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IDE DISCUSSION PAPER No. 1011

**Distance to Banks and SME Exit:
Evidence of Threshold Effects in an
Urban Gulf Economy**

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May, 2026

Abstract

This study examines how bank access is associated with SME exit, using firm-level data on café businesses in Kuwait. Focusing on distance to the nearest bank branch as a spatial indicator of financial access, the paper tests whether its effect on firm exit is linear or concentrated beyond a threshold. Logit estimates show that exit probability rises significantly beyond 1 km, especially in the 1–2 km range. Similar patterns are observed when bank density is used as an alternative measure of financial access. Although exploratory and descriptive, the findings suggest that spatial differences in access to banking services are associated with SME exit and highlight the importance of the spatial distribution of financial services in Gulf urban economies.

Keywords: SME finance; Bank access; Firm exit; Urban economics; Spatial finance; Gulf cities; Kuwait

JEL classification: G21, L26, R12, R32, O53

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1. Introduction

Financial access is widely recognized as a key determinant of SME performance, affecting firm growth and survival. Financial access has been largely examined using aggregate indicators, such as the number of financial institutions and financial deepening measures. However, how access operates at the firm level within urban space remains underexplored. Particularly, the role of geographic proximity to bank branches, that is, the distance from an individual firm to its nearest bank, in firm exit behavior has received limited attention.

This study addresses this gap by examining whether and how distance to bank branches is associated with SME exit in an urban Gulf context. Rather than assuming a linear relationship, the study determines whether the effect of distance is concentrated within specific spatial ranges. Analysis of firm-level data on café businesses in Kuwait showed that exit probability rises when firms are located beyond 1 km from the nearest bank branch.

In Kuwait, SME development has been positioned as an important policy priority in the context of economic diversification and job creation. Government-backed funds and entrepreneurship support programs have strengthened institutional frameworks to support SME entry and growth. However, despite these policy efforts, the extent to which the spatial distribution of effective financial access within cities influences firm behavior remains insufficiently understood. Thus, this study seeks to bridge this gap by linking policy concerns with the spatial realities of urban economic activity.

Moreover, the relationship between bank access and firm exit is indirect. Bank branches tend to locate in areas with high demand, which are also likely to be highly competitive. Thus, areas with great bank density may simultaneously exhibit high firm exit rates. Therefore, in simple cross-sectional comparisons, bank access impact may be confounded with local competitive conditions. As a result, the impact of distance becomes difficult to identify or is potentially underestimated. This situation represents a key identification challenge in spatial dimension analysis of financial access.

To address this issue, the analysis drew on firm-level data on café businesses in Kuwait. The study makes two main contributions. First, it contributes to the SME finance literature by introducing a microlevel spatial measure of financial access and linking it directly to firm exit. Second, it contributes to the bank–firm distance literature by demonstrating that its effect on firm outcomes is characterized by a threshold rather than a linear relationship. The analysis is based on cross-sectional data from an urban service sector in Kuwait and does not aim to establish strict causal relationships.

Therefore, it is positioned as an exploratory and descriptive analysis of the relationship between bank access and firm exit.

The remainder of the paper is organized as follows. Section 2 reviews the literature on financial access and firm behavior and clarifies the positioning of this study. Section 3 develops the theoretical framework and presents the hypotheses. Section 4 describes the data and empirical strategy, including the measurement of bank distance and density. Section 5 reports the estimation results and examines the relationship between bank access and firm exit. Finally, Section 6 discusses the interpretation of the results, outlines policy implications, and highlights future research directions.

2. Literature Review and Positioning of the Study: Financial Access, Distance, and Urban Space

This study focuses on how geographic access to bank branches affects firm exit behavior. This section reviews the relevant literature from three perspectives: (1) financial access and firm behavior, (2) geographic distance between banks and firms, and (3) urban space and regional structure in Gulf countries.

First, the importance of financial access for firm survival has been consistently emphasized in the existing literature. Particularly, bank credit constraints are widely regarded as a major determinant of firm exit risk. Using French firm-level data, Cressy and Bonnet (2018) showed that loan rejection at start-up and collateral constraints after start-up significantly and persistently increase the hazard of firm failure. Their findings imply that financial constraints are not only temporary obstacles but also can have lasting effects on the long-run probability of firm survival.

Similar evidence has been found in emerging economies. Using data on Vietnamese SMEs, Hai, Minh-Tu, and Dung (2025) showed that bank credit access significantly increases firms' survival probability. Therefore, the importance of financial access is observed even across economies with different institutional environments. These studies indicate that access to banking relationships and financial transactions is indispensable for the sustained operation of SMEs.

Moreover, financial access affects firm survival and dynamics broadly, including entry and exit. Havrylchuk (2012) focused on transition economies and found that foreign banks' entry promotes firm entry and reduces firm exit. Therefore, the development of the banking sector can alleviate firms' financing constraints and support the continuity of business activity.

Much of this literature conceptualizes financial access in terms of loan availability and credit constraints, and with relatively little attention to its spatial dimension, such as the distance to the nearest bank branch. Nevertheless, the ease with which firms physically access banks may affect effective financial access through information acquisition and relationship formation. This issue remains underexplored. The present study addresses this gap by reexamining the relationship between

financial access and firm exit through the spatial indicator of geographic distance to bank branches.

Second, the impact of geographic distance between banks and firms on financial transactions has been extensively studied in the context of small business finance and relationship banking. Particularly, Degryse and Ongena (2005) used Belgian SME lending data and showed that the distance between firms and their lending banks and the distance to competing banks systematically affect loan rates. Their study demonstrates that geographic distance shapes lending conditions through transport costs and competitive conditions and that physical proximity to bank branches remains important in SME finance.

Petersen and Rajan (2002) used long-run U.S. data to show that although the distance between small firms and banks has increased over time, information technology advancements have improved the feasibility of long-distance lending. The constraints imposed by geographic distance have not disappeared entirely; rather, their meaning and mode of operation have changed. Therefore, the effect of distance is not uniform but depends on the institutional and technological environment.

Distance also plays an important role in the formation of firm–bank relationships. Beck, Ongena, and Şendeniz-Yüncü (2019) used geocoded data on firms, bank branches, and firm–bank connections in Turkey and showed that the probability that a firm maintains a relationship with a particular bank declines sharply with distance. Therefore, physical distance acts as a direct constraint on relationship formation with banks.

Furthermore, the importance of distance is not limited to bank lending but extends to financial intermediation. Qu and Sun (2025) examined China’s corporate bond market and showed that a great geographic distance between underwriters and bond issuers is associated with high financing costs. Therefore, physical distance to financial intermediaries can influence financial conditions through information asymmetries and transaction costs.

Overall, the existing literature shows that geographic distance significantly determines financial access and conditions. However, most of these studies focus on how distance affects lending terms and relationship formation, rather than on how such spatial financial access translates into firm exit behavior. Thus, this study directly addresses this question by examining how financial access variation within urban areas, measured by distance to bank branches, affects SMEs’ probability of exit.

Third, in the context of Gulf cities, state-led urban development and automobile-dependent spatial structures may shape the relationship between commercial agglomeration and financial access. Al-Nakib (2016) argued that urban restructuring in Kuwait since the oil era produced a functional separation of residential, commercial, and leisure spaces through the redevelopment of the old city, the development of suburban residential areas, and road-centered urban planning. This suburbanization weakened neighborhood life within walking distance and reinforced automobile dependence and spatial fragmentation within the city. Moreover, commercial, entertainment, and café-related activities became concentrated in central areas and Salmiya, deepening functional unevenness

within the urban space. From this perspective, distance to bank branches should be understood as a physical measure and a spatial constraint on firm activity embedded in a state-shaped urban structure.

These strands of literature offer important insights, though they have not been sufficiently integrated. Studies on SME survival and financial access, bank–firm distance effects on financial conditions, and urban space structure have largely developed independently. The novelty of this study lies in connecting these pieces of literature to examine how the spatial unevenness of financial access in Gulf cities is linked to firm exit. Using firm-level data from Kuwait, this study precisely investigates this question.

3. Theoretical Framework and Hypotheses: Spatial Constraints of Financial Access in Urban Structure

As discussed in the previous section, the existing literature has shown that financial access is crucial for SME survival and that bank–firm geographic distance affects financial conditions and the formation of banking relationships. This study connects these two strands of research by examining how geographic access to bank branches influences firm exit behavior. In Gulf economies, banks constitute the primary source of external finance, and proximity to bank branches is a key factor affecting firms' access to lending opportunities and routine financial transaction costs. Accordingly, firms located far from bank branches are likely to face financial access constraints, which may increase their exit probability. Accordingly, the study proposes the following hypothesis:

Hypothesis 1: Firms located far from bank branches are likely to exit.

However, for SMEs, relationships with banks are not formed through one-off transactions but through repeated interactions and information accumulation over time. Therefore, distance to bank branches may not operate as a continuous cost only. When a certain threshold is exceeded, the frequency of visits and the likelihood of maintaining banking relationships may decline sharply. Beyond that point, effective access to banks and ease of sustaining relationships may deteriorate substantially.

Hypothesis 2: The effect of distance to bank branches is non-linear, such that the exit probability increases when distance exceeds a certain threshold.

Furthermore, commercial activities and bank branches' location within urban spaces are not uniformly distributed; rather, local agglomeration and fragmentation can exist even within the same

district. Under such spatial conditions, firms located within the same administrative area may face markedly different levels of bank access. Therefore, the effect of bank distance is likely to be observed across and within regions.

Hypothesis 3: The effect of distance to bank branches is observable not only across regions but also within regions.

4. Data and Empirical Strategy: Measuring Firm Exit and Bank Distance

To examine how geographic access to bank branches affects firm exit probability among café businesses in Kuwait, this study employs a logit model using cross-sectional data. The dependent variable is a binary indicator of firm status, defined as 1 for closed firms and 0 for firms that remain in operation. The baseline specification is given as follows:

$$Pr(Closed_i = 1) = \Lambda(\beta_0 + \beta_1 Access_i + \beta_2 X_i + \gamma_r + \epsilon_i)$$

where $\Lambda(\cdot)$ denotes the logistic distribution function, $Access_i$ represents the measure of bank access for firm i , X_i is a vector of firm characteristics (such as legal form and headquarter/branch status), and γ_r denotes regional fixed effects (FE). A key feature of this study is that the definition of $Access_i$ and the estimation specification vary depending on the hypothesis being tested.

The dataset used in this study was constructed from multiple sources. First, information on firm status (active or closed) and basic firm characteristics, including legal form, is obtained from the database of the Kuwait Chamber of Commerce and Industry. Firms were classified as closed when listed in the Chamber database but could no longer be confirmed as operating through Google Maps and related business information at the time of data collection. Firms with confirmed observable business activity were classified as active. This definition captures operational status at the time of data construction and should be interpreted as a practical measure of firm exit rather than a legally registered closure. Second, geographic coordinates (latitude and longitude) for each firm were manually identified using Google Maps. Bank branch information is collected from official bank websites, and the geographic locations of these branches were supplemented using Google Maps. By integrating these data sources, we calculated the distance from each firm to the nearest bank branch and the number of bank branches within specified distance ranges.

To test hypothesis 1 (firms located far from bank branches are likely to exit), we used a categorical variable based on distance to the nearest bank branch (*Distance_bin*) as the main explanatory variable. We defined four distance categories: 0–0.5 km (reference category), 0.5–1 km,

1–2 km, and >2 km. This specification allowed us to examine whether firms located in distant bands exhibit high exit probabilities. The focus here is not on estimating a continuous marginal effect of distance, but on identifying whether exit probabilities increase in distant categories, that is, on capturing the directional effect of distance.

To test hypothesis 2 (the effect of bank distance exhibits a threshold structure), we estimated several alternative specifications in addition to the baseline model with distance categories. These specifications include a reclassification using 0–1 km as the reference category, a continuous measure of distance to the nearest bank branch (*NearestBranch_km*), and its logarithmic transformation¹. Thus, we were able to examine whether the effect of distance is monotonic or concentrated within specific distance ranges. Accordingly, hypothesis 2 testing focuses on identifying the distance ranges in which the effect becomes salient and whether it exhibits a threshold-like pattern.

To test hypothesis 3 (the effect of bank distance is observable across and within regions), we estimated models with alternative fixed effect specifications. In the baseline specification, governorate fixed effects are included to control for broad regional differences. We also estimated models with district fixed effects, which represent a finer spatial unit than governorates, to examine whether relative differences in bank access within the same district are associated with firm exit². Furthermore, we conducted a subsample analysis by restricting the sample to Salmiya, one of the main commercial agglomeration areas. Thus, we were able to assess, in a supplementary manner, whether similar relationships hold within a relatively homogeneous commercial environment.

We included the legal form (*IND*, *JSC*, *OPC*, *PART*, and *WLL/LLC*)³ and the headquarter/branch status (*Main/Branch*) as firm-level controls. The dependent variable *closed_dummy* is a binary indicator that takes the value 1 if the firm is closed and 0 if it remains in operation. Among the firm characteristics, *company_type_clean* captures the legal form, whereas *Main/Branch* is defined as 1 for headquarters and 0 for branches. These variables are included as controls because they may be associated with firm size, capital structure, managerial flexibility, and credit access, all of which can influence the exit probability.

In addition, as supplementary financial access indicators, we used the number of bank

¹ *NearestBranch_km* denotes the straight-line distance (in km) from each firm to its nearest bank branch.

² Governorate and district fixed effects are included to control for unobserved regional characteristics, such as commercial agglomeration, population density, and the competitive environment.

³ The abbreviations for legal forms are as follows: *IND* denotes individual proprietorship; *JSC* denotes joint-stock company; *OPC* denotes one-person company; *PART* denotes partnership; and *WLL/LLC* denotes with limited liability/limited liability company.

branches located within 1 km and 2 km of each firm (*BankCount_1km* and *BankCount_2km*). These measures capture the local density of financial services, which may not be fully reflected by the distance to the nearest branch only. Although the distance measure captures accessibility to the closest bank branch, the bank density measures capture the extent of financial service availability within a given radius.

The estimation proceeds in stages. First, we estimated a baseline model including only the distance measure, either categorical or continuous, to examine the basic relationship between bank access and exit probability. Second, we added firm-level controls to account for heterogeneity across firms. Third, we introduced governorate fixed effects to control for differences in regional market structure and competitive conditions. To test further hypothesis 3, we estimated models with district fixed effects and conducted subsample analyses restricted to Salmiya. In comparing the estimation results, we focused on the sign and statistical significance of the coefficients, and we also reported odds ratios, where appropriate, to assess economic magnitude⁴. Although the Akaike Information Criterion (AIC) is reported as a supplementary metric, interpretation primarily relies on the direction and robustness of the estimated effects.

Notably, this study is based on cross-sectional data and does not aim to identify the causal effect of bank distance on firm exit strictly. Bank branch location may be endogenously determined by demand and local commercial conditions, which calls for caution in interpreting the results. Nevertheless, this study primarily aims to document the empirical relationship between bank access and firm exit. Therefore, the analysis is positioned as exploratory and descriptive.

5. Empirical Results: Threshold Effects of Bank Distance and Spatial Inequality in Financial Access

This section presents the empirical results, focusing on whether the effect of bank distance on SME exit is linear or concentrated within specific spatial ranges. The results show that exit probability increases significantly beyond 1 km, with the strongest effect observed in the 1–2-km range. Therefore, financial access constraints become salient when firms move beyond a short-distance range from bank branches.

To quantify this threshold pattern, Table 1 reports logit estimates using distance categories.

⁴ The estimation results are based on logit models. Odds ratios are computed as the exponential transformation of the coefficients ($\exp(\beta)$). An odds ratio greater than 1 indicates a higher exit probability, whereas a value less than 1 indicates a lower exit probability.

In the simple model (m1), the coefficients for each distance band are mostly positive. Thus, the exit probability tends to increase with distance from bank branches, although statistical significance is limited.

Table 1 Distance to the Nearest Bank Branch and Firm Exit

Variable	m1: distance only		m ² : +firm		m ³ : +firm+FE	
Intercept	0.193	(0.108)	0.593	** (0.298)	0.316	(0.433)
<i>Distance: 0.5–1km</i>	0.027	(0.191)	0.051	(0.199)	0.374	* (0.216)
<i>Distance: 1–2km</i>	0.433	(0.280)	0.467	(0.287)	0.971	*** (0.338)
<i>Distance: >2km</i>	0.184	(0.286)	0.146	(0.293)	0.743	(0.481)
<i>JSC</i>			-0.912	(0.695)	-0.924	(0.732)
<i>OPC</i>			-1.515	*** (0.307)	-1.500	*** (0.319)
<i>PART</i>			0.095	(0.405)	0.311	(0.434)
<i>WLL/LLC</i>			-0.415	** (0.205)	-0.441	** (0.214)
<i>Main (vs. Branch)</i>			0.020	(0.242)	0.141	(0.251)
<i>Governorate FE</i>	No		No		Yes	
Observations	632		632		632	
AIC	870.76		850.3		815.08	

Notes: Dependent variable: *closed_dummy* (1 if closed). Logit estimation: reported coefficients are log-odds estimates. Standard errors (SEs) are shown in parentheses. Firm controls include company type and the *Main/Branch* dummy. Governorate fixed effects are included where indicated. ***, **, and * denote significance levels at $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively.

However, when governorate fixed effects are introduced (m³), the relationship becomes highly pronounced. Particularly, the coefficient for the 1–2-km distance category is 0.971 (SE: 0.338) and is statistically significant at the 1% level. In terms of odds ratios, this value corresponds to approximately 2.64, indicating that firms located 1–2 km from the nearest bank branch have exit odds approximately 2.6 times higher than those located within 0–0.5 km. Therefore, bank distance and firm exit are positively related, supporting hypothesis 1.

Table 2 reports estimation results based on bank density as an alternative financial access measure. Using the number of bank branches within 1 km and 2 km of each firm, the results show negative and statistically significant coefficients for both measures. Firms located in areas with a high concentration of nearby bank branches tend to exhibit low exit probabilities. Therefore, the relationship between bank access and firm exit is not dependent on a single measurement approach.

Table 2 Bank Density and Firm Exit: Alternative Financial Access Measures

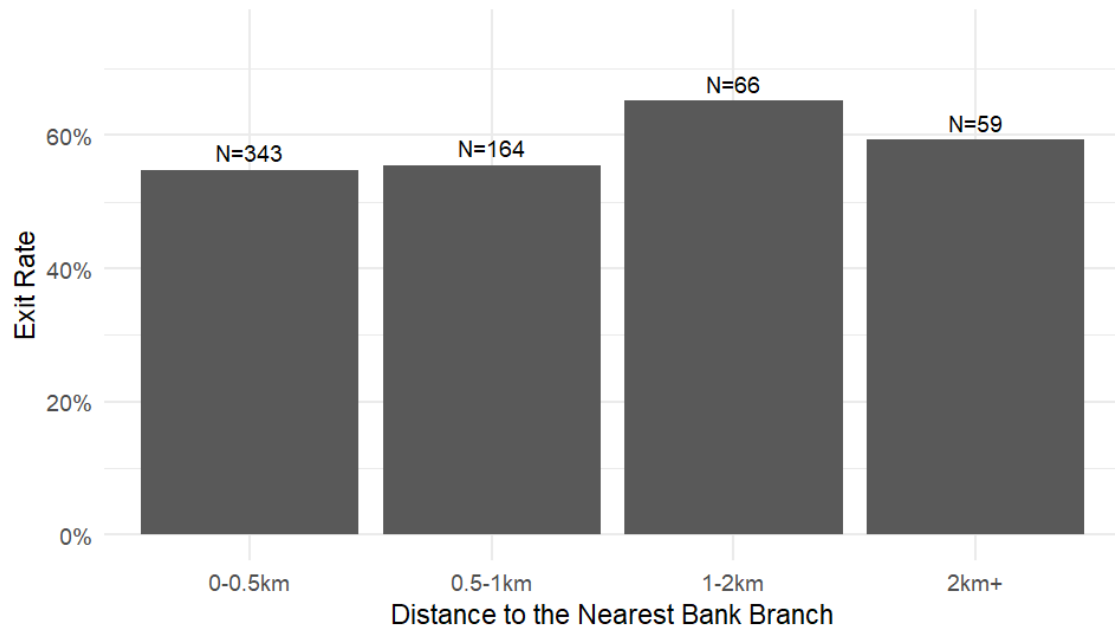
Variable	1-km count (continuous)	2-km count (continuous)	1-km count (binned)
<i>BankCount: 1 km</i>	-0.050 ** (0.024)		
<i>BankCount: 2 km</i>		-0.039 ** (0.016)	
<i>Bank_bin_1km: 1-3</i>			-0.552 * (0.327)
<i>Bank_bin_1km: ≥4</i>			-0.954 *** (0.325)
Controls (firm characteristics)	Yes	Yes	Yes
Governorate FE	Yes	Yes	Yes
Observations	634	634	634

Notes: Dependent variable: *closed_dummy* (1 if closed). Logit estimation: reported coefficients are log-odds estimates. SEs are shown in parentheses. The main explanatory variables are the number of bank branches within 1 km and 2 km of each firm, which are used as alternative financial access indicators. Firm controls include company type and the *Main/Branch* dummy. Governorate fixed effects are included in all specifications. Odds ratios are discussed in the text where relevant.***, **, and * denote significance levels at $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively.

Further evidence is obtained from specifications that use a binned measure of the number of bank branches within a 1-km radius (*1-km count (binned)*). These results also show that high bank density is associated with a low probability of firm exit. When firms with no bank branches within 1 km are used as the reference group, firms with 1–3 nearby branches exhibit a lower likelihood of exit, and the reduction is larger for firms with ≥ 4 branches. Therefore, the effect of financial access is driven not only by proximity to the single nearest branch but also by the availability of multiple banking services within a given area. Thus, the local thickness of financial service provision is an important factor for firm survival. Thus, the results in Table 2 reinforce the main findings based on distance measures and suggest threshold-like variation in financial access.

Figure 1 provides descriptive evidence of this threshold pattern. Exit rates increase when the distance to the nearest bank branch exceeds 1 km, and the 1–2-km range exhibits the highest exit rate. Moreover, an examination of firm distribution across distance categories (Appendix Table 1) indicates that although firms are relatively concentrated in short distance ranges, a non-negligible number of observations fall beyond 1 km. Therefore, the observed threshold pattern is not driven by a few outliers.

Figure 1 Distance to the Nearest Bank Branch and Firm Exit Rates



Notes: The figure reports the share of closed firms within each distance band from the nearest bank branch. The vertical axis shows the exit rate, and the horizontal axis shows distance categories. Distances are measured as straight-line distances in km.

A similar pattern is observed in the estimation results. In the governorate fixed-effects model reported in Table 1, the coefficient for the 0.5–1-km category remains only weakly significant, whereas that for the 1–2-km category increases substantially and becomes statistically significant. Therefore, the effect of bank access does not change continuously with distance but becomes more pronounced beyond a certain threshold.

To examine further this pattern, Table 3 reports additional estimations using alternative definitions of distance. These estimations include specifications that treat distance to the nearest bank branch as a continuous variable, apply a logarithmic transformation of distance, introduce a capped distance measure (*distance_capped*) to mitigate the influence of extreme outliers, and use a reclassification using the 0–1-km reference category. The *distance_capped* variable imposes an upper bound on the continuous distance measure to prevent a few observations with extremely large distances from disproportionately affecting the estimation results.

Table 3 Robustness of the Results to Alternative Distance Measures: Continuous Distance, Log Distance, and Reclassification

Variable	Continuous distance only		Continuous distance + Firm + Gov FE		Continuous distance (capped) + Firm + Gov FE		Log distance + Firm + Gov FE		Re-binned distance + Firm + Gov FE	
<i>NearestBranch_km</i>	0.097	(0.092)	0.389	**	(0.185)					
<i>distance_capped</i>						0.424	**	(0.183)		
<i>log_dist</i>								0.170	*	(0.087)
<i>Distance: 1–2 km</i>										0.828 ** (0.328)
<i>Distance: 2–3 km</i>										0.377 (0.480)
<i>Distance: >3 km</i>										2.141 * (1.170)
Controls (firm characteristics)	No		Yes			Yes		Yes		Yes
Governorate FE	No		Yes			Yes		Yes		Yes
Observations	634		634			634		634		632

Notes: Dependent variable: *closed_dummy* (1 if closed). Logit estimation: reported coefficients are log-odds estimates. SEs are shown in parentheses. Distance to the nearest bank branch is alternatively measured as a continuous variable: a capped continuous variable, a log-transformed variable, and a re-binned distance category. In the re-binned specification, 0–1 km is the reference category. Firm controls include company type and the *Main/Branch* dummy. Governorate fixed effects are included where indicated. ***, **, and * denote significance levels at $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively.

Table 3 shows that when continuous distance is used without modification, the bank distance coefficient is not statistically significant in the simple specification but becomes positive and significant when governorate fixed effects are included. When the capped distance measure (*distance_capped*) is used, the coefficient also remains positive and significant, indicating that distance and exit probability remain positively related even after mitigating the influence of outliers. Similarly, the specification using log-transformed distance yields results in the same direction. Overall, these findings suggest that the tendency for firms located far from bank branches to exhibit high exit probabilities is broadly robust to alternative distance measures.

However, the effect is less clearly identified in specifications based on continuous distance compared with those using distance categories. In contrast, when distance is reclassified using the 0–1-km reference category, the coefficient for the 1–2-km range is positive and statistically significant, whereas that for distances beyond 3 km is also positive and weakly significant at the 10% level. These results support the interpretation that the effect of bank distance is effectively characterized by a threshold structure, with strong effects emerging within specific distance ranges.

Finally, Tables 4 and 5 examine whether the effect of bank distance is observable across and within regions. Table 4 reports results from models with district fixed effects, whereas Table 5 presents results based on a subsample restricted to the Salmiya district. In the district fixed-effects model, the coefficient for the 1–2-km category remains positive at 1.024 (SE: 0.480) and is statistically significant at the 5% level. Therefore, the effect of bank distance is not only driven by broad regional differences but also operates as a relative difference in access within the same district.

Table 4 Robustness of the Effect of Bank Distance: Regional Fixed Effects and Sample Restrictions

Variable	Coef	SE	p_value	odds_ratio
<i>Distance: 0.5–1 km</i>	0.056	0.275	0.838	1.058
<i>Distance: 1–2 km</i>	1.024	0.480	0.033 **	2.784
<i>Distance: >2 km</i>	0.569	0.982	0.563	1.767
<i>JSC</i>	–0.221	0.895	0.805	0.802
<i>OPC</i>	–1.587	0.411	0.000 ***	0.204
<i>PART</i>	0.53	0.537	0.324	1.699
<i>WLL/LLC</i>	–0.442	0.271	0.103	0.643
<i>Main</i>	0.371	0.298	0.212	1.45
Observations	464			
AIC	567.12			

Notes: Dependent variable: *closed_dummy* (1 if closed). Logit estimation: reported coefficients are log-odds estimates. SEs are shown in parentheses. Distance categories are based on the distance to the nearest bank branch, with the 0–0.5-km reference category. Firm controls include company type and the *Main/Branch* dummy. This table reports robustness checks using alternative fixed effects and restricted samples, including district fixed effects where indicated. Odds ratios are discussed in the text where relevant. ***, **, and * denote significance levels at $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively.

Table 5 Bank Distance and Firm Exit in a Commercial Agglomeration Area: Salmiya Subsample

Variable	Coef	SE	p_value	odds_ratio
<i>Distance: 0.5–1 km</i>	0.335	0.425	0.430	1.398
<i>Distance: 1–2 km</i>	1.278	0.711	0.072 *	3.590
<i>OPC</i>	–2.470	0.901	0.006 ***	0.085
<i>WLL/LLC</i>	–0.349	0.480	0.467	0.705
<i>Main</i>	0.700	0.521	0.179	2.014
Observations	133			
AIC	172.590			

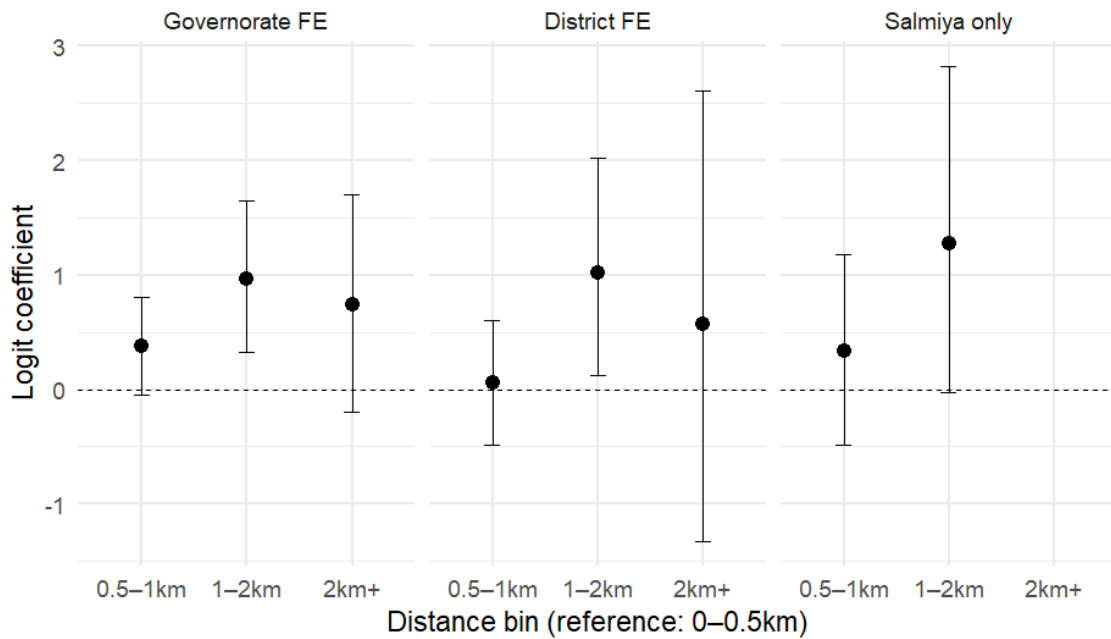
Notes: Dependent variable: *closed_dummy* (1 if closed). Logit estimation: reported coefficients are log-odds estimates. SEs are shown in parentheses. Distance categories are based on the distance to the nearest bank branch, with the 0–0.5-km reference category. Firm controls include company type and the *Main/Branch* dummy. The sample is restricted to firms located in Salmiya. Odds ratios are discussed in the text where relevant. ***, **, and * denote significance levels at $p < 0.01$, $p < 0.05$, and $p < 0.1$, respectively.

In the subsample restricted to the Salmiya district, the coefficient for the 1–2-km distance category remains positive at 1.278 (SE: 0.711) and is statistically significant at the 10% level. Although the precision of the estimates declines due to the small sample size, the direction and magnitude of the effect are broadly consistent with the baseline results. Therefore, the effect of bank distance may also be observed at a microlevel within urban space, supporting hypothesis 3.

To provide a visual comparison of these results, Figure 2 plots the estimated coefficients for the distance categories across different model specifications. The figure shows that the coefficients for the 1–2-km range are consistently positive across models. Particularly, in the governorate and district fixed-effects models, the coefficients for this range are statistically significant. Thus, firms located

beyond a certain distance from bank branches face a high exit probability. Although the estimates for the Salmiya subsample are less precise, they exhibit the same directional pattern. Therefore, the effect of bank distance operates across regions and within localized spatial units inside the city.

Figure 2 Robustness of the Effect of Bank Distance: Comparison across Fixed Effects and Subsamples



Notes: Points indicate estimated coefficients for distance categories from logit models, and vertical lines indicate 95% confidence intervals. The reference category is *Distance* (0–0.5 km). Estimates are reported for the governorate fixed-effects model, district fixed-effects model, and Salmiya subsample.

The results in this section provide clear evidence of the relationship between bank access and firm exit. The relationship becomes more pronounced beyond the 1-km threshold and is also observed within the same district. Thus, locational differences across regions are important as well as the relative spatial unevenness of financial access within urban areas. Therefore, the spatial distribution of financial services in Gulf cities may constitute an important underlying condition shaping firm survival.

6. Conclusion and Policy Implications: Rethinking Financial Access in Urban Space

This study examined whether the effect of bank distance on SME exit is linear or concentrated within specific spatial ranges. Using firm-level data on café businesses in Kuwait, the analysis showed that exit probability rises significantly when firms are located beyond 1 km from the nearest bank branch, with the strongest effect observed in the 1–2-km range.

These findings indicate that financial access constraints become more salient beyond a certain range within urban space. Gradual distance is important as well as the existence of a threshold beyond which access to banking services becomes effectively more limited for firms.

A particularly notable finding is that the effect of bank distance becomes pronounced beyond 1 km but does not increase monotonically in more distant ranges, such as beyond 2 km. This finding does not imply that 1 km represents a universal threshold; rather, within the present sample, financial access constraints begin to materialize when firms move beyond a short distance range. Field interviews conducted in Kuwait in February 2026 further suggest that café SMEs rely heavily on self-financing at the start-up stage, whereas bank borrowing becomes more relevant during expansion phases. Moreover, collateral requirements, particularly land collateral, were repeatedly identified as a major barrier to obtaining bank credit. These interviews also suggest that own funds and supplier credit play an important role in day-to-day operations, whereas formal bank borrowing tends to become more relevant when firms seek expansion or additional working capital. Therefore, relationships with banks remain significant for SME growth and continuity, including in sectors characterized by relatively low initial entry barriers. This finding is particularly relevant in the café sector, where initial entry may be relatively easy, but expansion, rent payments, equipment purchases, and working capital needs create demand for external finance. Additionally, because commercial and financial functions are not uniformly distributed across Kuwaiti urban space, the 1-km threshold may reflect an empirical boundary between core commercial clusters and their periphery.

The absence of a monotonic increase in exit probability beyond 2 km can be interpreted in several ways. First, the number of observations in this range may be relatively limited, reducing statistical precision. Second, firms that survive at greater distances from banks may be systematically different, relying heavily on internal funds or informal networks or benefiting from stable customer bases, making them resilient to spatial disadvantages. Third, the 1–2-km range may correspond to an intermediate zone outside core commercial clusters, where firms do not fully benefit from agglomeration economies or sufficient financial accessibility. The observed threshold effect may reflect not only financial access but also broad characteristics of urban commercial structures, including rental costs, commercial agglomeration, accessibility by car, and land-use patterns. Therefore, the findings should be interpreted as capturing the spatial conditions under which financial access constraints become salient, rather than as evidence of a purely financial mechanism only.

From a policy perspective, the findings imply that SME finance in GCC (Gulf Cooperation Council) countries should be considered not only in terms of institutional arrangements, such as credit

guarantees and public financing schemes, but also in terms of the spatial distribution of financial services within cities. Although SME support has long been emphasized in the GCC, bank lending structural changes have been limited, with continued reliance on large corporate and government-related lending. In this context, ensuring the availability of accessible financial service points within commercial clusters becomes a distinct and important policy issue. This objective may involve strengthening the role of mid-sized and relationship-based banks, expanding specialized SME intermediation, including Islamic finance, and improving credit guarantee and information-sharing mechanisms, alongside deliberate planning of financial service locations in commercial areas. The findings also raise broad questions regarding the continuing role of physical bank branches in increasingly digitalized banking environments. As online and mobile banking expand, physical proximity may remain important for SMEs through consultation, relationship formation, and trust-building functions.

Several limitations and avenues for future research remain. First, the analysis relies on straight-line distance and does not capture actual travel time, transportation networks, and the intensity of firm–bank relationships. Thus, future work should incorporate more realistic measures, such as travel time or road distance, as well as data on transaction frequency and relationship strength, to capture the notion of effective access. Future research should also incorporate additional urban variables, such as commercial rents, land prices, parking availability, and traffic accessibility, to disentangle financial-access effects from broader urban-location effects. Second, as this study is based on cross-sectional data, causal interpretation remains limited because firm survival, bank branch locations, and commercial agglomeration may be jointly shaped by underlying demand and urban structure. Therefore, future research should exploit temporal variation, such as bank branch openings and closures, using panel data or quasi-experimental designs to identify causal effects rigorously. Further extensions could also examine heterogeneity across bank types and services, as well as finer spatial units within cities. Future research may also use survey-based or experimental approaches to examine how SME owners perceive bank distance, collateral requirements, and the availability of financial advice when making financing and location decisions. Addressing these issues would contribute to a comprehensive understanding of how spatial constraints on financial access shape firm behavior in Gulf urban contexts.

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Appendix Table 1. Descriptive Statistics of the Main Variables

Variable	Obs.	Mean	SD	Min.	Median	Max.
<i>closed_dummy</i>	634	0.563	0.496	0.000	1.000	1.000
<i>NearestBranch_km</i>	634	0.743	1.440	0.002	0.416	31.713
<i>BankCount_1km</i>	634	4.984	4.121	0.000	4.500	14.000
<i>BankCount_2km</i>	634	12.830	7.637	0.000	13.000	32.000

Notes: The variable *closed_dummy* equals 1 if the firm is closed and 0 otherwise. Distance to the nearest bank branch is measured as the straight-line distance (in km) between each firm and its closest bank branch. *BankCount_1km* and *BankCount_2km* denote the number of bank branches within 1 km and 2 km of each firm, respectively. All variables are measured at the firm level.