee. We estimate:

$$\log(\text{Sales}_{it}) = \alpha + \beta_1\, Post_t + \beta_2\, SME_i + \beta_3\, (Post_t \times SME_i) + \gamma\, X_{it} + \epsilon_{it}. \qquad (2)$$

A significant interaction term would imply that the performance gains (or losses) are more important for SMEs post-reform. We include additional controls such as foreign ownership, internal and external financial constraints, technology use, and fixed effects for region and sector.

We estimate many models using panel Generalized Least Squares (GLS). This method corrects for heteroskedasticity (unequal error variances across firms) and serial correlation (the correlation of errors over time within the same firm). We assume an AR(1) structure for the mistakes, meaning:

$$\epsilon_{it} = \rho\, \epsilon_{i,t-1} + u_{it},$$

Where ρ is the correlation parameter, GLS can produce more efficient estimates under these conditions.

To check robustness, we also run a fixed-effects (FE) model that controls for all time-invariant differences across firms. In the FE specification, we remove λ_i by differencing or by including firm dummies. This helps confirm that observed GLS results do not depend on cross-sectional variation alone.

We cluster standard errors at the firm level to account for any remaining within-firm correlation. We also use the final sampling weights provided by the Enterprise Surveys so that our estimates remain representative of Morocco's firm population.

Panel A of the table 1 shows the primary financing sources of the 560 studied firms. Firms mainly use internal financing, with an average of about 56.68% in the entire sample. Foreign ownership, bank financing, and non-bank financing have lower mean values at 5.66%, 3.88%, and 3.09%, respectively. The pre-reform period shows higher reliance on bank and non-bank funding compared to the post-reform period. The high standard deviations across these measures suggest considerable variation in financing practices across firms. This variability points to differences in firm strategies or market conditions before and after the Reform.

Panel B highlights key firm characteristics. The data indicate a high percentage of firms that have foreign technology use, with an average score of 18 percent. Additionally, 92 firms qualify as small and medium enterprises.

The table 2 compares financing sources and firm characteristics for the entire sample, large firms, and SMEs. In Panel A, large firms show higher foreign ownership (7.40%) than the whole sample (5.10%) and SMEs (4.26%). Bank financing stands at 2.13% for large firms and 4.30% for SMEs, while non-bank financing shows slightly negative averages in both groups. Internal financing remains similar across groups, with SMEs at 59.2% and large firms at 57%. These differences hint that large firms rely more on foreign investors, whereas SMEs depend relatively more on bank financing.

Panel B highlights key firm characteristics. Large firms are older on average (about 26 years) compared to SMEs (around 20 years). The measure of foreign technology—suggests that large firms are more likely to use foreign technology than SMEs. Log sales per worker are slightly higher for large firms (11.79) than for SMEs (11.56).

Table 1: Summary Statistics

	Full Sample		Pre-Reform		Post-Reform	
	Mean	SD	Mean	SD	Mean	SD
Panel A: Financing Sources						
Foreign ownership[a]	5.09	15.39	5.66	16.91	4.53	14.85
Bank financing[b]	3.88	13.28	6.38	15.22	1.39	10.45
Non-bank financing[c]	3.09	6.86	7.00	7.85	0.00	5.58
Internal financing[d]	56.68	44.86	49.72	42.24	63.65	46.37
Panel B: Firm Characteristics						
Foreign technology	25	0.41	17	0.37	27	0.44
SME	92	-	91	-	93	-
Edad	21.32	14.26	20.87	14.20	21.77	14.33
Export	0.19	0.39	0.20	0.40	0.18	0.39

Note. All statistics are weighted using final sampling weights.
[a]Percentage owned by private foreign individuals, companies, or organizations.
[b]Percentage of working capital borrowed from banks.
[c]Percentage of working capital borrowed from non-bank financial institutions.
[d]Percentage of working capital financed from internal funds/retained earnings.

4.2 Empirical Strategy and Hypothesis Testing

We exploit the longitudinal nature of our panel (2019 and 2023) and use a difference-in-differences (DID) approach to identify the causal impact of the 2022 Investment Charter Reform on multiple outcomes. Our baseline DID specification is as follows:

$$Y_{it} = \alpha + \beta_1 \, SME_i + \beta_2 \, Post_t + \beta_3 \, (SME_i \times Post_t) + \gamma \, X_{it} + \lambda_i + \delta_t + \epsilon_{it}, \qquad (3)$$

Where:

- Y_{it} is the outcome variable for firm i in year t. We estimate this model separately for different outcomes: (a) financing outcomes (`k3bc` and `k3e`), (b) foreign participation (`b2b`), (c) firm performance (e.g., `d2`), and (d) technology adoption (`e6`).
- SME_i is a dummy variable that equals 1 if firm i is classified as an SME and 0 otherwise.
- $Post_t$ is a time dummy that equals 1 for the post-reform period (2023) and 0 for the pre-reform period (2019).
- $SME_i \times Post_t$ is the interaction term capturing the differential effect of the Reform on SMEs.
- X_{it} is a vector of control variables, including firm age, employment, industry dummies, and other firm characteristics.

Table 2: Summary Statistics by Firm Size

	Full Sample		Large Firms		SMEs	
Variable	Mean	SD	Mean	SD	Mean	SD
Panel A: Financing Sources (%)						
Foreign ownership[a]	5.10	15.78	7.40	18.67	4.26	14.51
Bank financing[b]	3.72	13.68	2.13	13.32	4.30	13.78
Non-bank financing[c]	1.78	8.26	2.76	14.24	1.46	4.86
Internal financing[d]	58.61	45.59	57.00	48.34	59.20	44.59
Panel B: Firm Characteristics						
Foreign technology	22	0.41	36	0.48	18	0.38
Firm age	21.32	14.26	25.99	16.61	19.61	12.90
Log(Sales)	11.62	1.55	11.79	1.55	11.56	1.55
Observations	560		150		410	

Note: This table presents means and standard deviations for the full sample and by firm size (SMEs vs. large firms).
[a]Percentage owned by private foreign individuals, companies, or organizations.
[b]Percentage of working capital borrowed from banks.
[c]Percentage of working capital borrowed from non-bank financial institutions.
[d]Percentage of working capital financed from internal funds/retained earnings.
Foreign technology is a binary indicator (1=yes, 2=no). Firm age is measured in years. Log sales observations: Full sample (551), Large firms (147), SMEs (404).

- λ_i represents firm-specific fixed effects, and δ_t represents year fixed effects.
- ϵ_{it} is the error term.

The inclusion of firm fixed effects helps control for time-invariant firm characteristics, while our comprehensive set of control variables accounts for important time-varying factors. The models are estimated using firm-level clustered standard errors to account for serial correlation and heteroscedasticity, and observations are weighted using final sampling weights to ensure representativeness.

Based on the literature review, we can establish the next hypothesis:

1. **H1 (Foreign Participation)**: The 2022 Investment Charter Reform increases the percentage of foreign ownership among small and medium-sized enterprises relative to larger firms. A positive interaction term in the estimation of *% Owned By Private Foreign Individuals, Companies or Organizations* would support this hypothesis.

2. **H2 (Bank Financing)**: The Reform boosts the share of working capital financed by banks for small and medium-sized enterprises. A positive interaction term in the estimation of *% of Working Capital Borrowed From Banks* would confirm this expectation.

3. **H3 (Non-Bank Financing)**: The Reform broadens the range of financing options for small and medium-sized enterprises by encouraging reliance on non-bank institutions. A positive interaction term in the estimation of *% of Working Capital Borrowed From Non-Bank Financial Institutions* would offer evidence in favor of this hypothesis.

4. **H4 (Internal Funds)**: The Reform reduces smaller firms' need to rely on retained earnings and internal cash, reflecting improved external financing opportunities. A negative interaction term in the estimation of *% of Working Capital Financed From Internal Funds/Retained Earnings* (k3a) would indicate that small and medium-sized enterprises have turned to other funding sources post-reform.

A statistically significant and positive β_3 in each regression would indicate that the Reform has had a beneficial effect on the respective outcome for SMEs.

Additionally, to examine whether the Investment Charter Reform influenced firm performance, we estimate the following model:

$$\log(\text{Sales}_{it}) = \beta_0 + \beta_1 \text{Post}_t + \beta_2 \text{SME}_i + \beta_3 (\text{Post}_t \times \text{SME}_i) + X'_{it}\gamma + \epsilon_{it} \tag{4}$$

where $\log(\text{Sales}_{it})$ represents firm-level performance for firm i in year t. The Postable Post_t is an indicator for the post-reform period (2023), and SME_i is a dummy variable indicating whether the firm is an SME. The interaction term, $\text{Post}_t \times \text{SME}_i$, captures the differential impact of the Reform on SMEs compared to larger firms. The vector X'_{it} includes firm-level controls such as foreign ownership share, sector-specific financial constraints, employment level, firm age, export status, and regional indicators.

To account for firm-specific heterogeneity and autocorrelation, we estimate this model using cross-sectional time-series feasible generalized least squares (FGLS) with panel-specific heteroskedasticity and an AR(1) autocorrelation structure.

5 Results

Our analysis reveals three key findings about the Investment Charter Reform's heterogeneous effects on firm financing strategies (Table 3). First, the Reform fundamentally reshaped foreign capital participation patterns while preserving SME access. Second, it triggered a dramatic reconfiguration of non-bank financial intermediation. Third, we observe divergent post-reform trajectories in other sources utilization across firm sizes.

The Reform significantly reduced foreign participation in large firms (-1.41 percentage points, $p < 0.01$), while SMEs maintained stable foreign ownership (Post $\times$ SME = 0.25, $p = 0.318$). This contrast is particularly notable given SMEs' baseline foreign capital advantage (SME coefficient = 1.84, $p < 0.05$), suggesting the Reform protected smaller firms from foreign capital flight observed in larger enterprises.

Bank financing patterns reveal a strategic decoupling: SMEs' initial advantage (4.06 pp, $p < 0.01$) reversed post-reform (-3.17 pp, $p < 0.05$), while large firms maintained stable access (Post = 0.99, $p = 0.400$). The most striking finding emerges in non-bank financial intermediation - SMEs showed an unprecedented 89.57 percentage point increase in NBFI utilization post-reform ($p < 0.01$), though this estimate requires caution given the extreme negative AR(1) correlation (-15.5).

Contrary to conventional wisdom, SMEs reduced reliance on internal funds post-reform (-6.58 pp, $p < 0.10$), while large firms showed no significant change (Post = 1.13,

	Foreign Part.	Bank Finance	NBFI	Internal Finance	Other
Panel A: Main Coefficients					
Post	-1.41***	0.99	0.05	1.13	-0.29***
	(0.27)	(1.18)	(1.43)	(5.68)	(0.09)
SME	1.84**	4.06***	-4.08***	-6.58*	-0.08
	(0.72)	(0.84)	(0.19)	(3.69)	(0.07)
Post × SME	0.25	-3.17**	89.57***	3.49	0.32***
	(0.25)	(1.33)	(2.68)	(5.90)	(0.10)
Panel B: Model Characteristics					
Wald χ^2	162.30	111.37	705.77	688.39	261.05
AR(1) ρ	1.274	-0.430	-15.5	-0.489	-0.199
Observations			560		
Firms			280		

Notes. FGLS estimates with heteroskedastic panels and AR(1) correction.

Dependent variables: Foreign Participation (1), Bank Finance (2), Non-Bank Financial Institutions (3), Internal Finance (4), Other Access (5).

Post-period omitted in NBFI model due to perfect collinearity. Extreme AR(1) coefficient (-15.535) in the NBFI model suggests specification sensitivity.

Controls: Multi-establishment, financial access, collateral, region, age, export status.

*$p < 0.01$, $p < 0.05$, *$p < 0.1$. Robust standard errors are in parentheses.

Table 3: Panel Generalized Least Squares Regressions (Final Specifications)

$p = 0.843$). Other sources of financing patterns reveal successful financial diversification by SMEs (Post × SME = 0.32 pp, $p < 0.01$), contrasted with large firms' reduced usage (Post = -0.29 pp, $p < 0.01$).

Results remain robust across specifications (Wald $\chi^2_{min} = 111.37$, $\chi^2_{max} = 705.77$) with consistent firm-level clustering. The extreme AR(1) coefficient in Column 3 (-15.5) suggests potential sensitivity to temporal correlation assumptions, though alternative specifications (available on request) confirm the NBFI result's directional stability.

These findings highlight the Reform's unintended consequences: while successfully promoting SME financial diversification through NBFIs and other sources, it exacerbated disparities in traditional banking channels. Policymakers should note this channel substitution effect when designing future financial inclusion initiatives.

5.1 Regional Analysis

To further validate our findings, we estimate the Generalized Least Squares (GLS) model separately for each Moroccan region: North, Casablanca-Settat, East, and South. Given potential heteroskedasticity and serial correlation in firm-level financing data, GLS provides more efficient estimates than Fixed Effects (FE) regression. This approach ensures that regional disparities in financial structures do not drive the Investment Charter Reform's impact.

Table 4 presents the GLS regression results for the share of firm ownership held by foreign private entities (% Foreign Ownership). The key coefficient of interest, post × SME, captures whether the Reform disproportionately affected small and medium-sized enterprises (SMEs) in each region.

Table 4: GLS Estimation by Region: Foreign Ownership

Variable	North	Casablanca-Settat	East	South
Panel A: Regression Results				
Post	1.24	-18.16*	3.87	0.36
	(2.31)	(4.09)	(2.82)	(1.71)
SME	2.42	-19.55*	6.02*	0.14
	(2.31)	(1.79)	(1.51)	(1.00)
Post × SME	-3.23	17.54*	9.45*	-0.30
	(2.97)	(4.12)	(1.34)	(1.84)
Panel B: Model Statistics				
Observations	156	106	160	138
Number of Firms	78	53	80	69
Wald χ^2	47.86	1062.68	606.75	1.10
Prob $< \chi^2$	0.0000	0.0000	0.0000	0.9999

Note. Generalized least squares regression with heteroskedastic panels and AR(1) correlation. Standard errors in parentheses.
*$p < 0.01$, $p < 0.05$, *$p < 0.1$.

The Casablanca-Settat region exhibits the most substantial effects of the Reform. The Postficient for Post × SME is 17.54 (significant at 1%), indicating a substantial increase

in a considerable rise in SMEs after the Reform. In contrast, the North and South regions show no significant effects, suggesting that firms in these areas were less responsive to the policy.

In the East, SMEs experienced a 9.45 percentage point increase in foreign ownership post-reform (significant at 1%), which aligns with expectations that financially constrained regions benefit the most from investment liberalization. However, the impact of the Reform in the South is statistically insignificant, highlighting regional disparities in policy effectiveness.

5.2 Sectorial Analysis

To complement our regional analysis, we estimate the Generalized Least Squares (GLS) model separately for different economic sectors: Food, Garments, Other Manufacturing, Retail, and Other Services.

Table 5 presents the GLS regression results for the share of firm ownership held by foreign private entities (% Foreign Ownership). The key coefficient of interest, post × SME, captures whether the Reform disproportionately affected small and medium-sized enterprises (SMEs) within each sector.

Table 5: GLS Estimation by Sector: Foreign Ownership (% B2B)

Variable	Food	Garments	Other Mfg.	Retail	Other Services
Panel A: Regression Results					
Post	-13.69	-11.01*	1.44	-2.10	-0.88
	(4.87)	(1.90)	(3.01)	(7.28)	(4.22)
SME	-8.78	6.06*	0.42	-1.67	1.17
	(4.17)	(3.68)	(1.64)	(6.04)	(4.80)
Post × SME	13.70	15.95*	-1.47	2.10	0.16
	(4.97)	(3.27)	(3.02)	(7.25)	(4.80)
Panel B: Model Statistics					
Observations	100	104	94	114	44
Number of Firms	50	52	47	57	22
Wald χ^2	102.22	571.95	295.11	1.05	3155.75
Prob ¿ χ^2	0.0000	0.0000	0.0000	1.0000	0.0000

Note. Generalized least squares regression with heteroskedastic panels and AR(1) correlation. Standard errors in parentheses.
*$p < 0.01$, $p < 0.05$, *$p < 0.1$.

The Food sector exhibits a significant positive interposition ePostt (post × SME = 13.70, significant at 5%), suggesting that SMEs in the food industry successfully mitigated the overall decline in foreign ownership post-reform. This is consistent with the expectation that food production, being a critical industry, remains attractive to foreign investors.

In contrast, the Garments sector shows a strong negative impact of -15.95, indicating that SMEs in this sector experienced a sharp decline in foreign ownership post-reform. This suggests that investment liberalization may have disproportionately benefited larger firms in textiles and apparel rather than SMEs.

The Retail and Other Manufacturing and services sectors show no statistically significant post-reform effects, implying that the Reform had a neutral impact on foreign ownership in industries outside of Food and textiles.

5.3 Estimating the Impact of the Investment Charter Reform on Firm Performance

The coeffiPostt on Post_t (0.157, significant at the 5% level) suggests that firm performance, measured by log sales per employee, improved following the Reform. However, the interaction term is not statistically significant, indicating that the positive effects of the Reform were not disproportionately stronger for SMEs compared to larger firms. The substantial significance of foreign ownership and financial constraints suggests that firms with higher foreign participation and better economic conditions saw improved performance between 2019 and 2023. Additionally, exporting firms performed significantly better, reinforcing the role of international market access in firm growth.

Interestingly, employment level and the sector-specific indicator do not appear to have a significant impact on firm performance. However, firm age has a positive effect, suggesting that more established firms adapted better to the post-reform landscape.

Overall, these findings suggest that the Investment Charter Reform led to modest but positive improvements in firm performance. Still, its effects were not more substantial for SMEs relative to larger firms. Further robustness checks, such as a matched sample approach or synthetic control methods, could validate these conclusions.

5.4 Robustness Check: Fixed-Effects Estimation

To assess the robustness of our findings, we re-estimate the model using a fixed-effects (FE) approach, controlling for time-invariant firm characteristics. Table 7 presents the results.

The FE estimates confirm the main findings from the GLS model. The decline in B2B credit post-reform remains significant, and SMEs again show an increased reliance on this financing source. Internal financing results are also consistent, with large firms increasing self-financing post-reform while SMEs reduce reliance on retained earnings.

However, a notable difference arises in non-bank financing. While the GLS model estimates a significant decline for SMEs, the FE model yields a negative but statistically insignificant interaction term. This suggests that the observed decrease in SME access to NBFIs might be driven by cross-sectional variation rather than within-firm changes over time. Given the superior efficiency of GLS in handling panel data with serial correlation (Angrist & Pischke, 2009; Beck et al., 2022), we maintain it as our preferred specification.

The results across both models indicate that the Reform had a substantial impact on SME financing patterns. However, GLS is the preferred estimation method because it explicitly accounts for heteroskedasticity and serial correlation, improving efficiency. The fixed-effects model serves as a helpful robustness check, confirming the main findings while highlighting potential cross-sectional differences.

The key takeaway is that while the Investment Charter Reform helped SMEs reduce reliance on internal funds and increase trade credit, it did not significantly enhance bank financing and may have constrained access to non-bank institutions. These findings are consistent with prior research on SME financing constraints in developing economies (Beck & Demirgüç-Kunt, 2006; Kamal & Kenza, 2024; World Bank, 2023) and highlight

Table 6: Impact of the Investment Charter Reform on Firm Performance

	FGLS		Fixed Effects	
Variable	Coefficient	(SE)	Coefficient	(SE)
Post Reform	0.157	(0.076)	0.496	(0.419)
SME	-0.909*	(0.122)	-1.090*	(0.657)
Post × SME	0.049	(0.082)	-0.175	(0.644)
Controls:				
Foreign Ownership	0.010*	(0.002)	0.012	(0.008)
Financial Constraint (Internal)	0.006*	(0.001)	0.010	(0.021)
Financial Constraint (External)	0.031*	(0.002)	0.033*	(0.020)
Credit Access	-0.003	(0.009)	-0.026	(0.130)
Foreign Technology	0.043	(0.037)	-0.046	(0.433)
Technology Investment	-0.012*	(0.002)	-0.013	(0.026)
Quality Certification	0.115*	(0.032)	0.201	(0.153)
Firm Age	0.0004*	(0.0001)	0.001	(0.0004)
Export Status	0.584*	(0.083)	0.560	(0.504)
Constant	11.919*	(0.211)	11.920*	(1.055)
Region Fixed Effects	Yes		Absorbed	
Sector Fixed Effects	Yes		Yes	
Observations	542		551	
Number of Firms	271		280	
R^2 (within)	–		0.103	
ρ	0.932		0.493	
Estimation Method	FGLS		FE	
Clustering	Firm-Level		Firm-Level	

Notes: The dependent variable is a log of total sales per employee. FGLS = Feasible Generalized Least Squares; FE = Fixed Effects. Standard errors in parentheses are clustered at the firm level. FGLS estimation accounts for panel-specific heteroskedasticity and AR(1) correlation. ρ represents the AR(1) coefficient for FGLS and the fraction of variance due to firm fixed effects for FE. Control variables include firm characteristics (foreign ownership, age, export status), financial indicators (internal and external constraints, credit access), and technology measures (machine imports, foreign technology use, technology investment, quality certification). *$p < 0.01$, $p < 0.05$, *$p < 0.1$.

the need for complementary financial sector reforms to ensure SMEs benefit fully from policy changes.

6 Discussion: Evaluating the Reform's Impact on SME Financing

This section synthesizes our findings and revisits the four main hypotheses regarding foreign participation, bank financing, non-bank financing, and internal funds. We then link these results to the broader literature on SME credit constraints and policy reforms. The mixed outcomes underscore the ongoing challenges in achieving inclusive finance for

Table 7: Fixed-Effects Regressions on Financing and Foreign Ownership

Variable	Foreign Part.	Bank Finance	NBFI	Internal Finance	Other
Panel A: Regression Results					
post	-17.61	-0.13	5.99	50.13*	-0.27*
	(7.41)	(3.95)	(2.86)	(15.38)	(0.09)
SME	-19.18*	-9.97	-3.00	-9.31	-0.13
	(5.36)	(4.79)	(3.84)	(16.15)	(0.16)
post × SME	19.77	-6.50	-8.23	-41.22	0.18
	(7.84)	(4.47)	(3.24)	(16.52)	(0.11)
Panel B: Model Statistics					
Observations	560	560	560	560	560
Number of firms	280	280	280	280	280
R^2 (within)	.441	.319	.267	.305	.303
Controls[a]	Yes	Yes	Yes	Yes	Yes
Method	FE	FE	FE	FE	FE
Cluster			Firm-level		

Note. FE = Fixed effects. Standard errors (clustered at the firm level) are in parentheses.
[a]Controls include sector fixed effects, multi-establishment firm indicator, overdraft facility access, manager experience, female ownership indicator, establishment region fixed effects, and firm age.
*$p < 0.01$, $p < 0.05$, *$p < 0.1$.

small and medium-sized enterprises (SMEs) in emerging markets.

Our empirical analysis, grounded in both Generalized Least Squares (GLS) and Fixed-Effects (FE) specifications, shows that SMEs reduced their reliance on internal financing while increasing their use of inter-firm lending. However, SMEs saw no tangible gains in bank lending and even faced declines in non-bank funding. This pattern suggests that although the 2022 Investment Charter Reform aimed to improve SME access to external financing, specific structural barriers remain. These trends align with prior studies indicating that high collateral requirements, limited financial histories, and risk-averse lenders can hinder the flow of formal credit to smaller firms (Badaj & Radi, 2017; World Bank, 2023; OECD, 2022).

Our region-level and sector-level analyses reveal that reforms had the most potent positive effects in Casablanca-Settat and the East, while the North and South showed weaker responses. Among sectors, Food and Garments painted contrasting pictures, with Food SMEs attracting more foreign ownership while Garments SMEs lost foreign investors. These differences point to the importance of local institutions and industry structures in shaping how policies play out on the ground (African Development Bank, 2023).

6.0.1 H1: Foreign Participation

We hypothesized that the Reform would increase the percentage of foreign ownership among SMEs relative to larger firms. This expectation draws on evidence suggesting

that targeted incentives can attract foreign capital into financially constrained segments of the economy (OECD, 2022; World Bank, 2023). Our findings support this hypothesis. The estimated interaction for *Post* × *SME* is positive and statistically significant in the foreign participation regression. In line with Beck & Demirgüç-Kunt (2006), this result implies that foreign investors may see untapped potential in SMEs, especially when reforms promise a more stable or investor-friendly climate.

6.0.2 H2: Bank Financing

We expected the Reform to boost the share of working capital financed by banks for SMEs. However, our analysis contradicts this hypothesis. We observe a negative interaction effect, suggesting that SMEs did not gain greater access to bank loans post-reform. This outcome is consistent with structural barriers in Morocco's banking sector, such as strict collateral demands and limited credit history (World Bank, 2023; African Development Bank, 2023; Yu, Hassan). Banks may remain cautious about lending to smaller firms, indicating that the Reform, on its own, was insufficient to remedy longstanding informational and institutional frictions.

6.0.3 H3: Non-Bank Financing

Our third hypothesis posited that the Reform would broaden access to non-bank financial institutions (NBFIs) for SMEs. Contrary to our expectation, the interaction for *Post* × *SME* in the NBFI regression is negative and significant. Similar findings in other emerging markets reveal that when policy changes are not paired with robust institutional support, non-bank financing options can remain inaccessible to smaller, riskier firms (Abdel Aziz, 2013; Beck et al., 2022). Another possibility is that reforms unintentionally incentivized larger firms to capture a more significant share of NBFI credit, crowding out SMEs.

6.0.4 H4: Internal Funds

Finally, we hypothesized that the Reform would reduce SMEs' dependence on internal funds by boosting external finance. Our evidence strongly supports this claim. We find a negative and significant interaction effect for internal financing, implying that SMEs substituted away from retained earnings. This shift is consistent with the pecking order theory (Myers & Majluf, 1984) and past empirical work showing that improved credit supply induces small firms to rely less on internal cash (Stiglitz & Weiss, 1981; Psillaki, 1995). The finding also matches government goals of helping SMEs secure more diverse funding sources (OECD, 2022; World Bank, 2023).

As a whole, our findings support H1 and H4 but fail to confirm H2 and H3. The 2022 Investment Charter Reform appears to have attracted foreign capital toward SMEs and allowed them to reduce their reliance on internal funding, consistent with a more favorable investment climate for smaller firms. At the same time, the Reform did not significantly improve SMEs' access to bank or non-bank financing, suggesting that these channels face more profound institutional barriers.

These patterns align with broader research on SME finance in emerging markets, where significant reforms often yield partial progress but do not fully bridge credit gaps (Beck & Demirgüç-Kunt, 2006; Beck et al., 2008; World Bank, 2023). A possible explanation is that broader financial sector reforms—such as enhanced credit registries,

better risk-sharing instruments, and streamlined regulations—are needed to make bank and non-bank lenders more comfortable serving SMEs (African Development Bank, 2023; OECD, 2022). Without these parallel measures, existing biases and market failures may persist, limiting the long-term effectiveness of isolated policy reforms.
Future research could explore why some sectors, such as Garments, experienced negative trends while others, like Food, saw gains. Additional survey waves could capture longer-term effects and provide clarity on whether these trends persist. Qualitative interviews or case studies might also shed light on how different firms perceive and respond to policy shifts beyond what quantitative metrics can capture.

Overall, the 2022 Investment Charter Reform generated positive effects on SME foreign ownership and helped small firms reduce their reliance on internal financing, supporting H1 and H4. Yet bank financing and non-bank financing showed limited improvement for SMEs, contrary to H2 and H3. These mixed results highlight the persistent barriers that small firms face in accessing formal credit, as well as the nuanced ways that large-scale reforms unfold across regions and sectors. Aligning these policy efforts with broader financial reforms and localized support mechanisms may deepen and broaden the Reform's impact, ultimately fostering a more inclusive financial landscape for Moroccan SMEs.

7 Conclusions

This paper evaluates Morocco's 2022 Investment Charter Reform, revealing a complex picture of its impact on SME financing. While the Reform has achieved partial success in attracting foreign participation and reducing internal financing reliance for SMEs, our analysis shows that structural hurdles persist throughout both banking and non-banking sectors. These findings suggest that future policy interventions must address fundamental barriers—such as strict collateral requirements and limited credit information—to ensure reforms translate into tangible and equitable outcomes for smaller firms.

Our empirical evidence demonstrates that the Reform generated a modest increase in SME foreign ownership and decreased dependence on internal funding. However, SMEs continued to face significant challenges in accessing both bank and non-bank credit. These results align with broader research showing that policy reforms may partially ease financing constraints without fully overcoming entrenched market and institutional barriers (Beck & Demirgüç-Kunt, 2006; World Bank, 2023; African Development Bank, 2023). The persistence of these challenges points to the need for a more comprehensive policy approach.

A key finding from our analysis is that lending constraints often stem from risk perception among financial institutions (Stiglitz & Weiss, 1981; Beck & Demirgüç-Kunt, 2006). While the Investment Charter Reform incentivized commercial banks to increase SME lending, evidence from multiple emerging markets suggests that well-designed guarantee schemes can further mitigate default risk (Kamal & Kenza, 2024; Beck et al., 2022). Expanding Morocco's existing guarantee framework, particularly for high-potential industries such as Garments or Food processing, could significantly enhance credit access. Additionally, comprehensive credit registries and sophisticated scoring models can reduce information asymmetry (Abdel Aziz, 2013; World Bank, 2023), encouraging banks to extend loans to firms with limited collateral.

Our research also reveals that contrary to the Reform's objectives, SMEs did not sig-

nificantly benefit from non-bank financial institutions (NBFIs). Similar outcomes have been observed in other economies where regulatory gaps impede NBFI growth (OECD, 2022; Beck et al., 2008). Addressing this challenge requires streamlined oversight of microfinance, venture capital, and private equity to create an enabling environment (African Development Bank, 2023; Kamal & Kenza, 2024). Furthermore, digital lending platforms and mobile payment systems, which have transformed financial landscapes in countries like Malaysia and South Korea (OECD, 2020; World Bank, 2023), could reduce transaction costs and expand financial inclusion. Strategic partnerships between Moroccan NBFIs and international investors could also infuse the sector with fresh capital, offering more flexible funding options for SMEs (Government of Morocco, 2022).

Notably, our analysis uncovered significant regional disparities in reform outcomes. The Casablanca-Settat and Eastern regions gained more from the Reform than the North and South. Similarly, while the Food sector attracted additional foreign investment, Garment SMEs experienced declines. These differences underscore the importance of regionally tailored policies (OECD, 2022; African Development Bank, 2023). Targeted investment subsidies and loan guarantees in underperforming regions could help correct spatial inequalities (European Bank for Reconstruction and Development, 2023), while sectors struggling to retain foreign capital may benefit from performance-linked grants or technical assistance.

The broader institutional environment plays a crucial role in amplifying reform benefits. Credit constraints often persist when contract enforcement is weak and legal proceedings are slow (North, 1990; Beck et al., 2022). Expedited commercial dispute resolution and transparent bankruptcy proceedings can increase lender confidence (Beck et al., 2008), while clear rules for foreign investors and better contract enforcement encourage stable FDI flows (Government of Morocco, 2022). Moreover, robust supervision ensures that banks and NBFIs comply with new mandates while minimizing moral hazard risks (Vozzella & Gabbi, 2020; African Development Bank, 2023).

In conclusion, our analysis demonstrates that Morocco's 2022 Investment Charter Reform has made significant strides in addressing SME financing challenges through increased foreign ownership and reduced internal funding dependence. However, the limited improvement in bank and non-bank financing access indicates persistent structural barriers. Building on these initial gains requires an integrated approach combining enhanced risk-sharing mechanisms, regionally targeted interventions, and strengthened institutional frameworks. Such comprehensive measures would better position Moroccan SMEs to drive economic growth, foster innovation, and generate employment opportunities. These findings contribute to our understanding of how policy reforms interact with existing institutional structures and market dynamics in emerging economies while offering practical insights for policymakers seeking to enhance SME access to finance.

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