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This study offers a multidimensional approach to analyze the evolution of firms' internationalization strategies throughout their lifetime. Conceptually, we contribute a new framework of multiplex internationalization to explain how firms' internationalization choices interrelate across the three strategic dimensions of space, mode, and time. Methodologically, this study applies AI technology to reconstruct the dynamic internationalization portfolios of firms, in order to trace the continuous evolution of their spatial, entry mode, and timing strategies throughout their lifetime. We offer a long-period data pipeline to operationalize longitudinal strategic metrics, using digitized archival data on British overseas banks covering a 200-year period. The created strategic matrices visualize the changes in multiplex strategies that firms pursue through the parallel expansion of FDI and inter-firm networks to build spatially diversified multi-relational ecosystems, challenging the prevailing assumption of unidimensional internationalization strategies. Our multidimensional clustering analysis uncovered that firms' internationalization choices overlap across mode, space, and time, thus confirming firms' use of strategy 'blending' for international expansion, contrary to the dominant view of firm internationalization as a uniform process. Through ML-algorithmic modelling, we identified six strategic clusters of banks that pursued significantly different internationalization strategies as they evolved their polycentric networks through complementary entry modes, whilst employing varying timing strategies, in order to transition across diversified spatial positions. Finally, we suggest directions for further exploration and conceptualization of multiplex internationalization strategies, generalizable for firms across other sectors.

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1 | Introduction

As many research fields that thrived on the continuity of their theoretical and methodological legacies, the wealth of research on firm internationalization strategies progressively evolved by internalizing groundbreaking frameworks on staged growth in foreign market commitment (Johanson & Vahlne, 1977, 2003), multi-level advantages driving foreign market entries (Buckley & Casson, 1976; Dunning, 1980), regional boundaries of multinational ventures (Rugman, 2005; Rugman & Verbeke, 2005), triggering strategic responses to evolving institutional environments (DiMaggio & Powell, 1983, 1991; Dunning & Lundan, 2008; North, 1990; Scott, 1995). Although the long tradition of empirical research advanced our knowledge of the firm's internationalization process and their strategic choices in foreign markets (e.g., Brouthers & Hennart, 2007; Peng, Wang, & Jiang, 2008; Welch, Nummela, & Liesch, 2016; among others), the conceptual boundaries of the mainstream literature led to the inherent limitation of confining the experimentation with new, inter-disciplinary research designs to the over-reliance on approaches validated by past international strategy research.

Notably, one of the fundamental theoretical constructs in the international business literature – the evolution of the firm's internationalization process, has typically been studied with detached theoretical approaches that conceptualize singular dimensions of internationalization strategy, e.g., the strategic choices of foreign location, entry modes, and timing, which in reality are made in conjunction (not independently of each other) by firms prior to any foreign market entry. Therefore, the unitary focus of the extant international business theories inherently limits their applicability to effectively explain the evolution of firms' internationalization processes that unfold across multiple strategic dimensions, as well as the variation in firms' internationalization strategies over *time*, *space*, and *modes*.

These three strategic dimensions reflect the core strategic choices of '*where*' (space), '*how*' (mode), and '*when*' (time) to enter a foreign market (Caves, 1996; Welch & Luostarinen, 1988), which jointly define internationalization as a multidimensional process and determine performance outcomes and firm survival in foreign markets (e.g. Li, 1995; Brouthers, Brouthers, & Werner, 2003; Audretsch & Dohse, 2007). Although these strategic choices have long been a central tenet of international business research, understanding how these dimensions interrelate remains a core theoretical challenge. Explicitly embedding these three dimensions in a coherent framework for the analysis of internationalization strategies is essential to reveal the inherent complexity of the complementary strategic decisions that firms have to make to expand their operations within and across foreign markets. The importance of combining the strategic dimensions of space, mode, and time to analyze the internationalization process has been reiterated in the international entrepreneurship and market selection literatures (e.g., Casillas & Acedo, 2013; Jones & Coviello, 2005; O'Farrell & Wood, 1994), which have long called for new theories to explain how internationalization timing relates to the choice of entry mode and the geographic scope of foreign markets that firms select to enter, as well as the relationship between the complementarity of entry modes and the extent of firms' regional diversification. Therefore, we aim to investigate how firm internationalization choices interrelate across these three strategic dimensions, whilst overcoming the theoretical deficiencies of the conventional approaches to analyzing firm internationalization as a uniform and unidimensional process.

Empirical approaches have neither adequately explained the dynamic interaction between these three strategic dimensions, as firms' internationalization has been modelled with data structures and techniques unsuitable for connecting individual data points on these distinct but interrelated strategic choices and, subsequently, capturing

the dynamic variation in firms' internationalization trajectories. In result, these conventional data designs in international business research do not adequately allow analyzing firms' international expansion simultaneously across space and time through a variety of modes, which is essential to capture the multidimensional nature of strategic choices in foreign markets and their continuous change.

This mismatch between conceptual grounding and research design has been frequently acknowledged by scholars calling for alternative approaches to incorporate *temporal* and *process* dimensions in the study of firm internationalization (Buckley, 2016; Casillas & Acedo, 2013). Incorporating these dimensions requires an inter-disciplinary approach to conceptualizing firms' internationalization processes as a *continuous evolution* of their strategic behavior in foreign locations as opposed to discrete strategic choices (e.g., Buckley & Hashai, 2005), as well as developing new empirical strategies that enable reconstructing the continuous changes in their internationalization strategies across multiple strategic dimensions at exact time points.

We address both shortcomings by creating new conceptual and empirical approaches for international business research, building on recent advances in the fields of organizational evolution and data science. Firstly, we conceptualize the *multidimensional evolutionary process* of firms' internationalization by emphasizing the uniqueness and eventfulness of their internationalization processes (Lippmann & Aldrich, 2013). Secondly, we integrate a long-period research design and develop a multidimensional clustering analysis to examine the multiplex nature of internationalization by implementing rapidly advancing machine learning (ML) techniques.

The essence of our multidimensional approach to firm internationalization hinges on tracing continuous changes in firms' strategic positions across foreign markets throughout their entire lifespan. We demonstrate that reconstructing the continuous evolution of firms' international operations can capture the *dynamic variation* in strategies (i.e., their *eventfulness*) which firms select on a year-on-year basis in their adaptation to changing environments – in parallel or sequentially – as part of their *unique internationalization processes* throughout their lifespan. Through this evolutionary lens, we examine the dynamic complementarity between the timing, spatial, and entry mode strategies, which we define as *multiplex internationalization*, by reconstructing the continuous evolution of firms' internationalization portfolios throughout their lifetime.

Complementing the granularity of strategic changes with a long-period perspective is essential to yield new evidence on the continuous evolution of firms' internationalization needed to innovate theory development in the international business field. This coherent approach contrasts to the conventional research designs on firm internationalization that tend to either qualitatively explore discrete strategic choices confined to specific entry mode types or markets, or test hypotheses based on a limited range of strategic events within short timeframes, thus overlooking the multidimensional nature of internationalization strategies that evolve in space and time via complementary entry modes.

To adequately examine firm internationalization through a multidimensional evolutionary perspective, research designs need to incorporate alternative data sources on long-period firm behavior in foreign markets, traditionally accessible in non-digitized archival formats, and apply innovative AI-based techniques to transform these sources into an analyzable structured format and trace firm internationalization as continuous changes across multiple dimensions and throughout its lifetime. The yielded granular longitudinal data on firms' entire scope and history of foreign market choices enables the application of advanced ML techniques to model the continuous evolution of firms' multi-relational ecosystems via complementary strategies and testing the dynamic interaction between strategic dimensions, which is not explained by extant international business theories.

With the aim to advance internationalization theory, we endeavor to develop a new conceptual framework of multiplex internationalization and design a multi-disciplinary approach centered on the large-scale digitization of multiple archival sources and algorithmic modelling to explain how firms' internationalization strategies evolve simultaneously across space, mode, and time. Specifically, we seek to answer the research question: *how firms' internationalization choices interrelate across the three strategic dimensions of space, mode, and time*?

1.1 | Banking sector as a long-period context for evolving internationalization strategies

In pursuing this question, we focus our exploration on the banking sector as it provides a global and long-period context, given the continuity of banking operations throughout the past centuries and its role in facilitating the international trade and capital flows between foreign markets, as well as financing new international venturing in other sectors, as compared to more localized industries before the globalization waves of the 20th century (Bostock, 1991; Caballero, Candelaria, & Hale, 2018; Kisling, 2023; Young, 1991).

We capitalize on the availability of modern AI technology to render printed archival sources analyzable to study the internationalization process of British overseas banks across all foreign markets, which is fundamental to embedding the evolutionary conceptual perspective into our empirical strategy. This application of advanced technologies will enable not only precisely comparing banks' internationalization strategies over longer periods, but importantly also examining continuous change within their individual internationalization routes, which otherwise would not be achievable with conventional empirical strategies adopted by past research.

The periodical archival sources date back to the 19th century and were published in abundance in the banking industry, particularly within the United Kingdom which traditionally had been an eminent player in the global banking system (Jones, 1993; Monteith, 2008). This inspired our focus on the British banking sector, within the context of expanding international economic relations, which served as a dynamic environment for the emergence and internationalization efforts of British overseas banks. The expansion of British overseas banks from the early 19th century across foreign countries and regions signified the emergence of multinational and multiregional banking on a large spatial scale, which provides an apt context to analyze the evolution of internationalization strategies within a longer period and a wider geographic scope.

Historically, we explore the internationalization strategies of British overseas banks over nearly a 200-year period, which played a unique flagship role in the structure of the global banking sector (Jones, 1993; Monteith, 2008; Rugman & D'Cruz, 1997). British overseas banks supported the vastly expanding economic flows between the UK and foreign markets, by integrating financial systems via equity links to overseas locations and dense networks of interbank arrangements with foreign-based partner banks (see a more extensive historic overview in Appendix B).

British overseas banks were headquartered in London (UK) and had their principal operations centered on servicing governments, industry and merchant clients in overseas locations (Orbell & Turton, 2017), fulfilled by their overseas branches and agents authorized to engage in international banking transactions. Even though British overseas banks showed heterogeneity in their strategic intent to internationalize, depending on merchant and industrial interests as well as the available clientele among other location-specific advantages in foreign regions, their motives were predominantly to drive profitability by financing foreign trade, expanding foreign exchange operations, and capitalizing on deposit business opportunities (Young, 1991).

Although the international activities and internationalization motives of British overseas banks have been extensively studied, the comprehensive insights into the growth of their foreign operations were based on either

aggregated numbers of foreign branches and financial statements (e.g., Jones, 1993) or provided historical accounts of their operations in specific regions with a more narrow focus on branches (e.g., Joslin, 1963; Bostock, 1991; Young 1991). Commercial reports on British overseas banking operations (e.g., Lough, 1915, pp. 30-43) neither provide systematic data evidence nor strategic analysis of banks' decisions in foreign markets, as they are confined to providing disparate evidence on foreign branches and fragmented reporting of banks' consolidated financial statements. We aim to address these gaps by (1) proposing a new conceptual framework by integrating the evolutionary theory into international strategy field and (2) developing a novel empirical strategy to digitize archival data sources and apply multidimensional clustering analysis to analyze banks' internationalization strategies throughout their lifetime, as a validation of the evolutionary approach to multiplex internationalization strategies.

In our interpretation of the multiplex internationalization strategies, we also build upon the extensive legacy of theorizing to explain the growth of international financial intermediaries (see the extensive review by Scholtens, 1992), and particularly the view that the internationalization of British overseas banks was a response to, and to an extent a driver of, multinationalization of the industry which led to dynamic relationships between international trade (Deane & Cole, 1967; Zahedieh, 1998), foreign capital flows (Brezis, 1995), and the internationalization of financial intermediation services (Hultman & McGee, 1989).

1.2 | Roadmap and contributions

Although the importance of the evolutionary perspective was emphasized in the international business and banking literature (Cattani & Tschoegl, 2002; Vahlne, 2020), past research on the unique behaviors of individual banks has been confined to descriptive historic overviews of the foreign operations of selected banks (e.g., Cuevas, Martín-Aceña, & Pons, 2021; Guillén & Tschoegl, 1999; Tschoegl, 2002). Furthermore, whilst quantitative empirical research emphasized the increasingly complex nature of banks' international activity modes, their strategic analysis was unidimensional in examining either foreign direct investments (FDI) or interbank arrangements (e.g., Buch, Koch, & Koetter, 2011; Merrett, 1995). We address these limitations by (1) developing a new framework of multiplex internationalization strategies by integrating the multidimensional evolutionary approach from the organizational evolution field and the network literature, (2) developing an alternative empirical strategy based on the large-scale digitization of multiple archival sources using optical character recognition (OCR) technology, and (3) employing unsupervised ML to conduct strategic clustering analysis and examine the evolution of internationalization processes simultaneously across the three strategic dimensions of space (*spatial strategy*), mode (*entry mode strategy*), and time (*timing strategy*).

Whilst the value of examining the dynamics of multinational banking has been acknowledged in past research (Casson, 1993; Williams, 2002), the evolution of banks' internationalization strategies has not been mapped to examine the continuous changes in the spatial structure of their complete entry mode portfolios, complementing branch and interbank networks across all foreign markets. We add to the extant literature on the foreign operations of British overseas banks by compiling new long-period evidence to uncover the dynamic and complementary nature of their internationalization strategies pursued via FDI (greenfield and brownfield) and contractual modes, and tracing the multidimensional evolution of their internationalization routes across all regions throughout their entire lifetime.

We endeavor to accomplish this by reconstructing the dynamic internationalization profiles of the entire population of 48 British overseas banks, identified from a historical records guide (Orbell & Turton, 2017), and

integrating multiple archival sources, in order to trace the multidimensionality of banks' strategic choices in foreign locations and the evolution of their internationalization strategies across space, mode, and time. Compared to the past studies, we develop a large-scale data digitization approach to trace how the strategic positions of British overseas banks were changing across all their foreign markets, in every year of their lifespan, at the granular level of foreign cities and distinct entry modes. Importantly, with this AI-enabled data approach, we aim to unveil the multiregional scope of banks' operations and challenge the 'stereotyped picture' of British overseas banks as specializing in a single region or country (e.g., Jones, 1990; Bostock, 1991; Williams, 2002).

Through this multidisciplinary approach, our study makes several important contributions to the fields of international business. Firstly, we contribute a new conceptual framework of *multiplex internationalization* to explain how firms' internationalization strategies continuously evolve throughout their lifetime, by embedding time, space, and modes as inherent dimensions of firms' strategic heterogeneity – or 'dynamic variation' in terms of the evolutionary theory. We demonstrate how the concept of strategic multiplexity can be integrated into the internationalization theory to explain how firms' foreign market choices interrelate across these three strategic dimensions, thus accounting for both the unexplained aspects of internationalization, i.e., strategic variation and change over time. In contrast to the established internationalization theories that consider the evolution of firms' operations in foreign markets as a unidimensional and homogeneous process, our framework conceptualizes firms' internationalization as a unique multidimensional process shaped through the 'blending' of spatial, entry mode, and timing strategies.

Secondly, we contribute a new research design to the international business field by developing and documenting a replicable long-period data approach, which involves digitizing and transforming large-scale unstructured, text-based archival sources into a structured longitudinal dataset that encompasses the entirety of firms' foreign market entry choices throughout their lifetime. Our data pipeline ultimately enables the application of advanced ML techniques to analyze the continuous evolution of firms' multidimensional internationalization strategies. We demonstrate how new data can be made accessible for international business research by digitizing and compiling disparate archival data on foreign operations of firms held across a variety of text-based unstructured sources. As such, our data pipeline effectively resolves the prevalent issue in international business research where the complete records on firms' internationalization strategies are not digitally available from a single data source. Missing evidence can thus be generated to test the validity of extant international business theories and develop new conceptual approaches to explain the multidimensional nature of strategic choices in foreign markets and the evolution of firms' internationalization. Furthermore, we offer a coding scheme to create strategic metrics across the three strategic dimensions of space, mode, and time, which can be adopted for future research to reconstruct firms' *dynamic internationalization profiles* throughout their entire lifespan in different industry contexts.

Thirdly, to validate our framework of multiplex internationalization against our long-period evidence, we designed a multidimensional strategic clustering analysis, encompassing both graphical and ML techniques, to bring new insights into the dynamic variation of firms' internationalization routes. We applied the graphical method to construct *strategic matrices* and analyze how banks cluster and vary across and within the three strategic dimensions of space, modes, and time. This comparative strategic analysis reveals the multidimensionality of firms' international behavior by operationalizing the constructs of *uniqueness* and *eventfulness* from the evolutionary theory, compared to past studies that followed a unitary approach to analyze

a limited scope of discrete strategic choices or provide descriptive accounts of individual firm cases.

Next, we implemented the algorithmic modelling approach centered on unsupervised ML to analyze how firms' foreign market choices interrelate across the three strategic dimensions as part of firms' multiplex internationalization process. We demonstrate how international business research can apply innovative ML algorithms to more effectively model complex firm behavior in foreign markets based on new types of structured and unstructured data, compared to traditional econometric models (e.g., Flachaire, Hué, Laurent, & Hacheme, 2024). Specifically, we estimated a set of multidimensional clustering models to examine patterns of multiplexity in the internationalization strategies pursued by banks throughout their lifetime.

Through algorithmic modelling, we extend the application of the concept of strategic multiplexity to the context of international strategies to explicitly model the inherent multidimensionality of firms' strategic choices in foreign markets across space, modes, and time. Our approach sharply contrasts to the established entry mode and location choice theories that focus on firms' discrete choices in foreign markets. Our findings challenge the unrealistic assumptions of unidimensional and uniform internationalization processes in international business theories. In particular, we identified hybrid strategic clusters that overlap across the strategic metrics, confirming that banks pursued multiplex strategies to expand their foreign branch and cross-border interbank networks, frequently in parallel and at a varying pace, to move across diverse spatial positions. Our findings call for upgrading the internationalization theories to conceptualize the multiplex nature of firms' internationalization behavior, and highlight the importance of our coherent analytical approach, in contrast to econometric and case-study methodologies more commonly adopted in international business research which are more limited in their implications for building multidimensional frameworks.

Our findings also challenge the role of firm-specific advantages, such as international experience, as prerequisites for increasing their commitments in foreign markets and accelerating their internationalization. Through our strategic clustering analysis, we uncover a cluster of banks capable of complementing complex spatial and entry mode strategies at the early stages of their internationalization, which contradicts the established sequential or staged view on the firm's internationalization process. Namely, we found that, historically, British overseas banks developed complex portfolios of entry mode strategies over the course of their life, leveraging FDI and hybrid modes as complementary strategies to establish multi-relational ecosystems across foreign markets, rather than alternative and competing institutional modes as suggested by entry mode theories and in past research on multinational banking (e.g., Merrett, 1995). Our findings demonstrate that understanding the evolution of these multiplex strategies requires the international strategy field to employ an inter-disciplinary conceptual grounding and research designs advanced by the organizational evolution field, digital humanities, and data science.

In the remainder of this paper, we proceed with developing a new conceptual framework of multiplex internationalization strategies. Next, we introduce our long-period data workflow and estimation strategy that can be replicated by international business researchers, covering how we digitized multiple archival data sources, constructed novel datasets, and implemented algorithmic modelling. We subsequently present our analysis and discuss our findings in two sections. In the first, we apply the graphical method to analyze how firms' spatial, entry mode, and timing strategies interrelate. We develop a set of strategic matrices to map the transitions in their spatial positions and the multiplexity of their internationalization strategies throughout their lifespan. In the second, we present the results of multidimensional clustering analysis, followed by the discussion of findings

derived from a multi-cluster comparison of multiplex internationalization strategies across all three dimensions of space, mode, and time. Finally, we conclude on the theoretical and empirical implications to international business research. The detailed data workflow, historical strategic analysis, and supplementary modelling results and visualizations of firms' multiplex internationalization strategies are provided in the Appendix.

2 | Towards a new framework of multiplex internationalization strategies

The pre-eminent position of the UK in multinational banking, international trade, and foreign investment flows since the onset of the 19th century provided a rich context for the emergence of fundamental concepts that influenced the development of international business theories (e.g., Casson, 1989; Dunning, 1989; Rugman, 1980). The classic internationalization theories of pursuing advantages through international expansion in terms of transaction costs, service differentiation, and links to governments (Aliber, 1976; Dean & Giddy, 1981; Gray & Gray, 1981; Grubel, 1977), the receptivity in foreign markets and nontrivial differential costs (Jones, 1993; Tschoegl, 1987), and the follow-your-client theory (Grosse & Goldberg, 1991; Monteith, 2008) were developed to explain the factors that underpinned the subsequent waves in multinational banking across world regions and generalized to examine firm internationalization in other sectors. The international business theories were further advanced by conceptualizing firms' internationalization as the exploitation of strategic assets or advantages (FSAs) globally, in particular through the internalization of information flows and other firm-specific intangible assets (Casson, 1989, 1993; Rugman, 1980, 1981), as well as examining the impact of institutional distances, and regulations in particular, on multinational banking (e.g., Goldberg & Saunders, 1981; Tschoegl, 1987).

2.1 | Evolutionary approach to the multidimensional internationalization process

In contrast to this dominant approach of advantage-based foreign expansion, we rather view the evolution of multinational firms as a process of maturing from *monocentric* to *polycentric structures* (Wilkins, 1974), which encompass diversified spatial networks and multi-relational eco-systems established via complementary modes across space and time, i.e., as a *multidimensional evolutionary process* (Figure 1). These polycentric organizational structures were embedded into the concept of *network linkages* (Casson, 1993), which were either internalized by firms via the establishment of overseas facilities (Casson, 1989; Rugman, 1981) or maintained as complex networks of arm's length contracts and inter-firm relations in foreign markets, conventionally viewed as alternative institutional modes of firms' internationalization by entry mode theories. To further advance the theory of firm internationalization, we apply the evolutionary approach to explain *how* firms evolve their multilayered eco-systems of 'network linkages' by complementing equity-based and hybrid entry mode strategies to expedite their spatial growth across foreign markets throughout their entire lifespan.

In particular, we conceptualize the multidimensional evolutionary process of firms' internationalization through the interrelated mechanisms of *selection* and *adaptation* in foreign markets (Figure 1), advanced by the contemporary theoretical strand in organizational evolution studies. The renewed evolutionary theory challenges the international business field to examine how firms' international behavior evolves through time, by explicitly recognizing the multidimensional nature of evolutionary processes and *strategic variation* among the firms or groups of firms that 'unfold over time and in space' (Lippmann & Aldrich, 2013, p. 126). In the context of firms' internationalization, the time-space contingencies demand that firm evolution across foreign markets is studied through new theoretical lenses and research designs that originate from the critical importance of time for understanding the *dynamic variation* in firms' foreign market choices (Aldrich, 1999; Langton, 1984).

Unlike the extant international business frameworks, the evolutionary theory offers conceptual mechanisms to examine the dynamic processes of selection and adaptation by heterogeneous organizations that define the *uniqueness* of their internationalization processes, whilst meeting the challenge of integrating new types of long-period and multidimensional data (Nelson & Winter, 1973; Winter, 2005). To effectively explain the evolutionary process of variation in internationalization strategies among firms or groups of firms, we argue that a more coherent framework is needed to embed the relevant strategic dimensions along which firms vary at any given time point and over longer time horizons, and, importantly, understand how these dimensions interrelate. From the evolutionary perspective (Lippmann & Aldrich, 2013), the dynamic variation in firms' strategies hinges on the interdependence of the key dimensions of *time* and *space*, which define the heterogeneous strategic choices in foreign markets as part of firms' dynamic adaptation process in distant institutional settings, i.e., the *eventfulness* of firms' internationalization process.

Combining these dimensions is important because the internationalization-specific resources, which firms need to enter, survive, and expand in foreign markets, exist 'in real time and real places' (Aldrich, 2009) and can be more effectively exploited through complementary organizational forms, i.e., entry modes. Importantly, time and space are also proxies for environmental processes, thus reflecting firms' adaptation to external antecedents which are time- and location-specific, such as regulatory and political changes and market growth.

Firms adapt to the increasing diversity of these environmental processes, as they expand the spatial scope of their foreign operations, by actively selecting strategic 'variations' in coordination mechanisms and organizational structures to realize new business activities in foreign markets, which, once internalized, become institutionalized routines. These strategic changes can be made as pro-active decisions to exploit foreign market opportunities in line with corporate priorities and compete- or create-oriented values (Quinn & Rohrbaugh, 1983) or as reactive choices to alter their international operations in response to external institutional pressures or disruptive events, which further increase strategic variability by rearranging organizational boundaries or threaten survival by hampering ties between firms and resources (Aldrich & Ruef, 2006). This continuous process of selection and adaptation ultimately shapes the firms' ongoing organizational learning approaches as they cross-link diverse knowledge pools across foreign markets (Zahra, Ireland, & Hitt, 2000).

The selection process can occur simultaneously across multiple strategic dimensions through the mechanisms of *retention* or *rejection* of a particular strategic option or combination of these as part of managerial decision-making (Hodgson & Knudson, 2004). In the context of internationalization, the selection process encompasses firms' strategic choices across the three dimensions defined by 'where', 'how', and 'when' to enter a foreign market (Caves, 1996; Welch & Luostarinen, 1988). Specifically, firms evaluate alternative foreign destinations, required changes in organizational forms, and optimal entry timings – as necessary prerequisites of foreign market entry. Given the interrelatedness of these decisions, a choice of a new foreign destination (country and city) can trigger a change in organizational form, which, depending on the complexity of the associated coordination mechanisms and transaction costs, may accelerate or delay the timing of foreign market entry. The dynamic nature of this multidimensional selection process determines the evolution of firms' internationalization strategies, as foreign market entry decisions are under constant review and are liable to change as firms adapt to environmental pressures over time, conditioned by their dynamic capabilities and managerial traits, e.g., risk averseness, competencies, and bounded rationality. Ultimately, the unique dynamic processes of selection across the strategic dimensions of time, space, and mode and adaptation to changing environments can explain firms'

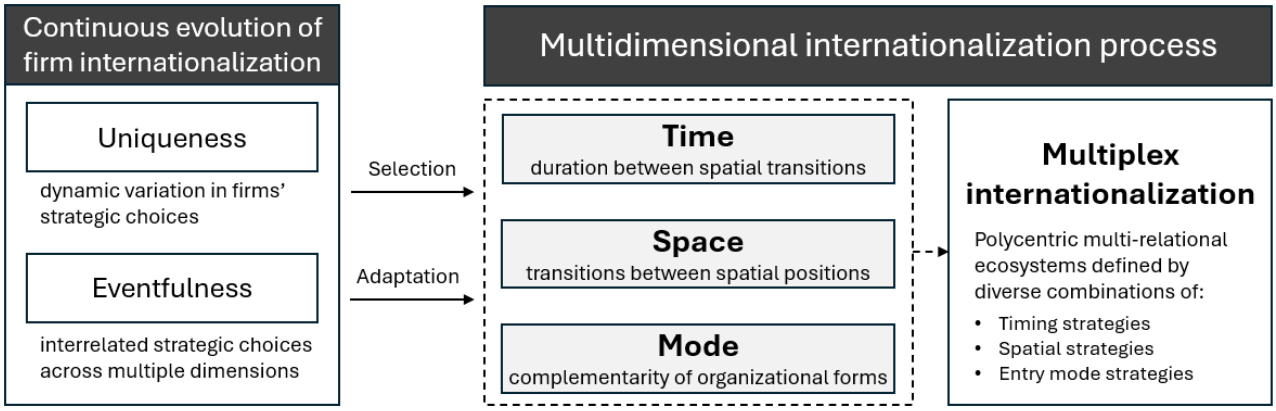
differential growth in foreign markets.

We, therefore, explicitly conceptualize that firms are dynamic and strategically heterogeneous entities that continuously evolve their strategic positions across foreign markets throughout their entire lifetime, at varying timings and within different spatial boundaries. By explicitly incorporating the temporal dimension, our evolutionary approach contrasts to the international business theories that either implicitly adopted the notion of time within unidimensional frameworks to explain internationalization as non-continuous changes in sequential steps in foreign markets (e.g., Uppsala model), or relied on structural (i.e., atemporal) approaches to modelling multi-level determinants of firms' strategic choices in foreign markets (e.g., OLI paradigm) that imply homogeneous strategic responses to FSAs and institutional distances.

To explain the *multidimensional internationalization process*, we further conceptualize that the dynamic variation in firms' strategic behavior across foreign markets evolves across the three strategic dimensions of mode, space, and time, the combination of which defines the *uniqueness* of firms' internationalization processes and the *eventfulness* of strategic choices made by firms throughout their lifetime to shape their internationalization trajectories (Figure 1). By adopting this multidimensional evolutionary approach, we strive to advance internationalization theories by uncovering the origins of strategic variation across *space* and *modes* to understand the eventfulness of firms' strategic choices within the unique contexts of foreign markets, as well as their path persistence or continuous change over *time*. Viewing the evolution of unique internationalization strategies through this theoretical lens can help to better understand the continuous change in firms' international behavior across foreign markets; hence, we postulate that:

> **Proposition 1:** *As firms adapt to new environments and disruptive events, their internationalization processes show a greater propensity for dynamic variation across the strategic dimensions of space, mode, and time, compared to evolving as a uniform process of gradually increasing commitments in foreign markets.*

Figure 1. Multidimensional evolutionary process of firms' internationalization



2.2 | Continuous evolution of internationalization strategies across space, mode, and time

We re-construct the continuous evolution of firms' internationalization throughout their lifetime across the three interrelated strategic dimensions of space, mode, and time, by integrating and advancing the detached strands of the international business literature on regional diversification (Rugman, 2005), entry mode choices (Brouthers & Hennart, 2007), and internationalization timing (Johanson & Vahlne, 1977; Oviatt & McDougall, 1994).

Through this coherent approach, we unveil the uniqueness and eventfulness of firms' internationalization paths, and thus bridge the organizational evolution and internationalization theory.

Timing strategy. In our long-period approach to analyzing firm internationalization as a continuous evolutionary process, we embed the concept of *time* as an inherent dimension of firms' strategic variation, the importance and novelty of which was recently recognized in the strategic management literature (e.g., Ancona et al., 2001; Casillas & Acedo, 2013; George & Jones, 2000). We treat the timing of changes in firms' internationalization positions as an explicit strategic choice that firms make depending on specific configurations of their assets and capabilities and the perceived value from internationalizing at a certain pace – in contrast to merely considering time as an implicit boundary condition to map internationalization activities onto a timeline, as embedded in the classic theories of firm internationalization (e.g., Johanson & Vahlne, 1977; Welch & Luostarinen, 1988). The conceptualization of time within this established gradual approach, which views firm internationalization as a discontinuous change (i.e., a sequence of stages), has been challenged by new evidence on alternative internationalization routes followed by firms that more rapidly increased their foreign market commitments at earlier stages (Casillas & Acedo, 2013).

We explicitly conceptualize the internationalization process as a trajectory of continuous changes across interrelated strategic dimensions as firms revise their strategic positions throughout their lifespan. We explain these changes by integrating the two concepts of '*moments in time*', which indicates the occurrence of a strategic event on the course of internationalization, and '*time intervals*', which captures the duration between consecutive strategic events – whereby strategic events represent the continuous changes occurring within the other two dimensions of space and mode. On the basis of these concepts, we also evaluate the continuous changes in firms' internationalization speed as the rate of change in the occurrence of strategic events over their lifetime. By linking the strategic events to these time concepts, we embed timing as a strategy in our conceptual framework (Figure 1) to explain the variation in firms' decisions to expand or reduce their presence across foreign markets and/or change organizational form at earlier or later stages of their internationalization process, which is conditioned by firms' dynamic capabilities (Teece, Pisano, & Shuen, 1997) and learning approaches (Eriksson, Johanson, Majkgård, & Sharma, 1997).

In contrast to the established view of internationalization as a uniform and gradual process, we capture not only the varying timing of first market entries, but also the variation in firms' post-entry timing strategies over long-term timescales. We suggest that *timing strategies* can significantly vary depending on the extent of strategic change involved in reconfiguring the spatial scope of firms' equity and relational networks (space) and the extent of organizational innovation needed to adapt their governance structures and mechanisms (mode) to new foreign market environments. The variation in internationalization timing strategies is inherent given the differences in firms' learning and innovation capacity, available resources, corporate values, and leadership capabilities to operationalize strategic changes under varying institutional pressures and market conditions. By explicitly incorporating *timing strategy* within the multidimensional evolutionary framework, we also enable the operationalization of spatial and entry mode strategies as dynamic complementary processes that shape unique internationalization paths and collectively explain their dynamic variation.

Spatial strategy. Although the firm location theories emphasized the importance of studying firms' spatial expansion as a dynamic multi-faceted process (e.g., McCann & van Oort, 2019; Selting, Allanah, & Loveridge,

1994), the internationalization theories are limited in that they enable structural approaches to testing the location determinants for firms attracted by positive externalities from agglomeration economies and institutional proximities (among other push and pull factors of firm location choices), and rather conceptualize foreign market entries as discrete location choices independent of time and organizational form. Specifically, past international business studies confirmed the impact of regulatory and governance regimes, market size and intensity of competition, geographic and cultural distances on firms' ability to adapt to new foreign market environments (O'Farrell & Wood, 1994).

In contrast to these structural approaches, we intersect the time and space dimensions to conceptualize firms' *spatial strategies* as the continuous change in the spatial scope of their multi-relational networks via complementary entry modes, within the same or different foreign countries and regions. This time-driven approach offers three advancements to the theory of regional diversification (e.g., Rugman, 2005).

Firstly, we introduce the time-contingent concept of *spatial transitions* by viewing strategic events as the changes in firms' spatial positions at specific *moments in time*, which occur when firms enter into new foreign countries and regions. We distinguish between three core types of *spatial positions* based on the number of foreign countries and regions in which firms operate, namely: *international* (i.e., presence in a single foreign country), *multinational* (i.e., operating in more than one foreign country), and *multiregional* (i.e., operating in more than one foreign region). Within the multiregional position, we also differentiate a vastly more complex *transregional* strategy in terms of the diversity of governance modes and exposure to novel institutional settings, adopted by firms that expanded their operations beyond two foreign regions.

Each spatial transition between these positions involves an explicit strategic selection process to balance the potential returns from exploiting locally-embedded assets in new foreign destinations against the varying transaction costs and risks associated with the uncertainty of expanding operations into more distant locations. As an outcome of this strategic decision-making process, firms' internationalization can evolve via diverse *spatial transition routes*, as international firms may gradually expand the spatial scope of their operations by moving into a multinational position before adopting a multiregional strategy – or internationalize in a different order by leapfrogging any of these sequential stages, which may require new governance mechanisms to effectively coordinate the internalization of increased international diversity. Importantly, when spatial transitions are conceptualized as a life-long dynamic process, firms' spatial transition routes can also unveil periods of de-internationalization and deceleration, which may occur when they fail to adapt to multiple conflicting environmental pressures.

Secondly, we consider internationalization timing as the *duration* of each spatial position held by firms, i.e., *time intervals* between consecutive spatial transitions that define their unique internationalization trajectories. This allows conceptually distinguishing between the timing of the *first foreign market entry* (i.e., time interval between the firm's incorporation and establishing its first foreign market presence) and *post-entry spatial growth* (i.e., time taken to achieve subsequent spatial positions), which, in contrast to the extant theoretical views on internationalization, may occur at different speeds.

Thirdly, to compare the varying speeds at which the extent of internationalization may evolve within existing and/or in new foreign markets, we complement the two timing concepts with the *rate of change* in the spatial scope of firms' equity and relational networks. When captured throughout firms' lifetime, this construct of internationalization speed more effectively explains continuous change in regional diversification strategies, by

contrasting the speed of firms' first foreign market entries to post-entry spatial transitions.

The variation in firms' spatial strategies is defined by interrelated selection and adaptation processes as firms continuously weigh economic and non-economic advantages arising from market proximity, optimization of transaction costs and risks, and relational benefits of operating in foreign markets with their capabilities to capitalize on a pool of location advantages and adapt to institutionally distant environments. Over time, the unique processes of selection and adaptation define the changes (or transitions) in firms' cross-regional structures and duration in each spatial position. The continuous changes in spatial strategies affect firms' capability to coordinate their ventures into foreign markets and determine their success or failure, especially in the early stages of their internationalization.

Entry mode strategy. To explicitly conceptualize the complementarity between firms' spatial strategies and selection of organizational forms for foreign operations, we further integrate *entry mode strategy* as a third dimension of the internationalization process (Figure 1). In pursuit of transaction cost efficiency and institutional legitimacy, firms select the optimal entry modes to extend or reconfigure spatial boundaries (*space* dimension) of their polycentric organizational structures and relational eco-systems at a preferred timing (*time* dimension), which enables them to effectively coordinate the access to location advantages embedded in foreign markets. The selection process was conventionally examined through transaction cost and resource-based views that linked the strategic choice of an organizational form to internal characteristics of asset specificity and level of control (Anderson & Gatignon, 1986; Brouthers, Brouthers, & Werner, 2003), as well as market experience and managerial capabilities (Sharma & Erramilli, 2004). Among the external antecedents encompassed by institutional theory, past studies confirmed the impact of institutional distances and market uncertainty on the selection of foreign market entry modes (Brouthers, 2013; O'Farrell & Wood, 1994). Importantly, these entry mode factors conjointly affect the choice of foreign location and internationalization timing, as part of the multidimensional internationalization process that ultimately determines firms' performance outcomes in foreign markets.

Although organizational economics explicitly recognized the complementarity between organizational structures and spatial boundaries (e.g., Williamson, 1991), the entry mode theories developed in the international business field are confined to examining entry mode types as strategic alternatives distinguished by the level of commitment (Agarwal & Ramaswami, 1992), e.g., contrasting equity and non-equity modes (Kumar & Subramaniam, 1997; Pan & Tse, 2000), equity modes and contracts (Brouthers & Hennart, 2007; Zhao, Luo, & Suh, 2004), or categorizing establishment modes via acquisitions or greenfield investments (Slangen & Hennart, 2008). Whilst several studies have acknowledged that firms can internationalize via various combinations of entry modes (e.g., Benito, Petersen, & Welch, 2009) and proposed a relational perspective on entry modes as 'cross-border links' (Jones, 2001), the entry mode choices have not been conceptualized in relation to time and space. To advance the extant entry mode theories, we explicitly embed entry mode strategy as a varying degree of complementarity among organizational forms that can change over time and across space as firms reconfigure their spatial boundaries at different stages of their internationalization.

In contrast to entry mode research that frequently explains firm internationalization via a singular mode of foreign market entry or examines entry mode dichotomies independent of time and space choices, we conceptualize that firms can flexibly complement and change entry modes along the continuum of organizational forms that extends between arm's length contractual arrangements and hierarchical structures. A higher degree

of entry mode complementarity endows firms with diverse coordination and relational mechanisms (Milgrom & Roberts, 1992; Williamson, 1991), enabling them to dynamically adapt their capabilities to more rapidly increase their resource commitments, whilst optimizing the level of control and transaction costs in foreign markets.

To examine the uniqueness of firms' internationalization process, we further conceptualize that firms evolve towards polycentric spatial structures over time as they increase the complexity of governance mechanisms by complementing equity-based and contractual modes, as well as hybrid relational arrangements with other firms. Importantly, transitioning to more geographically diversified positions may require a greater extent of organizational innovation to effectively adapt institutionalized governance mechanisms to new foreign market environments, especially within shorter timeframes. In the banking context, spatial transitions to multiregional models may require banks to innovate their traditional entry mode strategies of extending their hierarchical structures into foreign markets (i.e., via newly-established or acquired physical branches), by forming complementary contractual arrangements and building strategic relations with foreign correspondent banks. The complementary entry mode strategies frequently integrate hybrid governance mechanisms based on reciprocal service provision and market knowledge exchange within interbank relational networks, which may generate relational rents facilitating a more rapid expansion of their banking services into new foreign markets, especially during the early stages of internationalization when firms are burdened with a liability of newness.

In contrast to the internationalization theory that views entry mode choices along 'establishment chain' whereby firms gradually increase the degree of resource commitment in foreign markets (Johanson & Wiedersheim-Paul, 1975), we, therefore, conceptualize that firms can expedite their spatial transitions to multinational and multiregional positions by leveraging *complementary entry modes* – within the same or across distant foreign markets ('space' dimension), simultaneously at a given time point or sequentially ('time' dimension). Complementary entry mode strategies can enable firms to derive synergies from their portfolios of strategic relationships by integrating diversified knowledge flows within intra- and inter-firm ecosystems and multiple channels of access to external resources, which subsequently enhance their dynamic capability for learning in foreign markets. This enhanced capability to recombine knowledge and develop new resources is especially important for more rapid diversification across distant foreign markets by firms that are in the early stages of internationalization, as it allows effectively overcoming the increased market risks and uncertainties. Through these synergy effects, complementing entry modes may thus enable a 'learning advantage of newness' (Zahra, Zheng, & Yu, 2018) whilst improving the firm's ability to swiftly adapt to continuously changing foreign market environments through diversified coordination mechanisms – which can be more important than priorly accumulated FSAs for expediting internationalization (Autio, Sapienza, & Almeida, 2000); and, hence, we postulate that:

> **Proposition 2a:** *A greater degree of entry mode complementarity is positively associated with a higher extent of spatial diversification across foreign countries and regions, whilst reducing the timing of spatial transitions, especially during the early stages of firm internationalization.*
>
> **Proposition 2b:** *By complementing equity and hybrid entry modes, firms are more likely to decrease the number of transitions to more diversified spatial positions and accelerate spatial growth at early stages of their internationalization.*

2.3 | Multiplex internationalization across space, mode, and time

From the organizational network perspective, the dynamic processes of strategy selection and adaptation result in diverse combinations of firms' foreign market choices across multiple strategic dimensions, leading to a multiplex internationalization process that continuously changes throughout firms' lifetime. The concept of multiplexity was originally introduced by the network literature (Harary, 1959; Vörös & Snijders, 2017) with scarce applications in strategy research (e.g., Gulati & Westphal, 1999; Krackhardt, 1990; Shipilov, 2012) to study the importance of *mixtures* of simultaneously running strategic operations. In the context of foreign market operations, *strategic multiplexity* is manifested in the multidimensional internationalization processes as firms continuously blend foreign market strategies to adjust their degree of regional diversification (spatial strategy), while simultaneously adapting governance mechanisms (entry mode strategy) and tuning the timing of foreign market entry (timing strategy) in order to maximize their odds of survival. Thus, the concept of strategic multiplexity explains relationships between firms' internationalization choices across multiple strategic dimensions and the resulting varieties of internationalization trajectories, which have not been accounted for by existing theories of location choice, entry mode, and internationalizing timing. We propose the concept of *multiplex internationalization* to capture the establishment of polycentric multi-relational ecosystems across foreign markets and, thereby, advance the extant internationalization theories, which view international expansion as a unidimensional trajectory and are, therefore, unable to account for these simultaneous decision-making processes.

Through the evolutionary approach, we capture the dynamic variation in firms' timing, spatial, and entry mode strategies, which leads to strategic multiplexity in firms' internationalization strategies (Figure 1). We conceptualize *multiplex internationalization* as diverse mixtures of strategic choices across space, mode, and time dimensions made by firms in foreign markets – or 'meaningful variations' among firms or groups of firms in terms of the evolutionary theory, – which continuously evolve throughout firms' lifetime and define their unique internationalization trajectories. Ultimately, the collective choices that firms make across the three strategic dimensions form their *dynamic internationalization portfolios*. The concept of multiplex internationalization contrasts to the conventional view on firm competitive behavior in foreign markets, which suggests that firms either mimic the strategic choices of rival firms to overcome foreign market uncertainty and decrease transaction costs (i.e., form homogeneous patterns of strategic behavior) or take higher risks in differentiating from the core strategic group to gain pioneering benefits (e.g., Frynas, Mellahi, & Pigman, 2006).

Driven by the institutional perspective, the internationalization theories similarly assume the prevalence of isomorphic pressures (DiMaggio & Powell, 1983) on strategic choices in foreign markets, as firms imitate incumbents and competitors to legitimize their foreign market operations (Davis, Desai, & Francis, 2000; Yiu & Makino, 2002). In result, firm internationalization is conventionally conceptualized as a homogeneous behavior whereby firms either (a) gradually increase the degree of their resource commitment in foreign markets and the complexity of their organizational forms, whilst accumulating knowledge and experience over time (e.g., Johanson & Vahlne, 1977; Welch & Luostarinen, 1988), or (b) catch-up by leapfrogging to more advanced modes of foreign operations (e.g., Luo & Tung, 2007), e.g., by acquiring the tangible and intangible assets of existing firms or gaining a first-mover advantage in foreign markets. Such isomorphic behavior is also predicted for the evolution of firms' spatial strategies, as the internationalization theories suggest that firms commence their foreign operations by entering geographically and institutionally proximate markets and gradually expand

towards more distant markets over time (e.g., Kogut & Singh, 1988). This approach towards conceptualizing the internationalization as an isomorphic process implies that firms form homogeneous groups that are distinct across all strategic dimensions.

To overcome these unrealistic assumptions, we conceptualize that firms exhibit more complex internationalization behaviors by complementing strategic choices across the dimensions of time, space, and mode or 'blending strategic recipes', as suggested by the theory of hybrid strategic groups (DeSarbo & Grewal, 2008). This discrepancy in the theoretical views on firms' strategic behavior in foreign markets as depicting isomorphic or hybrid tendencies, leads to contrasting hypotheses on the evolution of firms' internationalization processes.

On the one hand, firms operating in the same industry can form homogeneous groups by adopting similar strategies across the internationalization dimensions (e.g., Hunt, 1997), i.e., forming distinct strategic clusters that significantly differentiate across the strategic dimensions of time, space, and mode. On the other hand, firms can evolve their internationalization strategies by complementing strategic choices across the strategic dimensions of time, space, and mode, i.e., strategic clusters would overlap across the internationalization dimension as firms 'blend strategic recipes' of other strategic groups in line with the concept of hybrid strategic groups (DeSarbo & Grewal, 2008). The strategic overlap or 'blending' implies that, for instance, firms can achieve similar degree of spatial diversification by pursuing different entry mode and timing strategies, or can leverage similar entry modes to achieve significantly different spatial positions at similar or different rates of speed. This tendency of firms to internationalize via diverse mixtures of 'blended' strategic choices is integral to the concept of strategic multiplexity, leading to a greater variety of internationalization trajectories 'that can coexist' (Molero, 1998).

The latter view is also supported by the evolutionary theory and network perspective, which suggest that the internationalization process is inherently unique to each firm and, therefore, would depict significant variation over time and across heterogeneous firms or groups of firms. Namely, firms can simultaneously pursue multiplex strategies that differ in timing and entry modes for expansion across foreign markets to ultimately establish spatially diversified polycentric ecosystems, as opposed to forming a homogeneous strategic group that follow uniform internationalization process; and, hence, we postulate that:

> **Proposition 3a:** *Firms demonstrate a greater propensity to evolve multiplex internationalization trajectories by blending spatial, entry mode, and timing strategies, as opposed to uniformly following a gradual internationalization process.*
>
> **Proposition 3b:** *Firms are more likely to internationalize by forming hybrid strategic groups that overlap across strategic dimensions, rather than becoming isomorphic*.

3 | Data approach and algorithmic modelling of multiplex internationalization

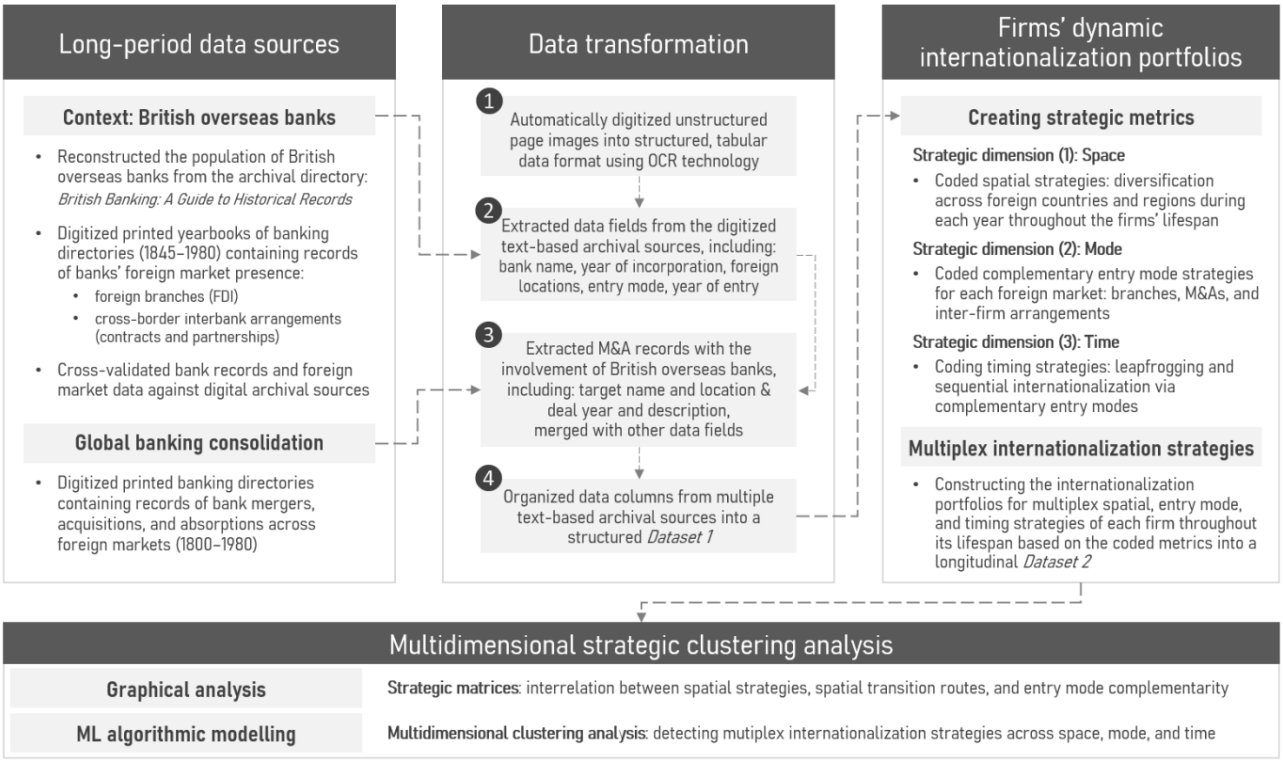
3.1 | Long-period analytical pipeline for international business research

We develop an innovative approach to examining the evolution of multidimensional internationalization strategies throughout firms' lifespan, which encompasses the key methodological stages of (1) synthesizing multiple archival sources, (2) digitizing long-period data into a structured analyzable format, (3) creating strategic metrics for multiple dimensions, in order to compile missing long-period evidence on firms' strategic behavior

in foreign markets needed to validate internationalization theories and develop new strategic frameworks, and (4) designing graphical and algorithmic modelling methods to explain multiplex internationalization patterns. Although the importance of archival research designs has previously been acknowledged by international business scholars (e.g., Buckley, 2016; Decker, 2013; Jones & Khanna, 2006), a systematic methodological approach has not yet been adopted to study the evolution of firm internationalization with the application of ML-based techniques across inherently interrelated strategic dimensions of space, mode, and time.

Digitizing printed archival sources is essential to model the evolution of multidimensional international firm networks, as they provide a diversity of granular information on firms' city locations across foreign markets, ownership structures, managerial networks, and financial performance. However, archival sources contain unstructured text-based data which needs to be reformatted into structured datasets, in order to generate new long-period evidence that can unveil the continuity and multidimensionality of firms' internationalization processes. Once reformatted, international business research can yield novel insights into the strategic motivations behind firms' internationalization choices and capture the relational aspects of their multi-cultural ecosystems from meeting notes and correspondence with foreign business partners.

Figure 2. The analytical pipeline: construction and analysis of dynamic internationalization portfolios



Notes: The data transformation flow is outlined in Appendix A; and the detailed coding scheme is provided in Table A3 (Appendix A).

These long-period firm-level data can be combined with multi-level annual contextual information on sectoral dynamics, political events, and regulatory changes available in printed banking directories in consistent formats over longer time periods, which can help establishing new streams of international business research, employing algorithmic modelling to study the impact of dynamic environments and disruptive events on the strategic choices of firms across diverse historical periods. The accessibility of long-period data has, however, proven challenging for international business research, which has conventionally relied on sourcing structured data compiled by commercial companies (e.g., Bureau van Dijk, Capital IQ, Thomson ONE Banker) or collected through surveys

to create and analyze datasets, which we endeavor to overcome in this study.

To address this methodological challenge, we propose a replicable analytical approach centered on a long-period internationalization data pipeline, which encapsulates four main stages (Figure 2), starting with the large-scale compilation and OCR-enabled digitization of unstructured data from printed archival sources, followed by implementing data transformations (*Dataset 1*), and reconstruct firms' dynamic internationalization portfolios (*Dataset 2*), to model to *continuous evolution* of their internationalization strategies across the strategic dimensions of *space*, *mode*, and *time*. Finally, we conduct multidimensional strategic clustering analysis to test the theoretical propositions on multiplex internationalization strategies. We elaborate on each of these stages in the following sections, as well as in the Appendix A.

3.2 | Archival data sources for evolutionary international business research

The focus of our long-period archival data collection is three-fold: first of all, to trace the greenfield investments in foreign branches by British overseas banks across all countries and regions; secondly, to track the merger activity (brownfield investments) in the global banking sector with involvement of these banks; and thirdly, to reconstruct the spatial scope of their contractual interbank arrangements (inter-firm partnerships) across all foreign markets and throughout banks' lifespan. This enabled us to compile long-period evidence on the multidimensional internationalization processes of British overseas banks, which are the focal point in our analysis. In taking this multilevel approach to data collection, we draw on various archival sources to synthesize bank-level strategic information within global banking sectors over the nearly 200-year period of 1800–1980.

To integrate all three strategic dimensions, we digitized *The Banking Almanac and Directory*, a periodical archival source available that published annually since 1845. Importantly, the comprehensive banking information reported in the directory was obtained by the publisher via direct correspondence with every bank and was methodologically re-validated for every new edition based on a strict system of verification, making it a credible and consistent source for strategy research. Moreover, the directory was widely published, making it easily accessible to international strategy researchers who endeavor to improve long-period investigations by incorporating high quality data on international banking activity.

To analyze the evolution of the internationalization strategies of British overseas banks during the period of 1800–1980, we reconstructed the entire population of British overseas banks, based on the criteria that they were headquartered in the UK and had operations via branches, subsidiaries or agents in overseas markets. Our sampling approach was two-pronged. Firstly, we drew a complete list of 48 banks identified as British overseas banks in '*British Banking: A Guide to Historical Records'* (Orbell & Turton, 2017, pp. 61–499), which disentangles the dynamic structure of the UK banking sector by identifying the bank types (e.g., merchant, clearing, and overseas banks). Secondly, we cross-checked the extracted sample against the lists of banks with head offices in the UK and overseas locations provided in *The Banking Almanac and Directory*, to ensure that our sample includes the entire population of British overseas banks during the studied period of 1800–1980. Our sample represents a relatively homogeneous group of firms facing similar institutional and technological pressures in the home country, which allows for testing our propositions on multiplex internationalization.

To integrate all three strategic dimensions, we digitized *The Banking Almanac and Directory*, a periodical archival source that was published in printed book format, annually since 1845 (see Appendix A, Figures A3-A8). Banking directories offer important advantages as a data source for international business research due to (1) the consistency of their printed format, (2) the regularity of their publishing schedule, (3) the rigorous

validation process adopted by publishers, and (4) the completeness of information on banks' foreign market presence. Importantly, the comprehensive banking information reported in the directory was obtained by the publisher via direct correspondence with every bank and was methodologically re-validated for every new edition based on a strict system of verification, making it a credible and consistent source for strategy research, as actual market presence was confirmed annually by each bank. This validation method assured an up-to-date record of the city and country locations of banks' subsidiaries, offices, and correspondent partners across foreign markets. Moreover, the printed directory books were widely distributed, making it easily accessible to international strategy researchers who endeavor to improve long-period investigations by incorporating high quality data on international banking activity.

We complemented information on individual banking histories provided in the '*British Banking*' guide with digitized data on the entirety of banks' foreign networks outside of the UK from three registers within *The Banking Almanac and Directory*. To build the dynamic internationalization profiles of the British overseas banks, we, first of all, sourced information on branch establishments from the section *'Alphabetical List of Foreign and Colonial Towns with Names of Banks and Bankers'* (Appendix Figure A5-A6). Secondly, we gathered information on bank agents from the section *'List of Foreign and British Colonial Banks'* (Appendix Figure A3-A4). We digitized and compared information from these sections in annual editions from 1849 to 1980, to track the continuous changes in banks' foreign networks throughout their entire lifespan. Finally, we complemented the collected data on branch and interbank networks of British overseas banks with information on M&As by extracting (1) the names of target and acquiring banks, (2) their home countries, and (3) the years of mergers and acquisitions (M&As) from the digitized section *'Bank Name Changes & Liquidations'* (Appendix Figure A8).

Lastly, with source skepticism in mind, we cross-validated the digitized data against other sources. In validating the data on British overseas banks' internationalization profiles, we cross-checked the occurrence and years of branch formations and M&As across other digital archives as well as bank history books (e.g., Jones, 1993; Nishimura, Suzuki, & Michie, 2012; Orbell & Turton, 2017). In addition, the timings of branch and inter-firm arrangements were cross-checked against the 'Advertisements' section in the directory, as well as banks' records contained in The Colonial Office List for the years 1862–1939 (Appendix Figures A7 and A9; see Appendix A for an overview of the digitized archival sources and validation process).

3.3 | Source digitization and data transformation

In the next stage of our long-period data pipeline, we digitized all of the aforementioned banking records in order to enable large-scale analysis of the continuous evolution of British overseas banks' internationalization processes across all three strategic dimensions of space, mode, and time and all foreign markets, in contrast to past research that developed case studies on British overseas banks' activities in selected markets or shorter time (e.g., Bostock, 1991; King, 2002; Lough, 1915; Young, 1991). This digitization process involved scanning the printed banking records into digital image files, after which we applied OCR, using off-the-shelf technology capable of large-scale document conversion, to automatically convert the scanned images of printed text into text-encoded images.

The OCR technology enabled us to automatically extract and structure distinct data fields, including banks' branch locations and interbank arrangements established in each year of their lifespan, as well as the entire scope of banks' acquisitions in foreign markets (*Dataset 1*). At the data transformation stage, we used the digitized data to construct time-variant metrics for the analysis of banks' internationalization strategies. Accordingly, we

compiled the most complete evidence on the foreign operations of British overseas banks at a granular level of detail, including all the countries and cities where they operated, on a year-to-year basis, which to our knowledge has not been accomplished in past studies. Importantly, we complimented the digitized data on banks' foreign branch networks with annual information on their interbank arrangements to analyze the complementarity of their market entry strategies and the timing of their internationalization, which has not previously been attempted. The detailed process of data digitization is outlined in Appendix A.

3.4 | Construction of firms' dynamic internationalization portfolios

Ultimately, the large-scale digitization and transformation of the gathered archival data yielded a unique longitudinal dataset capturing a long period of nearly 200 years, and a rich set of strategic dimensions to enable modelling the continuous evolution of banks' internationalization (*Dataset 2*, Appendix Table A2). To render these digitized archival data analyzable, we created a range of time-variant strategic metrics to reconstruct the evolving internationalization portfolios of the British overseas banks, by depicting their unique configurations of spatial, entry mode, and timing strategies, and, importantly, capturing how these strategic choices interrelate. To construct a longitudinally linked (i.e., panel) dataset, we mapped the history of each bank to trace changes in their names due to re-organizations and amalgamations throughout their lifetime, capturing the continuity in their internationalization process.

We transformed the collected data on the foreign operations of British overseas banks to code a series of longitudinal strategic metrics and reconstruct the evolution of their internationalization processes across space, mode, and time. The detailed coding scheme for all strategic metrics which we used to construct the banks' internationalization portfolios, along with strategic justifications for their inclusion in the strategic clustering analysis, is provided in Appendix Table A3.

First of all, we defined banks' spatial positions on a yearly basis to track their unique spatial transition routes across the *international*, *multinational*, *multiregional*, *and transregional* positions ('space' dimension) throughout their entire lifespan. We measured the spatial scope of banks' international branch and interbank networks by aggregating the number of foreign countries and regions entered per year as well as the number of foreign entries per mode. Accordingly, we extend the concept of regional diversification by introducing a multi-staged approach to firm internationalization by differentiating firms' first foreign market entry and their post-entry spatial growth.

Secondly, we tracked changes in the banks' foreign market entry modes, differentiating *greenfield* entries via foreign branch establishments, brownfield entries via *M&As* to consolidate existing branch networks of foreign banks, and *interbank arrangements* via cross-border correspondent contracts ('mode' dimension). This enabled us to interrelate complementary entry mode strategies with the extent of geographic diversification and the choice of internationalization timing.

Thirdly, we defined the timing of banks' internationalization as time intervals, i.e., the time taken (in years) to establish international, multinational, and multiregional operations via complementary entry modes since their incorporation, as well as the inter-stage durations (in years) between sequential spatial transitions ('time' dimension). This allowed us to integrate *time* as an inherent strategic dimension of the internationalization process and test the phenomenon of early internationalization by firms that cross spatial boundaries prior to accumulating international experience and foreign market knowledge. Additionally, we contrasted internationalization speed across FDI and contractual entry mode types – with speed defined as the year-on-year

growth rate in the number of foreign countries and regions (i.e., speed of dispersion of international markets, Casillas & Acedo, 2013, p. 20) – to examine how internationalization speed varies throughout firms' lifespan.

In result, by synthesizing these strategic dimensions for each British overseas bank in our sample, we were able to reconstruct their multidimensional internationalization portfolios (Figure 2) and measure the multiplexity of the spatial, entry mode, and timing strategies pursued by the banks as the internationalization of their foreign operations evolved over the course of their life. In our analysis, we do not only reconstruct the complexity of the internationalization path for each British overseas bank, but also conduct a multidimensional clustering analysis using long-period strategic data to formally integrate the evolutionary theory and the concept of strategic multiplexity into international business research. Importantly, by complementing the internationalization dimensions in our long-period approach, we also captured a bank's consecutive market entries within the same country via different entry modes, in the same or different cities, as opposed to tracing a bank's country presence merely from a unidimensional perspective without considering changes in their entry mode strategies over time.

3.5 | Estimation strategy: multidimensional strategic clustering

To estimate the dynamic variation or heterogeneity in the internationalization strategies of British overseas banks ($b = 1, 2, \dots, 48$), we coded eight strategic metrics ($s = 1, 2, \dots, 8$) that capture the uniqueness of banks' internationalization routes that continuously evolved across the three strategic dimensions of space, mode, and time. All strategic metrics were created as time-variant variables to capture the year-to-year changes in the internationalization strategies simultaneously across the three dimensions for each bank (see the coding scheme in Appendix Table A3).

Firstly, to trace the evolution of banks' *spatial strategies* across foreign markets (i.e., strategic dimension $Space$), we introduced two strategic metrics ($s = 1, 2$) that measure (1) the number of foreign countries ($SD\ Space: Countries \mid s = 1$) and (2) the number of foreign regions ($SD\ Space: Regions \mid s = 2$) entered by banks throughout their entire lifespan.

Secondly, to account for the complementarity in banks' *entry mode strategies* in foreign markets (i.e., strategic dimension $Mode$), we coded three strategic metrics ($s = 3, 4, 5$) to differentiate between (1) greenfield FDI strategies as the number of foreign branches established by banks ($SD\ Mode: Branches \mid s = 3$), (2) brownfield FDI strategies as the number of mergers, acquisitions, and absorptions by banks in foreign markets ($SD\ Mode: MAs \mid s = 4$), and (3) hybrid entry strategies as the number of contractual interbank arrangements ($SD\ Mode: CAs \mid s = 4$) formed by British overseas banks ($b = 1, 2, \dots, 48$) with other foreign banks across foreign cities, countries, and regions.

Thirdly, to incorporate banks' *timing strategies* as an explicit strategic dimension ($Time$), we coded three strategic metrics ($s = 6, 7, 8$) capturing (1) how long banks remained international with operations in one foreign country only, measured as the number of years ($SD\ Time: International \mid s = 6$), (2) how long it took banks to transition to a multinational position with operations in more than one foreign country through FDI or contractual interbank arrangements, measured as the number of years that elapsed since a bank's incorporation ($SD\ Time: Multinational \mid s = 7$), and (3) how long it took banks to transition to a multiregional position with operations in more than one foreign region through FDI or contractual interbank arrangements, measured as the number of years that elapsed since a bank's incorporation ($SD\ Time: Multiregional \mid s = 8$).

Appendix C presents the initial exploratory analysis by plotting the strategic dimensions to contrast the spatial, entry mode, and timing strategies pursued by individual banks (Figures C1–C10). The spatial scope of the

international networks of British overseas banks across entry modes are provided in Table C1. Table C3 provides summary statistics for the coded strategic metrics, whereas Table C5 and C6 report correlation analysis and multicollinearity diagnostics. The multigroup contrasts reported in Table C4 depict how internationalization choices are interrelated across the three strategic dimensions of space, mode, and time, providing initial evidence of strategic 'blending' in the context of firms' internationalization. The observed usage of more complex entry mode strategies at the early stages of firm internationalization challenges the established internationalization theories and underscores the theoretical importance of integrating multiplexity in the analysis of firm internationalization.

To proceed with multidimensional clustering analysis and analyze how the multiplex internationalization strategies varied across the entire population of British overseas banks ($b = 1, 2, \dots, 48$), we computed multidimensional distance matrix $MDM(b, s)$ by including all coded strategic metrics ($s = 1, 2, \dots, 8$) in the estimation algorithm. The pairwise (dis)similarity scores $DS(b, s)$ were derived using the Euclidean distance for each pair of banks and constitute the elements of the multidimensional distance matrix $MDM(b, s)$:

$$(1)\ MDM(b,s) = \|DS(b,s)\| = \sum_{s=1}^{8}\left(\mathrm{SD}b_{is} - \mathrm{SD}b_{js}\right)^2, \text{ for each } b = \{1, 2, \dots, 48\}$$

In result, the constructed multidimensional matrix comprised 1,128 pairwise dissimilarity scores $DS(b, s)$, which measure the (dis)similarity between internationalization strategies pursued by banks, as captured by the coded strategic metrics. Figure D1 in Appendix reflects the notable tendency to strategic clustering by visualizing the multidimensional dissimilarity scores $DS(b, s)$ between pairs of banks.

Based on the theoretical assumption of the uniqueness of internationalization routes pursued by banks throughout their entire lifetime, we selected the agglomerative clustering method to identify strategic groups or clusters of banks across the three strategic dimensions of space, mode, and time. The iterative clustering algorithm starts by assuming that each bank represents a distinct strategic cluster, shaped by their unique internationalization strategies. The unsupervised clustering algorithm further merges distinct banks into more homogeneous strategic clusters based on the closest pairwise distances $DS(b, s)$ across strategic metrics ($s = 1, 2, \dots, 8$). We follow a rigorous three-step modelling process to retrieve an optimal configuration of strategic clusters and identify more homogeneous patterns in banks' multiplex internationalization strategies, while controlling for multicollinearity among the strategic metrics and avoiding the loss of strategic information. This approach enables us to derive findings for theory-building by including multiple dimensions of internationalization trajectories which we observe among the population of British overseas banks.

Firstly, to identify the similarities in the internationalization strategies pursued by banks throughout their lifespan, we used the Ward's linkage method (Ward, 1963), as it optimizes the homogeneity of latent clusters based on minimum within-cluster variance (or inertia) in the multidimensional (dis)similarity scores $DS(b, s)$ at each iteration. The Ward's linkage method enabled us to minimize the heterogeneity in internationalization strategies within the merged clusters across all eight strategic metrics. In result, the strategic clusters are formed based on the minimum increase in information loss due to merging banks with distinct internationalization behaviors into clusters.

The clustering algorithm optimizes the objective function at each subsequent iteration by merging clusters with the lowest (within-cluster) error sum of squares (ESS) values:

(2) $\text{ESS} = \sum_{s=1}^{8} \left(\sum_{s=1}^{8} \varepsilon_{bc}^2 - \frac{1}{n} (\sum_{s=1}^{8} \varepsilon_{bc}^2)^2 \right)$,

where ε_{bc} is value for the bank (b) on cluster (c) with n banks in a formed cluster.

Secondly, we applied a graphical method to determine an optimal number of strategic clusters with minimized within-cluster heterogeneity, based on the Huber index. We selected a six-cluster configuration which corresponded to a significant increase in the Huber statistic (Figure D2, Appendix). We further obtained and compared the cluster statistics to validate the optimal six-cluster solution (Table D2, Appendix), which was supported by a larger Duda-Hart index and a smaller pseudo T-squared. Importantly, the cophenetic correlation coefficient of 0.79 also indicated a good degree of fit of the clustering solution to the raw data.

Thirdly, we also used a graphical method to analyze the distribution of banks across the six strategic clusters and the overlap in firms' choices across the three strategic dimensions, based on the similarity in their multiplex internationalization strategies. The cluster dendrogram depicts the identified six strategic clusters and the order in which the clusters were merged (Figure 8.a); the height of the hierarchical tree indicates the differences between individual strategic clusters. To control for multicollinearity, we run a principal components analysis and cross-check our clustering solution by visualizing the clustering results against the first two principal components on the cluster plot (Figure 8.b). Figure D4 (Appendix) plots the strategic clusters against two discriminant functions with bootstrapped p-values to validate the obtained optimal clustering solution.

To formally test the differences between the six strategic clusters and identify the underlying multiplex internationalization strategies pursued by banks, we estimated a multivariate multiple regression model, introducing eight strategic metrics $(s = 1, 2, \dots, 8)$ as outcome variables (Table 2). Additionally, we coded and included a set of strategic attributes in the multivariate model to measure (1) the extent of regional diversification $(Regional\ diversification(b, c))$ as a ratio of foreign countries per foreign region, (2) the number of spatial transitions through FDI entry modes and contractual interbank arrangements $(Spatial\ transitions(b, c))$, and (3) complementary entry modes as a categorical variable $(Complementary\ mode(b, c))$ indicating whether banks used 1, 2, or 3 mode types (i.e., greenfield, M&As, CAs) to enter foreign markets throughout their entire lifetime. The specifications of these variable can be found in the coding scheme (Appendix Table A3). Tables D3 and D4 in the Appendix confirm the significant inter-cluster variance and report the multi-cluster comparisons across all strategic dimensions.

Lastly, we conducted a robustness check to obtain an alternative multidimensional clustering solution by estimating 14 Gaussian finite mixture models (GMM) with different covariance structures and selecting an optimal model fit based on the highest Bayesian information criterion (BIC) (Scrucca, Fraley, Murphy, & Raftery, 2023). Consistent with the agglomerative Ward's clustering algorithm, all GMM models were fitted to the eight strategic metrics $(s = 1, 2, \dots, 8)$ to identify homogeneous clusters based on the multiplex internationalization strategies pursued by banks throughout their lifetime. Notably, the optimal GMM (VEV) model returned a more granular distribution with nine components or clusters, highlighting an even greater degree of strategic heterogeneity in banks' internationalization routes, which challenges the assumption of uniform internationalization processes inherent in international business theories.

The results of model-based clustering are reported in Tables D5-D6 (Appendix D). We compare the effectiveness of both the Ward's and GMM (VEV) clustering solutions in the subsequent section.

4 | Data analysis

4.1 | Graphical analysis: spatial, entry mode, and timing strategies as dimensions of multiplex internationalization

Contrary to the established internationalization theory, British overseas banks pursued increasingly diversified internationalization strategies since their emergence in the early 19th century (see the historical analysis in the Appendix B). Based on the reconstructed dynamic internationalization portfolios, we observed that British overseas banks were not only successful in leveraging geographic diversification strategies across more culturally distant markets than indicated in past studies on international banking (e.g., Jones, 1990; Bostock, 1991; Young, 1991), but also employed more complex entry mode strategies to reach their diversified spatial positions and scale up their bank-specific advantages – at earlier stages of their internationalization than predicted by internationalization theory (e.g., Johanson & Vahlne, 1977; Welch & Luostarinen, 1988). Namely, the British overseas banks complemented the conventional entry mode strategy of internalizing their knowledge and reputational advantages by establishing overseas branches with the aggressive acquisitions of local rival banks, as well as actively leveraging contractual and hybrid entry mode strategies via interbank arrangements. These diverse combinations of organizational forms enabled banks to evolve their polycentric multi-relational ecosystems and gain access to complementary knowledge assets in foreign markets.

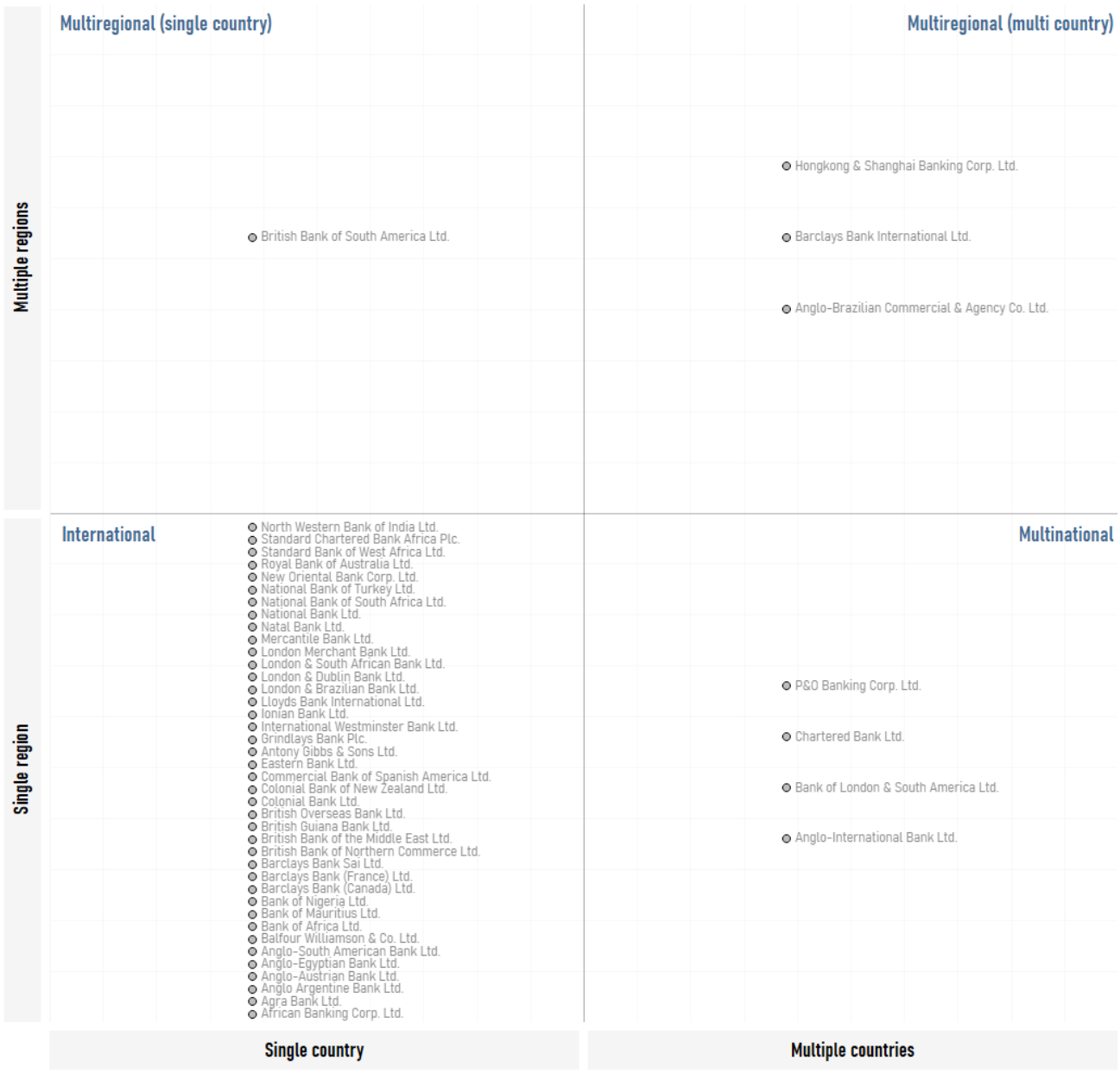
To elucidate and measure the multiplexity of the evolutionary process of banks' internationalization, we first proceed with the long-period analysis of the dynamic variation in banks' spatial, entry mode, and timing strategies through a graphical method, to bring novel evidence on their expansion in foreign markets via co-evolving branch and interbank networks over their entire lifespan. Secondly, we build on this evidence by applying multidimensional clustering analysis to test the propositions on strategic blending and further examine the overlap in spatial, entry mode, and timing strategies across internationalization clusters and the multiplexity of banks' unique internationalization strategies that continuously co-evolve across space, entry modes, and time.

4.1.1 | Spatial transition routes towards multinational and multiregional positions

To analyze how spatial and entry mode strategies interrelate, we trace the continuous year-on-year changes in the banks' spatial positions in foreign countries throughout their entire lifespan, as well as their choice of mode for each new foreign market entry – either via greenfield and brownfield investments in wholly-owned foreign branches, or entering into contractual correspondent arrangements with foreign partner banks. To unveil the multiplexity of the banks' unique internationalization processes, we identified the timing of new establishments of foreign branches and new formations of cross-border interbank arrangements with partner banks, as well as consolidations of branch and correspondent networks of other banks.

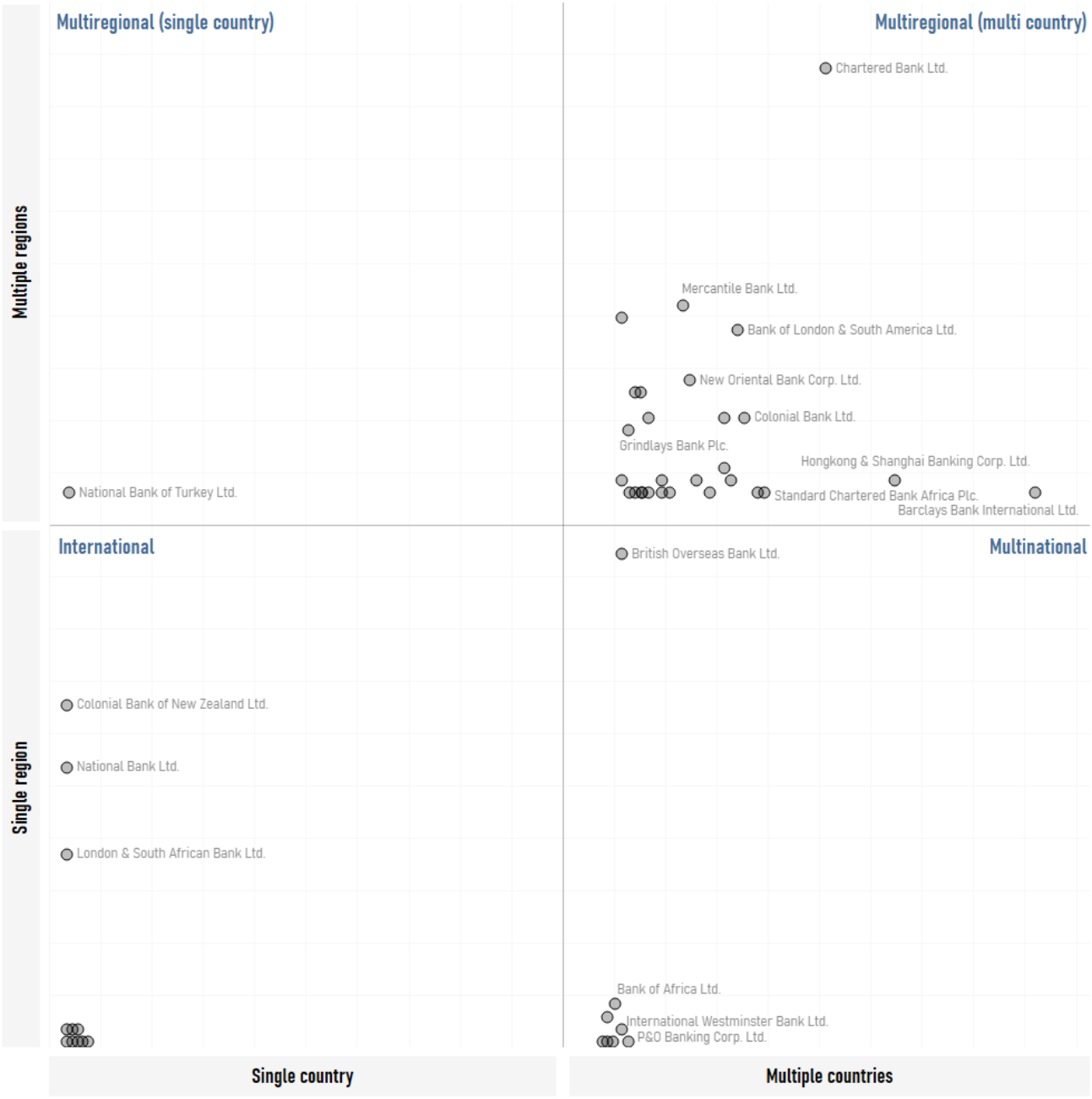
We first integrate the two strategic dimensions of space and mode in the analysis of multiplex internationalization strategies. With the aim to visualize how banks' spatial and entry mode strategies co-evolved over their lifespan, we applied our framework of spatial strategies to construct three strategic matrices (Figures 3, 4, and 5). To plot changes in banks' spatial strategies on these matrices, we first tracked the time of transitions in the spatial position of each bank via FDI modes: i.e., from achieving *international* status (i.e., by operating branches in a single foreign country, hereafter referred to as *foreign base country*), to moving into a *multinational* position (i.e., operating in more than one foreign country), and to adopting a *multiregional* strategy by extending their branch networks via greenfield investment or M&As beyond their *foreign base region*.

Figure 3. Spatial strategies of British overseas banks: spatial position in the year of incorporation or the year of their first foreign market entry (through FDI)



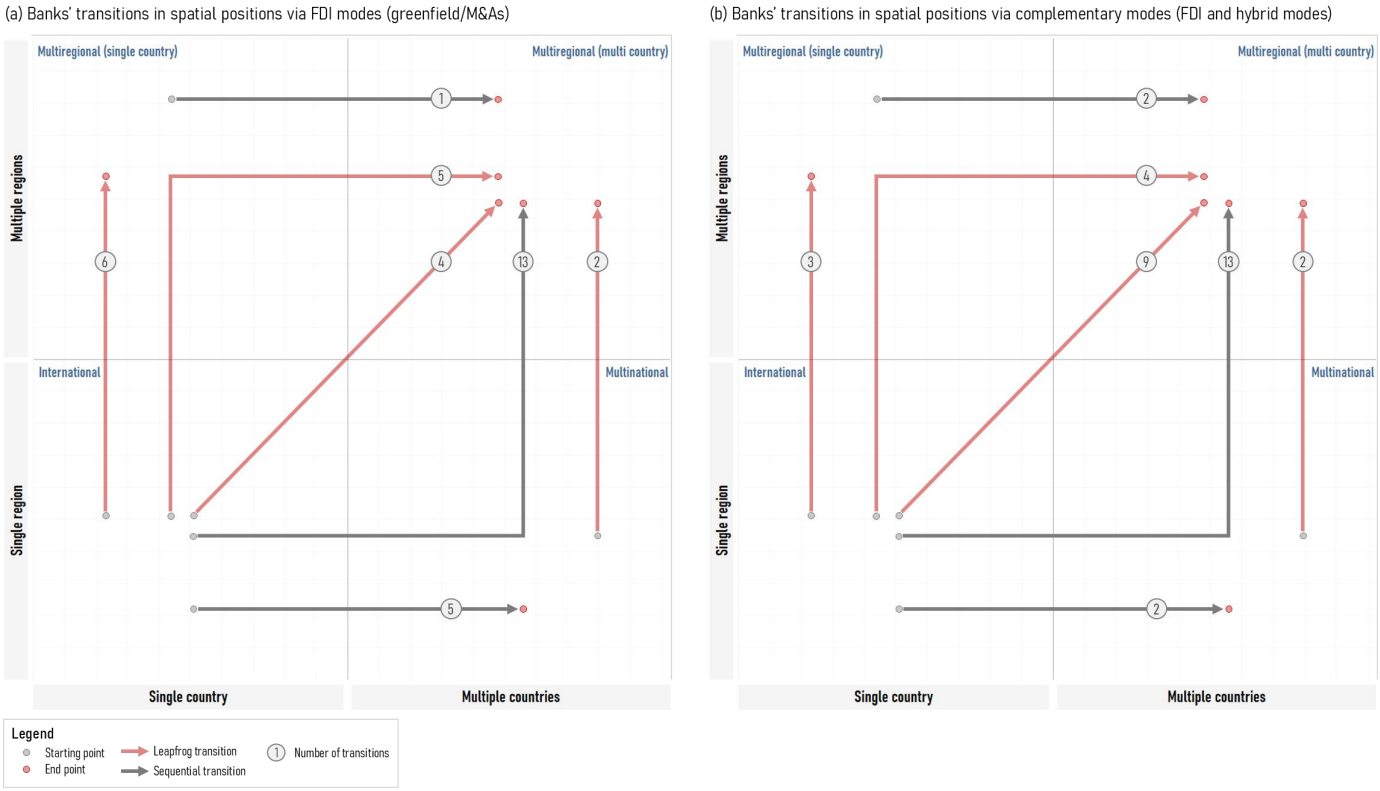
Notes: Banks' internationalization strategies are defined by their spatial positions in foreign markets, as indicated by their positions in the strategy quadrants. Seven banks in our sample made their first entry into a foreign market not in the first year of their incorporation: Bank of London & South America Ltd., British Overseas Bank Ltd., Chartered Bank Ltd., Eastern Bank Ltd., Antony Gibbs & Sons Ltd., Grindlays Bank Plc., and Ionian Bank Ltd.

Figure 4. Spatial strategies of British overseas banks: spatial position at the end of banks' lifetime (through FDI)



Notes: Banks' spatial positions are indicated by the strategy quadrants. The spatial scope of banks' branch and interbank networks within each strategy quadrant are plotted based on two normalized scores: (1) the number of foreign countries entered via FDI modes (*x-axis*), and (2) the number of foreign countries entered via interbank arrangements (*y-axis*).

Figure 5. Spatial strategies of British overseas banks: variation in spatial transition routes between spatial positions across foreign markets



For each bank, we identified the initial spatial strategy in the first year of their internationalization (Figure 3), as well as all subsequent transitions to either multinational or multiregional positions (Figure 4), and their evolutionary routes towards spatial diversification (Figure 5).

***First market entry*.** Except for seven banks in our sample, all British overseas banks commenced their foreign operations via greenfield investment and became *international* within the first year of their incorporation, without prior experience of managing branches or knowledge of foreign markets. This evidence contradicts the dominant advantage-based theories of internationalization grounded on the resource-based view (Barney, 1991; Dunning, 1980). The banks' capacity to draw on the international experience and assets of business partners was also limited, as only 13 banks were founded either with participation of foreign bank partners or via acquiring interest in existing banks, whilst the majority of British overseas banks were established as international greenfield ventures.

The advantage of a first market entry by launching foreign branches within British dependent territories and promoting British economic and geopolitical interests under the royal mandates – i.e., the 'colonialism' advantage (Tschoegl, 1987) – neither applied to all banks, as 21 banks started their internationalization by venturing into foreign countries outside of the British territorial and economic governance system. Whereas 40 banks had set on their internationalization route via establishing branch operations in a single country (i.e., establishing an *international* position), four banks were able to make the first move into multiple countries, and a further four banks diversified across multiple regions (Figure 3), which contradicts the theoretical assumption that firms gradually increase their commitments in foreign markets which are institutionally and culturally proximate. This significant strategic variation can rather be explained from an evolutionary view, namely that banks' first foreign market entries were underpinned by diverse strategic purposes and economic models, which varied from gaining a first-mover advantage to internalizing the greater risk of establishing polycentric equity structures prior to expanding the scope of bank-specific assets.

Three banks were capable of gaining a greater internationalization advantage through their first foreign market entry, as they were established during the initial stage of international expansion of the UK banking sector (1830–1880), when international market experience had not yet been accumulated by domestic British banks. Firstly, the Bank of London and South America Ltd. internalized international banking transactions by establishing branches in Buenos Aires (Argentina) and Montevideo (Uruguay), both in the same year of 1863, as well as swiftly followed their clients' commercial needs by forming a cross-regional network of interbank linkages spanning six European countries within the next two years of their operations, before transitioning to transregional status in 1891. Secondly, the British Bank of South America Ltd. commenced its internationalization journey in the year of its incorporation (1863) by establishing a branch with two sub-agencies in Brazil and two agencies in Portugal. Over the next 25 years, this bank transitioned to a highly diversified transregional model by simultaneously extending its interbank and branch networks across multiple countries in Europe, North and South America, Africa, and Australasia. Lastly, the Hongkong and Shanghai Banking Corporation Ltd. was a multiregional venture from its inception in 1865, with vast branch and agency networks operated in parallel across five Asian countries, as well as Mexico.

***Post-entry spatial growth*.** The banks' subsequent expansion across foreign markets, beyond their first market entry, neither followed the sequential logic of the extant internationalization theories, as we observed significant

strategic variation in their spatial transition routes and a greater complexity of their entry mode strategies in terms of the complementarity of organizational forms. Although 83.3% of the banks established *international* positions through their first market entry, their subsequent internationalization routes varied significantly across multiple strategic dimensions: i.e., the spatial scope of new market entries (Figure C1, Appendix), the combination of equity modes and hybrid interbank arrangements leveraged to expand their networks into new foreign locations (Figures C2-C4, Appendix), and the timing of spatial transitions to more diversified, multiregional, banking models. These multiplex internationalization patterns can rather be explained by banks' strategic blending of foreign market entry choices, which enabled banks to swiftly traverse geographic and institutional distances.

Banks amplified their strategic advantages across foreign markets through diverse strategic combinations of greenfield branch establishments, consolidations of existing branch networks of other banks, and cross-border interbank arrangements. In particular, Figure C3 confirms that banks differed significantly in their capability to exploit their bank-specific advantages via greenfield investment and leverage M&A strategies to acquire new strategic assets and expedite their entry across multiple foreign markets. Similarly, Figures C2 and C4 highlight that British overseas banks perceived different strategic value in expanding the spatial scope of their cross-border operations by investing in foreign branches and thus internalizing the ownership of information flows, or forming hybrid interbank arrangements to reduce the cost of learning and more speedily build their knowledge base. The British Overseas Bank Ltd. differentiated as it leveraged a more aggressive multiplex strategy. This bank swiftly expanded into European markets via four acquisitions, three of which took place within three years from its incorporation, as well as forming a transregional interbank network across 74 countries in all world regions (Figure C4). By contrast, the Hongkong & Shanghai Banking Corporation Ltd. and Barclays Bank International Ltd. favored FDI entry mode strategies to diversify across multiple foreign regions (Figure C3).

These findings bring new evidence on the geographic diversification strategies of British overseas banks during the 19th and 20th centuries, in contrast to past studies which suggested that these banks pursued geographical specialization strategies (e.g., Bostock, 1991; Jones, 1990, 1993), as opposed to diversifying their presence across multiple countries and regions. Although banks indeed depicted regional specialization during their initial establishment, some swiftly transitioned to multiregional models over the course of their internationalization by leveraging diverse combinations of entry modes. This finding also contrasts to the theory of gradual firm internationalization, as during the early stages of internationalization, British overseas banks were able to overcome the uncertainties of operating in distant markets and dynamically adapted their key bank-specific assets to actively create dense and polycentric intra- and interbank information networks.

In examining strategic variation, we also detected a group of ten banks did not venture outside their foreign base country, retaining their international status throughout their entire lifespan. Five of these banks, however, did not evolve their internationalization strategies further, as they operated for a relatively short period (below the average lifespan of 49 years in our sample) and were either acquired by other foreign or British banks, or liquidated within 4 to 28 years from their incorporation. Although the scope of their equity investment remained limited to one country, three out of the ten identified international banks, in fact, adopted more complex internationalization strategies by diversifying into other foreign markets via correspondent arrangements with foreign-based banks, which underscores the importance of multiplexity in measuring internationalization strategies.

The Colonial Bank of New Zealand Ltd., the London and South African Bank Ltd., and the National Bank Ltd.

were successful in effectively mitigating potential agency problems with partner banks as they swiftly formed extensive transregional interbank networks within a short time span of 2-15 years from their incorporation, integrating cross-border contractual arrangements across a broad range of 15 to 27 countries, spanning six to seven regions. Interestingly, these three banks were more risk averse in their FDI strategies as they complemented their transregional correspondent banking models with an extensive expansion of their branch networks within the familiar environment of their foreign base countries (106 branches per bank on average) where they faced lower economic uncertainty and political risks. The internationalization strategy of these banks demonstrates a different strategic role for arm's length entry modes, which do not merely act as a 'beach head' prior to establishing a physical presence in foreign markets as highlighted in the international business literature (e.g., Casson, 1993), but as a core operational model.

Furthermore, being established as a multinational bank from inception had not proven advantageous for the post-entry geographic diversification of the British overseas banks. Namely, the P. & O. Banking Corporation Ltd. had not evolved beyond its multinational position until it was eventually acquired and absorbed by the Chartered Bank Ltd.; whereas the Anglo-International Bank Ltd. de-internationalized to an international position after two stages of de-investments in Czechoslovakia and Romania, shortly after its incorporation. Although the other two multinational-born banks – the Bank of London and South America Ltd. and the Chartered Bank Ltd. – did transition to multiregional positions through complementary entry mode strategies by intertwining their acquired and newly-established branch and interbank networks, the early multinationalization did not provide an advantage to accelerate their post-entry spatial expansion compared to the sample average of 27 years.

***Spatial transition routes*.** The evolution of the internationalization trajectories of other banks also depicted significant strategic variation, as we uncovered multiplex combinations of spatial transition routes and entry mode choices, with varying transition timings between spatial positions by British overseas banks. Although 11 banks had not changed their spatial strategy throughout their lifespan, and 14 banks made only a *single* spatial transition, the majority of 23 banks evolved their FDI networks through *multiple* spatial transitions along their internationalization route, including five banks that also transitioned from multiregional to transregional operations. The internationalization routes of seven international banks had not evolved beyond a multinational position, as evident from the change in banks' spatial transition routes when analyzed on the basis of FDI modes only (Figure 5.a).

The deficiency of such unidimensional analysis of banks' internationalization becomes evident when we account for complementary entry modes used by banks to advance their spatial positions. Notably, the British Overseas Bank Ltd. and International Westminster Bank Ltd. evolved their spatial transition routes beyond the multinational position by complementing their greenfield investments in new branches and acquisitions of existing branch networks in their new foreign locations (i.e., FDI entry modes) with simultaneously expanding their interbank networks across multiple regions (Figure 5.b). By deriving synergies from intertwining equity-based and hybrid organizational forms within their entry mode strategies, these two banks were able to swiftly leapfrog from a multinational to transregional position within seven years from their incorporation, dynamically reconfiguring their bank-specific advantages by establishing polycentric FDI and interbank networks.

The internationalization of the Bank of Mauritius Ltd. elucidates a different spatial transition route towards achieving the transregional position. Although this bank was established with a significant strategic advantage by acquiring the long-standing operations with embedded commercial and information networks of the New

Oriental Bank Corporation in Port Louis (Mauritius) in 1894, its spatial strategy had not evolved beyond establishing multinational operations. Similar to the British Overseas Bank Ltd. and the International Westminster Bank Ltd., the Bank of Mauritius Ltd. also made a single transition from international to multinational position via a greenfield FDI entry mode during its lifespan, when it extended its branch network to the Seychelles by 1911. Contrary to the advantage-based view, this bank instead leveraged interbank arrangements to extend its operations to France and India and adopt a transregional banking model to finance Mauritius' lucrative sugar business from its incorporation in 1894. Neither did the acquired bank-specific advantages enable the bank to profitably exploit its resources on a global scale, as the fluctuating sugar prices exposed vulnerabilities in the bank's transregional model (Orbell & Turton, 2017), ultimately leading to its voluntary liquidation and subsequent acquisition by the Mercantile Bank of India Ltd. in 1916.

British overseas banks also pursued diverse routes in transitioning to multiregional banking models. Notably, only 13 international banks followed a sequential process in expanding their branch networks across multiple countries within cultural and geographic proximity of their foreign base region, thereby moving into a multinational position, before further evolving to multiregional operations (Figure 5). This sequential internationalization process is in line with the internationalization theory (e.g., Johanson & Vahlne, 1977; Welch & Luostarinen, 1988) and allowed these banks to gradually accumulate knowledge and banking-specific skills with lower transaction costs by expanding their client base in familiar market environments; however, this theoretical assumption does not explain the internationalization trajectories of all banks.

By contrast, ten British overseas banks were capable of swiftly leapfrogging from international to multiregional positions by establishing branches in either a single or multiple countries in a new foreign region within 1 to 18 years from their first foreign market entry. Out of these, four banks used FDI modes to leapfrog directly from international to multiregional positions, diversified across multiple countries (Figure 5.a). Complementing FDI and interbank arrangements, however, enabled six additional international banks to leapfrog directly to multiregional positions (Figure 5.b). This new evidence on the dynamic variation in banks' spatial transition routes via complementary entry mode strategies is not accounted for by the internationalization theory. Establishing polycentric organizational ecosystems induced synergy effects which had a profound impact on banks' competitive position, as it enabled them to maximize returns by exploiting their existing assets and advantages in foreign markets, while leveraging the complementary knowledge base of their interbank partners.

The comparison of the spatial scope of international banking operations and the size of banks' branch networks neither aligns with the predictions of FSA-based theories that firms with greater resources and capabilities encapsulated within larger corporate structures achieve higher degrees of internationalization. Rather, the more internationalized (multiregional) branch networks were not always the largest in size, as the branch network sizes of multiregional banks varied across a wide range of 11 to 1,804 branches (Figures C2-C3, Appendix). Although the number of regions moderately correlates (Table C5, Appendix) with the number of established bank branches, the extent of banks' regional diversification evolved independently of the size of their branch networks. Furthermore, multiregional bank models also varied significantly in the spatial scope of their equity investments (from 4 to 80 countries) and interbank arrangements (from none to 34 countries), as reflected by the banks' plotted positions within the multiregional quadrant in Figure 4.

The observed strategic variation in banks' spatial transition routes challenges the validity of the internationalization theory that predict that firms follow uniform internationalization routes, highlighting the need

for multidimensional approaches to understand the dynamic variation in internationalization strategies. In line with the evolutionary theory, banks' spatial strategies rather depicted significant over-time variation in the number of spatial transitions and the extent of regional diversification, as they pursued sequential internationalization strategies or leapfrogged to more diversified spatial positions, notwithstanding their accumulated experience and FSA endowments.

4.1.2 | How do complementary entry mode choices interrelate with spatial strategies?

To explain the observed dynamic variation in the spatial transition routes and entry mode strategies, we created a strategic matrix by mapping banks' spatial positions against their entry mode choices, and identified groups of banks within each strategy category (Figure 6). The first matrix dimension captures the evolving complexity of the spatial positions, which we observed among the British overseas banks during their lifetime. The second matrix dimension reflects the increasing organizational complexity of entry mode strategies utilized by the banks over the course of their spatial expansion. Specifically, we map three combinations of FDI and hybrid entry modes that banks may use independently or complement to gradually increase or expedite their foreign market commitments. This strategic matrix thus captures the interrelation between banks' spatial and entry mode strategies, intertwining the use of governance mechanisms and spatial diversification.

The first column of the strategic matrix identifies a strategic group of 25 banks that only pursued an *FDI entry mode strategy* via greenfield establishments or M&As with the strategic intent to internalize international banking transactions within their organizational hierarchy. These banks expanded their operations into foreign locations solely via establishing or acquiring branch networks to maintain their international positions (a group of three banks), expand into new countries within their foreign base region (a group of six banks), or transition to multiregional and transregional banking models (groups of four and 12 banks, respectively). The distribution of banks across spatial positions within this strategic group shows that banks significantly varied in their capability to capitalize on their existing or acquired bank-specific assets to reach more diversified spatial positions. Contrary to the entry mode theory, banks that remained multinational throughout their lifetime predominantly relied on FDI entry mode strategies, as opposed to increasing the complexity of their governance modes within the familiar regional environment.

The next two columns of the strategic matrix reflect more complex internationalization strategies adopted by 23 banks, which transitioned into multinational, multiregional, or transregional positions via a combination of FDI modes and contractual interbank arrangements, which we defined as *complementary entry mode strategies*. Within this strategic group, 11 banks expanded their operations across multiple countries and regions by combining one FDI mode (either greenfield or M&A) with establishing longer-term interbank relationships, which is reflected in the second column (Figure 6). The third column identifies a group of 12 banks which were able to adopt the most advanced entry mode strategies by complementing greenfield investments, M&As, and interbank arrangements on their route to spatial expansion.

The clustering of the banks within the constructed strategic matrix reveals significant variation and complexity of their early internationalization strategies since the early 19th century, which varied in the scope of governance modes leveraged by banks to increase the degree of their regional diversification. Notably, a group of ten banks in the top-right matrix quadrant differentiated from the other banks by adopting the most complex internationalization strategies, as they became transregional via the parallel expansion of their branch and interbank networks, complementing greenfield and brownfield investments with hybrid relational arrangements

(Table C2, Appendix). The banks in this strategic group established spatially dispersed polycentric multi-relational ecosystems, albeit at a varying pace, to exploit their existing knowledge base and skills through greenfield establishments, advance their strategic positions by acquiring new intangible assets, as well as leverage interbank network linkages to reduce the cost of learning and broaden the scope of their financial services across a greater diversity of foreign markets. The banks' capabilities to complement the complexity of spatial and entry mode strategies is particularly remarkable because all except one bank in this strategic group were founded as greenfield ventures during the early stage of the internationalization of the British banking system (before 1890), which limited their opportunities to leverage partner knowledge and experience as bank-specific assets for running foreign operations and advancing their internationalization. Rather than leveraging FSAs as a prerequisite, these banks dynamically reconfigured their portfolios of internationalization-specific advantages by swiftly learning to coordinate their vast branch and interbank networks across diverse institutional environments as they accelerated their sequential transitions or leapfrogged to their transregional positions.

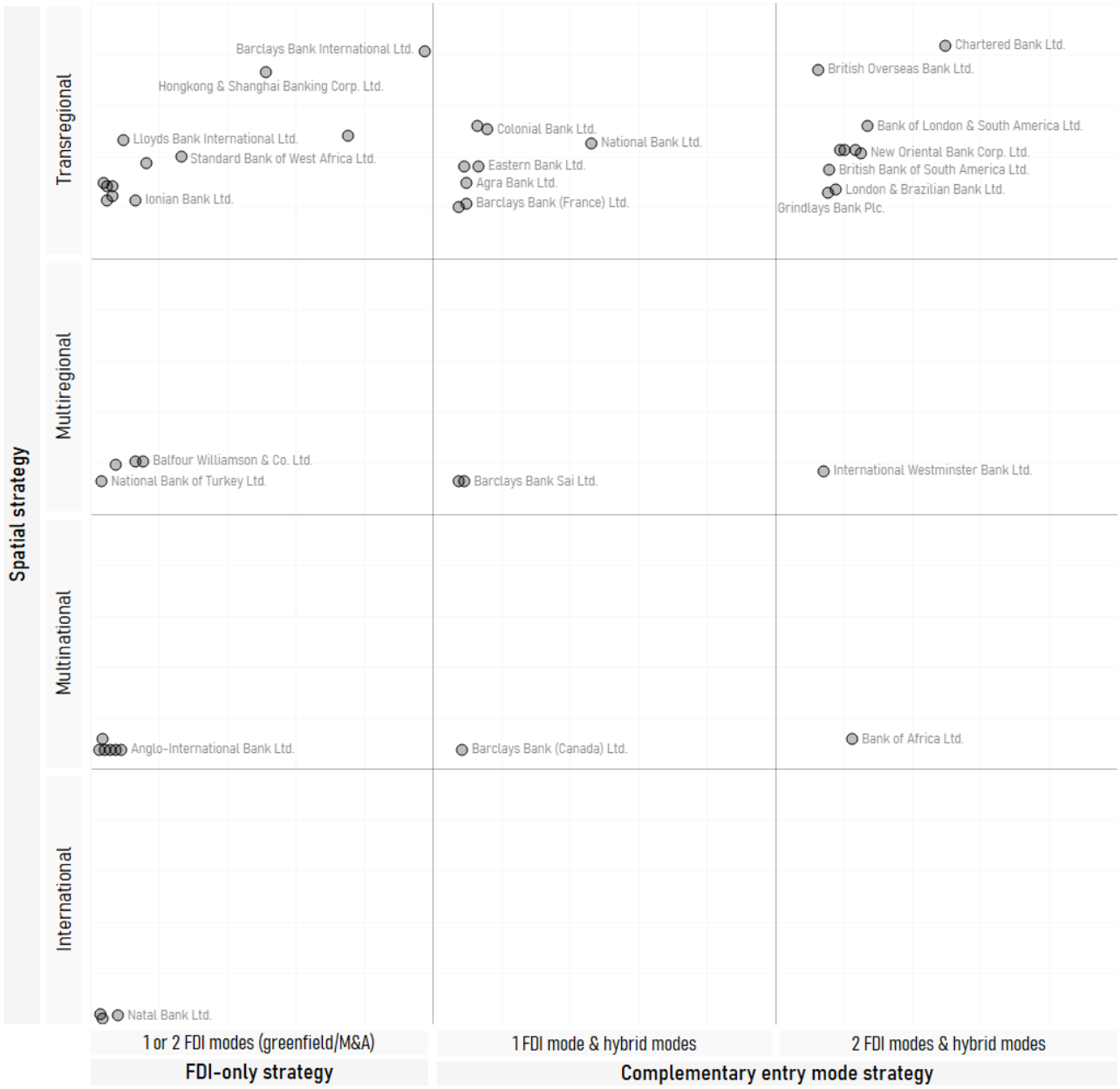
Importantly, the complementary entry mode strategy enabled three banks to achieve a transregional position, which they did not attain solely via FDI strategies, as the reach of their branch networks had not expanded beyond multinationality (the British Overseas Bank Ltd.) and multiregionality (the British Bank of South America Ltd. and the Grindlays Bank Plc.). The hybrid entry mode strategy enabled these three banks to more rapidly explore and capitalize on business opportunities across regions, thus more effectively serving a wider range of client needs by leveraging the continuous and controlled flow of information within their dense interbank networks, without internalizing the cost of maintaining a physical presence.

The New Oriental Bank Corporation Ltd., by contrast, perceived greater strategic value in accelerating the expansion of its FDI network to achieve a transregional position within 11 years of its incorporation. Contrary to the entry mode theories, forming its cross-continental interbank network across seven foreign countries took a further 35 years after establishing its transregional operations via foreign branches (Table C2). Neither do the internationalization theories, which conceptualize firm internationalization process as organic adaptation by gradually increasing the level of foreign market commitment and complexity of governance mechanisms (Cattani & Tschoegl, 2002; Johanson & Vahlne, 1977; Welch & Luostarinen, 1988), adequately explain the observed dynamic variation in internationalization processes.

Our strategic analysis also highlights a limitation of the conventional categorization of interbank correspondent arrangements as discrete arm's length transactions in the trade of financial services by entry mode theories (e.g., Casson, 1993). Namely, we uncovered that British overseas banks pursued hybrid entry mode strategies to form longer-term partnerships with their correspondent banks across multiple foreign markets, thereby facilitating governance modes for reciprocal service arrangements and knowledge flows, which is rather in line with the relational view (Dyer & Singh, 1998). Accordingly, forming dense interbank networks enabled the banks to gain an information advantage by accumulating knowledge about merchant clientele and opportunities in foreign exchange and credit markets at lower costs compared to FDI modes, while also mitigating the risk of opportunistic behavior by leveraging trust-based governance modes and diversifying their correspondent arrangements within the same market, preventing lock-in situations with a single partner.

Furthermore, in contrast to the common assumption in the entry mode theories that branches and contractual arrangements function as strategic substitutes in foreign countries (i.e., alternative institutional modes), we found that these two modes of banking operations are frequently complemented within the same foreign markets.

Figure 6. Multiplex internationalization strategies of British overseas banks: clustering by spatial positions and entry mode strategies



Notes: Banks' positions within the clusters in each strategy quadrant are plotted based on two normalized scores: (1) the number of foreign branches (*x-axis*), and (2) the number of foreign countries entered via both branch and interbank networks (*y-axis*). Hybrid entry modes encompass contractual and relational interbank arrangements.

Namely, out of 27 banks that expanded into foreign countries via interbank networks, 16 banks established branches and formed correspondent relationships within the same foreign markets. Specifically, in 30.5% of all market entries via correspondent arrangements, banks leveraged interbank arrangements to enter a foreign market where they already had an operating branch. Notably, three banks established cross-border interbank arrangements in foreign locations exclusively in conjunction with FDI. The interbank arrangements were also actively leveraged as a singular entry mode strategy to expand into new foreign locations (Figure C4).

The observed complementarity of entry mode portfolios within the same spatial boundaries and across different foreign markets reveals banks' capabilities to derive strategic synergies from multi-relational ecosystems, by diversifying revenue streams and knowledge flows, especially given that correspondent relationships were commonly formed with multiple banks based in the same foreign country. Importantly, these

findings demonstrate that it is unrealistic to assume that international expansion was achieved by firms through unidimensional strategies and uniform internationalization processes driven by firms' FSAs, indicating that extant internationalization theories only capture one out of a diverse range of internationalization patterns. Moreover, the firm's entry mode strategies may be incorrectly classified when their complementarity is not explicitly accounted for, both conceptually and empirically, in international business research on discrete entry mode choices. Namely, our historical evidence shows that banks pursued entry mode strategies characterized by varying degrees of complementarity amongst greenfield investments, acquisitions, and contractual arrangements, which are not explained by entry mode theories.

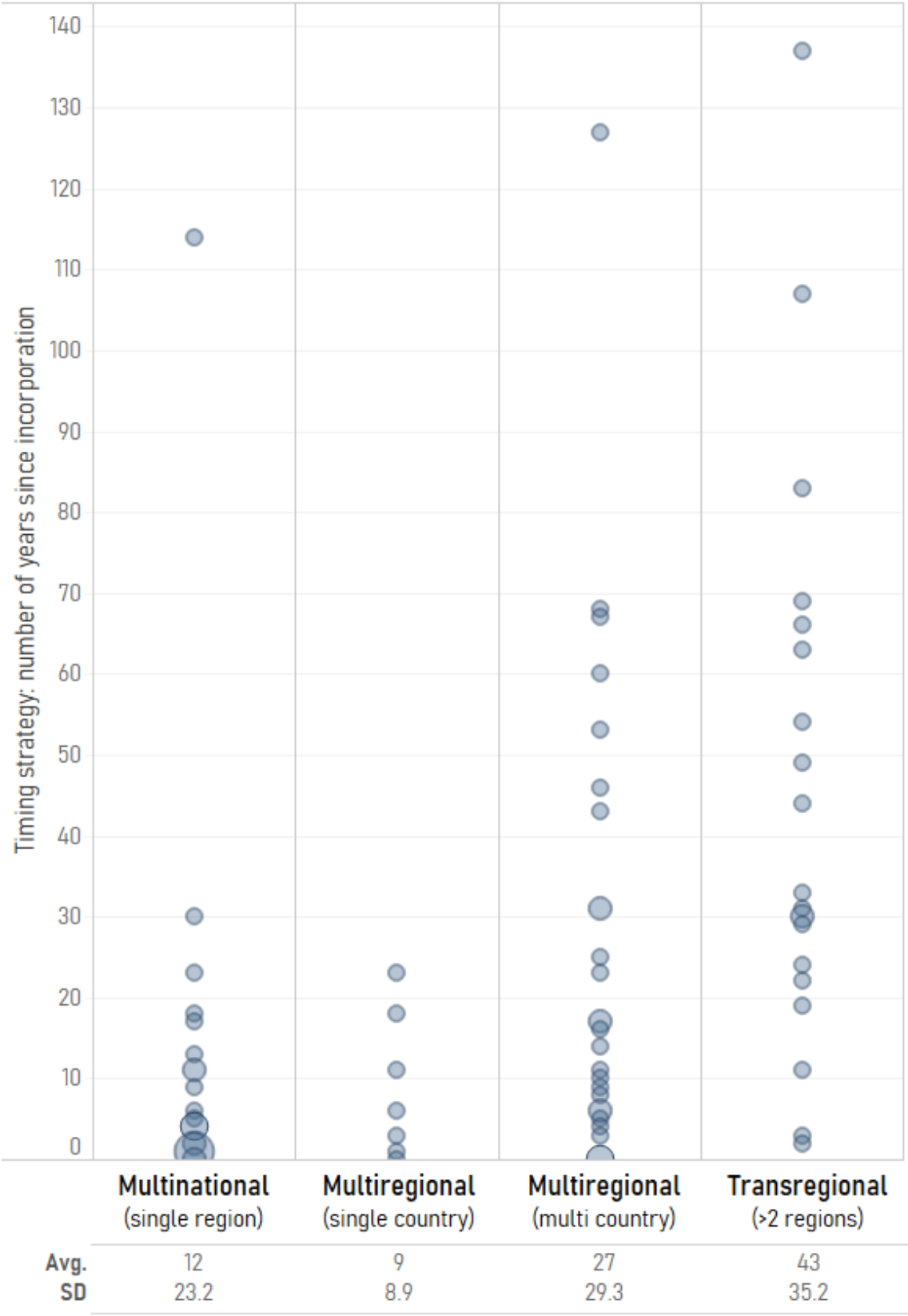
4.1.3 | How do complementary entry mode strategies relate to the timing of spatial transitions?

To integrate *time* as an inherent strategic dimension of multiplex internationalization strategies, we adopted two conceptual approaches to analyze how the timing of internationalization relates to the other strategic dimensions of entry modes and spatial scope and visualize how speedily the spatial transition routes of the British overseas banks evolved throughout their entire lifespan via complementary entry mode strategies. The constructed internationalization profiles of the banks enabled us to track the evolution of banks' timing strategies, firstly, through a discrete *staged approach* that measures internationalization timing as duration between sequential transitions in banks' spatial positions. Secondly, we integrate an *evolutionary approach* to map the internationalization speed as a rate of continuous growth of banks' branch and interbank networks throughout their lifetime.

Internationalization timing. Following the *staged approach*, we created two metrics to analyze the timing of internationalization of the British overseas banks and evaluate how early and rapidly the banks transitioned from less to more diversified spatial strategies. The first metric captures the time intervals (in years) between a bank's incorporation and its transitions into the international, multinational, multiregional, and transregional positions (Figure 7 and Figures C5-C6, Appendix). This allows us to compare the differences in the timing of spatial transitions among the banks throughout their lifespan, both for their first foreign market entry and post-entry growth. The second metric measures the inter-stage duration (in years) between sequential transitions in the spatial positions of each bank (Figures C7-C8, Appendix), which captures a different aspect of internationalization timing. The differences in inter-stage durations indicate whether the experience, knowledge, resources, and capabilities accumulated in a preceding internationalization stage enabled the banks to accelerate their subsequent transitions into increasingly diversified spatial positions, as well as whether banks changed organizational forms as part of this process.

We observe significant variation the timing of spatial transitions via FDI (Figure 7), with 14 banks pursuing accelerated routes towards their multiregional or transregional positions, confirming the importance of including timing strategies as an explicit dimension of multiplex internationalization. This group of banks demonstrated superior capabilities for early internationalization by expanding their branch networks into multiple foreign regions within ten years from their incorporation, as opposed to the average of 27 years (Figure C5). Notably, nine of these 14 banks were established during the early stage of the sector's internationalization (before 1890) and, contrary to theoretical expectations, were able to accelerate their internationalization into distant locations via resource-intensive FDI modes and establish highly diversified polycentric structures without access to previously accumulated specific assets and international experience, conventionally considered as prerequisites to advancing their internationalization.

Figure 7. The internationalization timing of British overseas banks: the number of years elapsed since bank incorporation and transitions into spatial positions through FDI modes



Notes: The circles are scaled by the number of spatial transitions since incorporation. The plotted spatial transitions include all inter-stage transitions made by banks, including sequential moves and leapfrogging.

The British overseas banks also displayed capabilities for early multinationalization, as 52.2% out of the total number of transitions to multinational positions happened within five years from their incorporation, whilst the average timing amounted to just 12 years. Contrary to the advantage-based view, however, the experience of coordinating multinational branch networks did not appear to provide a significant advantage for the banks' subsequent evolution to the multiregional banking model, as we did not find the timing of sequential transitions from multinational to multiregional positions to be significantly different from the timing of leapfrogging to multiregional operations from the international position.

In contrast to the gradual view of firms' internationalization, the British overseas banks complemented FDI and hybrid entry modes to significantly accelerate their transitions to spatially diversified operations (Figure C6), with a stronger effect on timing observed when banks combined all three entry mode types (Table C4, Appendix). The parallel expansion of branch and interbank networks enabled banks to dynamically and speedily reconfigure their portfolios of internationalization-specific assets to expedite the average timing of transitioning to multinational positions (from 12 to 7 years on average). More significantly, complementary entry mode strategies enabled five banks to leapfrog to multiregional positions, which they did not achieve via FDI strategies alone.

The formation of cross-regional interbank networks in conjunction with the expansion of foreign branch networks also significantly reduced the timing of transitions to transregional banking models, from 21 to 13 years on average (Figures C7-C8), either by reshaping the banks' internationalization routes through leapfrogging or decreasing the duration of sequential stages. Nine banks, in fact, were able to leapfrog from international to transregional positions by complementing FDI with contractual interbank arrangements within their entry mode strategies, and thus effectively overcoming the liability of foreignness and perceived risks of operating across multiregional environments.

For example, whilst the Anglo-South American Bank Ltd. was established in 1888 with the purpose of providing banking services in the copper producing and pastoral regions of Chile by opening its branch in Pisagua and maintaining traditional linkages to bankers and clearing agents in London (UK), it swiftly transitioned to the transregional position within just three years from its incorporation. By 1891, the bank had expanded its interbank network into Germany (Hamburg), France (Paris), Spain, as well as the East and West coasts of the USA (New York and San Francisco), and subsequently established interbank linkages in Austria and Italy (Genoa) by 1895. This bank also expanded beyond its regional focus on Latin America by establishing a transregional branch network in Germany, the USA, France, and Spain in the early 1900s.

Internationalization speed. Following the *evolutionary approach* to examining internationalization timing, we captured the evolutionary dynamics of the banks' internationalization processes by mapping the continuous expansion of their branch and interbank networks. We tracked the continuous changes in the number of foreign branches and interbank relationships to estimate the rate of spatial growth on a year-on-year basis throughout banks' entire lifespan, as a measure of internationalization speed. We reconstructed the banks' individual trajectories of their spatial expansion via FDI and interbank arrangements to compare how fast they expanded into new foreign markets via singular and complementary entry mode strategies. Subsequently, we plotted the average trends in the banks' internationalization speed at the country and regional levels (Figures C9-C10, Appendix).

Notably, we found that the banks' spatial expansion unfolded at a varying speed throughout their lifespan, evolving through sequential stages of accelerated as well as decelerated internationalization, in contrast to the

theoretical predictions that banks would accelerate their internationalization as they accumulate more knowledge about foreign markets and build up bank-specific assets, which reflects only short-term dynamics. This finding indicates that firms which internationalize rapidly at early stages may not maintain the same pace during the subsequent stages. Importantly, the variation in the speed across different internationalization stages rather depends on firms' complementary entry mode choices and their spatial transition routes – i.e., how firms blend strategic choices to dynamically reconfigure their entry mode strategies and spatial transition routes.

The complementarity of entry mode strategies appeared to have a particularly significant impact on the speed of new market entries during the early stage of the banks' internationalization processes (Table C4). During the early stage of accelerated internationalization, the average speed of banks' spatial expansion peaked by the sixth year from their incorporation (Figure C9), by which point the British overseas banks had established their presence across five foreign countries on average, and 17 banks had adopted multiregional and transregional models. Although the banks' internationalization strategies were largely driven by the parallel expansion of branch and interbank networks into new foreign locations, the formation of interbank arrangements was pivotal for accelerating the early expansion across multiple countries, whereas the transition to multiregional positions was, in a greater extent, driven by FDI.

This finding challenges the institutional logic of internationalization theories that instead predicts banks to explore more distant foreign markets outside of their home region via contractual and hybrid arrangements with lower perceived risks and costs, while relying on more resource-intensive FDI modes within more familiar environments of proximate locations. Instead, we observed that the banks expanded their branch networks into new foreign regions at twice the speed of their interbank network expansion: on average, the banks operated their branch networks across two foreign regions within 30 years from their foundation, whereas their interbank networks reached a multiregional scope only after 70 years (Figure C10.b-c). The synergy effect of the branch and interbank networks on cross-regional expansion, however, was striking, as, on average, banks achieved multiregional positions within 12 years from their incorporation through pursuing complementary entry mode strategies (Figure C10.a).

During the later stages of banks' lifespan, the evolution of their internationalization trajectories became increasingly less driven by the dynamics of their cross-border interbank networks, as the speed of their spatial expansion significantly decelerated after 19 years of market operations (Figure C10.c). Beyond this point, the banks gradually expanded the spatial scope of their interbank networks to six foreign countries only 40 years after their incorporation, with a maximum of ten countries reached only by the long-surviving banks open to business after 100 years of operations (Figure C9.c).

The banks' branch networks, by contrast, continued to expand across multiple foreign countries at a higher average speed, with a few time episodes marking the acceleration of their internationalization process. The banks appeared to accelerate their FDI in new locations 14-16 years (on average) after they commenced their market operations (Figure C9.b), likely pressured to gain a competitive edge in foreign markets once they had overcome their liability of newness. Following a long period of more gradual expansion, the banks revived their internationalization process after 60-70 years of international market activities, and again accelerated their spatial expansion after 100 years of market operations, arguably, in response to legislative changes in sector regulations and territorial governance systems across regions.

The long survival rates of the British overseas banks are, interestingly, associated with a narrower geographic

spread of their branch networks across fewer foreign countries, and a lower speed of spatial expansion (Figure C9.a). Coincidentally, we observe an increase in the average number of foreign regions (Figure C10.b), which indicates that the long-surviving banks transformed their operational models, by optimizing their transregional branch and post-war subsidiary networks to operate from one or two central economic centers within each region. By contrast, the spatial scope of the interbank networks drastically reduced (Figure C9.c), as in the post-war period the banks tended to leverage their parent holding companies as correspondents in foreign markets.

Overall, the observed transformations in banking models re-emphasize the strategic variation in banks' internationalization processes as they adapted to diverse and conflicting institutional pressures during different time periods. Our historical evidence shows that firms pursue distinct timing strategies to accomplish their spatial transitions via complementary entry modes, which ultimately defines the multiplexity and uniqueness of their internationalization processes.

4.2 | Multidimensional cluster analysis of multiplex internationalization strategies

To identify more homogeneous patterns in the unique internationalization strategies pursued by the British overseas banks, we combined all three strategic dimensions to obtain an optimized distribution of strategic clusters based on the agglomerative clustering algorithm. Importantly, the multidimensional clustering approach enabled us to model and examine the underlying multiplexity of banks' internationalization strategies that evolved simultaneously across the three strategic dimensions of space, mode, and time, and subsequently provide evidence for the derived propositions. By fitting the multidimensional clustering algorithm to eight strategic metrics that capture unique internationalization routes, we identified six strategic clusters – each characterized by a distinct configuration of spatial, entry mode, and timing strategies pursued by banks throughout their lifespan (Table 1). We conceptualize these unique combinations of spatial, entry mode, and timing choices – that are inherently interrelated and simultaneously made – as multiplex internationalization strategies.

The cluster dendrogram (Figure 8.a) shows the uneven distribution of banks across the strategic clusters that significantly varied in their size and strategic configuration, depicting the dynamic variation in strategic choices made by banks to expand their operations in foreign markets. Having plotted the six strategic clusters against first two principal components (Figure 8.b), we revealed multiplexity in banks' internationalization strategies, which has not been adequately conceptualized by the existing internationalization theories that assume that these processes are uniplex and uniform in nature. On the cluster plot, the first three strategic clusters are hybrid in nature as they partly overlap and identify the banks that did transition to multiregional or transregional positions, albeit by leveraging diverse combinations of entry mode and timing strategies. This finding supports the theoretical Propositions 3a and 3b on hybrid strategic groups and strategy 'blending', which explains how firms evolve their multidimensional internationalization strategies. By contrast, clusters 4, 5, and 6 are more distinct in the strategic configuration of their internationalization portfolios, differentiating across strategic dimensions, which is also confirmed by larger differences in the height of their dendrogram trees, thus partly providing support for the alternative hypothesis on strategic differentiation. Our modelling results demonstrate that the uniqueness of firms' internationalization strategies can be defined by both strategic 'blending' and differentiation, which should not be viewed as competing hypotheses explaining internationalization behavior. This calls for more coherent approaches that integrate both views to conceptualize the types of internationalization strategies.

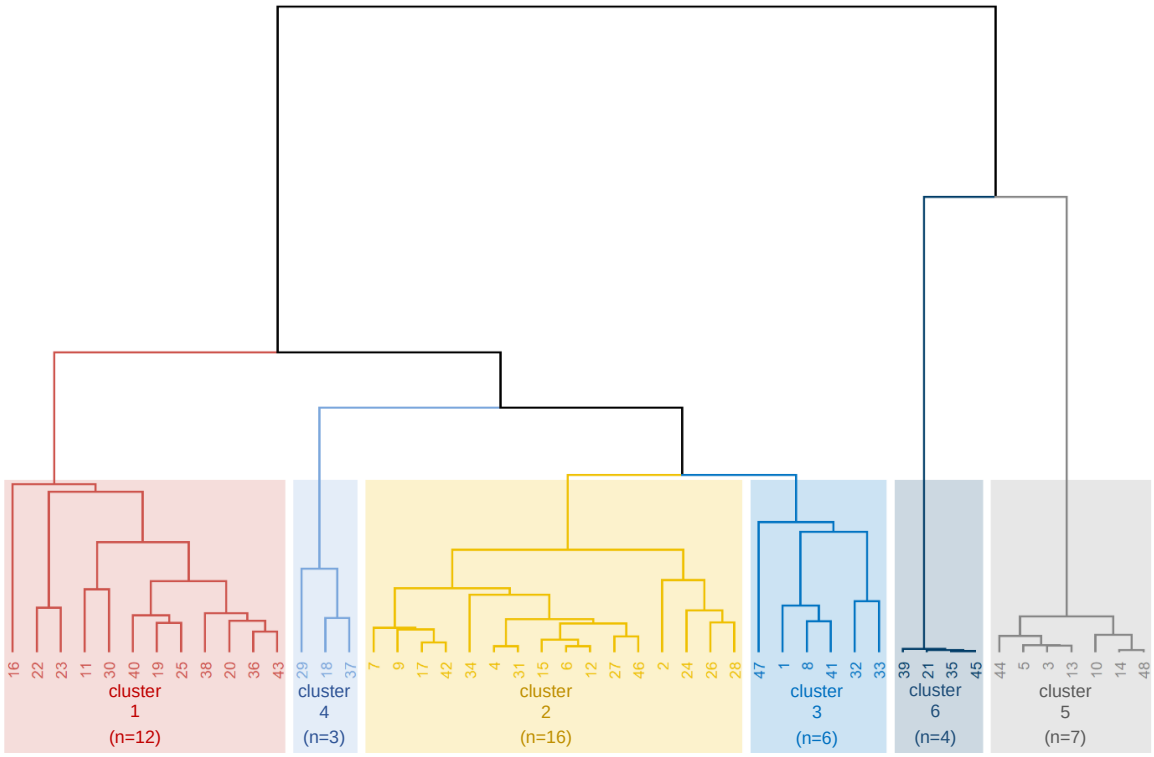
Table 1. Multidimensional clustering analysis: multiplex internationalization strategies across time, space, and mode

Strategic Dimension	Timing Strategy			Entry Mode Strategy				Spatial Strategy				
	Time as international (FDI & CA)	Time to multinational (FDI & CA)	Time to multiregional (FDI & CA)	Foreign branches (num.)	Foreign M&As (num.)	Foreign CAs (num.)	Complementary mode (cat.)	Foreign regions (num.)	Foreign countries (num.)	Regional diversification	Spatial transitions (FDI & CA)	Spatial transitions (FDI)
cluster [1]												
number	12	12	12	12	12	12	12	12	12	12	12	12
mean	2.75	2.83	5.50	254.67	2.17	29.67	2.67	6.58	35.17	5.08	1.67	1.33
sd	3.96	3.90	6.02	500.48	2.12	25.75	0.49	1.08	22.43	2.49	0.98	1.23
strategy	early timing of transregional transitions			highest strategic complementarity among all entry modes				most diversified across countries and regions via leapfrogging strategy				
cluster [2]												
number	16	16	16	16	16	16	16	16	16	16	16	16
mean	9.94	9.81	12.56	35.06	0.38	4.19	2.06	3	9.25	2.95	1.88	1.81
sd	8.23	8.37	12.54	41.68	0.50	8.13	0.57	0.89	6.59	1.60	0.81	0.91
strategy	early transition to multiregional position			low complementarity: greenfield and hybrid modes				leapfrogging to multiregional strategy: medium diversification within regions				
cluster [3]												
number	6	6	6	6	6	6	6	6	6	6	6	6
mean	8.33	8.50	31.83	266.17	4.83	1.33	2.17	4	16.83	4.35	2.50	2.83
sd	10.98	10.93	28.80	483.74	2.32	3.27	0.41	1.67	8.13	1.75	0.84	0.41
strategy	late transition to multiregional position			high complementarity: greenfield- & MA-dominant strategy				staged transitions to multiregional strategy: high diversification within regions				
cluster [4]												
number	3	3	3	3	3	3	3	3	3	3	3	3
mean	55.33	64	64	11.33	0.33	2	2	3.33	7	1.92	1.33	1.33
sd	9.71	24.43	24.43	10.50	0.58	2.65	1	1.15	4.58	0.88	0.58	1.15
strategy	latest transition to multiregional position			low complementarity: greenfield and hybrid modes				leapfrogging to multiregional strategy: lower diversification within regions				
cluster [5]												
number	7	7	0	7	7	7	7	7	7	7	7	7
mean	5.71	6.57	.	14.71	0.29	0.86	1.57	1	2.86	2.86	0.86	0.71
sd	5.77	5.19	.	24.51	0.49	1.86	0.79	0	1.46	1.46	0.38	0.49
strategy	early transition to multinational position			lowest complementarity: greenfield-dominant strategy				single region focus: low diversification across 2-3 countries				
cluster [6]												
number	4	0	0	4	4	4	4	4	4	4	4	4
mean	38.50	.	.	12.75	0	0	1	1	1	1	0	0
sd	37.19	.	.	16.96	0	0	0	0	0	0	0	0
strategy	international position throughout lifetime			no strategic complementarity: greenfield-only strategy				single region and country focus: operations within 1 country				
Total	**48**	**44**	**37**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**
mean	**12.54**	**10.91**	**17.57**	**112.54**	**1.33**	**9.23**	**2.06**	**3.58**	**14.94**	**3.44**	**1.56**	**1.48**
sd	**18.57**	**17.12**	**22.32**	**311.95**	**2.05**	**17.96**	**0.73**	**2.21**	**17.25**	**2.10**	**0.98**	**1.13**

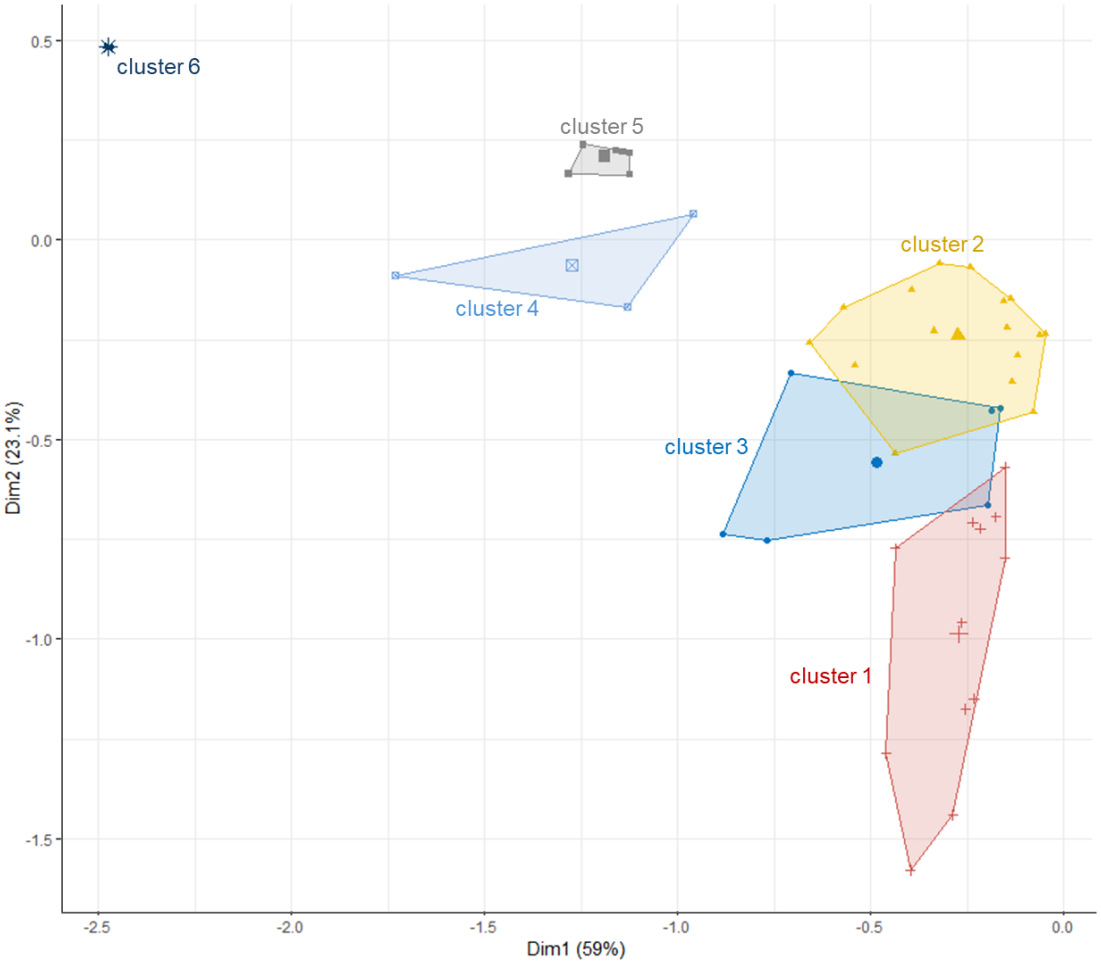
Notes: The multidimensional agglomerative approach was used to obtain the six-cluster solution, based Ward's linkage method to minimize the within-cluster variance.

Figure 8. Multidimensional strategic clusters across space, mode, and time

(a) cluster dendrogram: six-cluster solution based on the agglomerative method



(b) cluster plot: six-cluster solution based on the agglomerative method



Notes: The hierarchical dendrogram and cluster plot were built using the Ward's linkage method.

4.2.1 | Multi-cluster strategic comparisons

To examine the underlying patterns of multiplex internationalization, we compared the spatial, entry mode, and timing strategies in each cluster and summarized those at the cluster level in a matrix format (Table 1). We further extended the analysis of inter-cluster variance to test how each pair of strategic clusters differs across individual strategic metrics or attributes (Tables D3 and D4, Appendix), in order to validate the propositions on hybrid strategic groups in the context of internationalization strategies.

Contrary to FDI-based frameworks in the entry mode research that predominantly focused on firm expansion via foreign branches and subsidiaries, the greenfield FDI strategies did not uniquely differentiate banks' internationalization processes. Even though the banks' branch networks varied in their size and spatial reach, the strategic clusters did not significantly differ in the number of established foreign branches. Notably, the uniqueness of internationalization routes was instead defined by varying degrees of entry mode complementarity across the strategic clusters, as banks combined their greenfield strategies with brownfield investments and hybrid modes by forming contractual interbank arrangements in foreign markets, thus supporting Proposition 1 on the dynamic variation in firms' strategies in line with the evolutionary theory (Figure 1). The significant variation in the spatial and timing strategies across the strategic clusters provide further support for Propositions 3a and 3b on multiplexity in firms' strategies, confirming the importance of multidimensional strategic analysis for international business research to adequately model and understand the diversity of internationalization patterns, which are not explained by the existing internationalization theories.

Among the six strategic clusters (Table 1), only the banks in clusters 5 and 6 pursued conventional strategies of *regional specialization*, suggested in past studies on British overseas banks (e.g., Bostock, 1991; Jones, 1993), as their spatial positions did not diversify beyond their base foreign region. Particularly, the operations of four banks in cluster 6 remained confined to one foreign country throughout their entire lifespan, and neither did they leverage complementary entry modes to advance their international presence. Even though the banks in cluster 5 speedily established multinational operations within seven years of their incorporation, showing their propensity for early internationalization, the extent of their diversification within base foreign regions and entry mode complementarity remained low (Table D4).

Importantly, the multidimensional clustering algorithm effectively differentiated unique strategic configurations among the banks that attained multiregional or transregional positions via FDI and hybrid entry modes on the course of their internationalization. The first four strategic clusters feature distinct multiplex internationalization strategies that evolved simultaneously across the three strategic dimensions via diverse combinations of entry modes and timing strategies, highlighting the uniqueness of their spatial transition routes and entry mode strategies (in line with Proposition 1). Although all banks in these strategic clusters established polycentric branch and interbank networks to extend their operations and accumulate knowledge in foreign markets via multi-relational arrangements, they significantly varied in their choice of timing strategies, complementarity of entry modes, and the resulting extent of their regional diversification.

The internationalization strategies of the banks in three of the strategic clusters (1, 2, and 4) show a tendency towards leapfrogging to multiregional positions, as confirmed by their significantly lower numbers of spatial transitions (Tables 1-2), rather than following a staged process, which is at odds with the conventional internationalization theories (Johanson & Vahlne, 1977, 2003). Banks in strategic cluster 1 attained a distinctive internationalization advantage, as they accelerated their early internationalization and leapfrogged to

transregional operations within six years of their incorporation, providing evidence for Propositions 2a and 2b.

The banks in strategic cluster 1 were capable to establish the most diversified branch and interbank networks within significantly shorter time intervals since their incorporation without priorly accumulated FSAs, as confirmed by significant multi-cluster differences (Table D4) and the multivariate regression coefficients for cluster 1 (Table 2). Remarkably, these banks blended a timing strategy of early internationalization with a combination of two spatial strategies by expanding their branch networks within each region to explore and exploit local market opportunities, as well as diversifying their operations across a larger number of foreign regions. Notably, these banks also attained the highest degree of strategic complementarity among all three types of entry modes, predominantly leveraging the greenfield investment strategy and hybrid entry modes, which enabled them to reduce the timing of their spatial transitions as they expanded their polycentric branch and interbank networks across foreign regions, thus supporting Proposition 2a. The higher degree of entry mode complementarity also enabled banks to reduce the number of their spatial transitions toward the most diversified transregional positions, in line with Proposition 2b. Compared to all other strategic clusters, these banks differentiated by expanding their cross-border (and multi-city) interbank networks to expedite their access to financial and commercial centers in foreign regions and accumulate specialist knowledge.

Table 2. The multi-cluster comparison across strategic dimensions:
accelerated vs. staged internationalization strategies

	Multivariate estimates			**Model fit**	
Strategic Dimension (SD)	**cluster [1]**	**cluster [2]**	**cluster [4]**	R-sqr.	Prob > chi²
Space SD: attributes					
Foreign countries (num.)	18.333 (0.014)	-7.583 (0.269)	-9.833 (0.331)	0.4381	0.0002
Foreign regions (num.)	2.583 (0.000)	-1.000 (0.072)	-0.667 (0.407)	0.6907	0.0000
Regional diversification	0.727 (0.458)	-1.402 (0.139)	-2.432 (0.084)	0.2612	0.0174
Spatial transitions (FDI & CAs)	-0.833 (0.062)	-0.625 (0.140)	-1.167 (0.065)	0.1321	0.1916
Spatial transitions (FDI)	-1.500 (0.005)	-1.021 (0.039)	-1.500 (0.040)	0.2287	0.0337
Mode SD: attributes					
Foreign branches (num.)	-11.500 (0.947)	-231.104 (0.172)	-254.833 (0.305)	0.1081	0.2802
Foreign M&As (num.)	-2.667 (0.002)	-4.458 (0.000)	-4.500 (0.000)	0.5405	0.0000
Foreign CAs (num.)	28.333 (0.001)	2.854 (0.710)	0.667 (0.953)	0.4057	0.0006
Complementary mode (cat.)	0.500 (0005)	-0.104 (0.701)	-0.167 (0.678)	0.2151	0.0438
Time SD: attributes					
Time as international (FDI & CAs)	-5.583 (0.159)	1.604 (0.668)	47.000 (0.000)	0.7739	0.0000
Time to multinational (FDI & CAs)	-5.667 (0.244)	1.313 (0.776)	55.500 (0.000)	0.7549	0.0000
Time to multiregional (FDI & CAs)	-26.333 (0.002)	-19.271 (0.015)	32.167 (0.007)	0.5485	0.0000

Notes: The multi-cluster (joint) estimator was obtained by fitting a multivariate regression for all three groups of strategic dimensions (space, mode, and time). The obtained multivariate estimates compare against the baseline cluster 3. The p-values are reported in parentheses.

Although significantly less diversified in the spatial scope of their branch and interbank networks, the banks in strategic cluster 2 leapfrogged to a multiregional strategy, albeit after a longer period of accumulating experience and building FSAs through operations in their base foreign country (i.e., 10 years on average since their incorporation). The entry mode portfolios within this cluster featured a significantly lower degree of strategic complementarity, with their cross-border interbank networks expanding to only four foreign cities (on average). Whilst similar in entry mode complementarity, strategic cluster 4 pursued a strategy of late internationalization combined with establishing the smallest foreign branch network, even compared to the banks in strategic cluster 6 that operated in one foreign country only throughout their lifetime.

By contrast, strategic cluster 3 depicted a fundamentally different type of multiplex internationalization strategy across all three strategic dimensions. The banks in this cluster evolved to their multiregional positions through a staged internationalization process that involved a significantly higher number of spatial transitions compared to all other clusters (Tables 1-2), thus following the classic sequential internationalization process predicted by the Uppsala model. However, in contrast to this classic internationalization theory, these banks predominantly relied on equity-based strategies to diversify their presence in foreign markets, in particular attaining the highest number of foreign acquisitions. Contrary to the conventional assumption that firms leverage M&A strategies to accelerate their entry into geographically and institutionally distant foreign markets, a larger scale of foreign acquisitions did not enable these banks to leapfrog or accelerate their transition to multiregional operations, highlighting the unrealistic simplicity of the predictions of the existing internationalization theories.

4.2.2 | Validation of clustering results

In validating the clustering analysis, the model-based clustering (GMM models, Table D5, Appendix) returned an optimal nine-cluster solution, compared to Ward's six-cluster solution. This optimal GMM (VEV) model produced identical configurations for the more distinctive strategic clusters 5 and 6 (Ward's method), effectively differentiating banks with only an international or multinational scope of operations, as well as for the small cluster 4 that transitioned to multiregional positions at the latest point of time since their incorporation (i.e., 64 years on average).

In contrast, however, for the remaining banks that developed multiregional banking models (Ward's clusters 1, 2, and 3), the GMM (VEV) model produced a more granular distribution of six strategic clusters across the eight strategic metrics. The model-based clustering differentiated a group of four "born global" banks that leapfrogged to a transregional position within 4.5 years from incorporation (GMM cluster 1, Table D6, Appendix) and eleven banks that became multiregional within seven years on average (GMM cluster 2). Among the banks that pursued a staged internationalization process via multiple spatial transitions, the GMM clustering model differentiated two banks that were able to expedite their diversification by forming extensive cross-regional interbank networks (GMM cluster 3).

Notwithstanding the specificities in clustering configurations, both clustering solutions confirmed the significant strategic variation and multiplexity of internationalization as defined by banks' simultaneous choices of spatial scope, entry modes, and timing strategies that evolved throughout their lifetime. The multidimensional clustering analysis, fitted to the long-period strategic data, provides an effective method to detect the heterogeneous patterns of firm internationalization and examine the multiplexity of internationalization strategies across space, mode, and time.

5 | Discussion of findings

By contrast to past research on internationalization strategies, we conducted our strategic clustering analysis to demonstrate the uniqueness and eventfulness of firms' foreign operations by modelling the multidimensional evolutionary process of firms' internationalization. Through algorithmic modelling, we examined multiplex internationalization as a dynamic interaction between firms' spatial, entry mode, and timing strategies. This specifically entailed understanding the varying timings of firms' transitions across spatial positions by complementing FDI and hybrid entry modes, throughout their lifespan and in the context of geographically and culturally distant foreign markets.

Our strategic clustering analysis unveiled the inherent heterogeneity and multiplexity of banks' internationalization process, which is not explained by the established internationalization theories. Our findings demonstrate that the British overseas banks exhibited significant strategic variation across multiple strategic dimensions of international expansion. Banks' internationalization choices varied not only in geographical scope, but importantly in combination with entry modes as well as the timing of their spatial transitions. In particular, we found that the long-period evolution of internationalization strategies of the British overseas banks was driven by the parallel expansion of their branch and interbank networks within the same or different foreign markets, as well as the simultaneous pursuit of distinct spatial and timing strategies. This new evidence on *multiplex internationalization* challenges the arguably unrealistic assumptions of the internationalization theories, i.e., the unidimensional, sequential, and homogeneous nature of the firm's internationalization process, which has traditionally underpinned much of our recorded knowledge of firms' international behavior. By contrast, British overseas banks pursued unique internationalization routes which were hardly sequential and unidimensional in nature, and were characterized with multiplex combinations of spatial, entry mode, and timing strategies.

Neither did the FSA-based theories, e.g., the OLI paradigm and resource-based view, adequately explain the continuous evolution of banks' internationalization strategies, as our findings show that banks expedited the expansion of polycentric structures that encompassed both the diversification of spatial positions and establishment of multi-relational ecosystems via complementary entry mode strategies, without necessarily leveraging bank-specific advantages as prerequisites for advancing their internationalization. Instead, we observed that building up FSAs and internationalizing is a simultaneous process that may begin from the bank's incorporation, as British overseas banks displayed dynamic capabilities for continuous learning during their internationalization process by rapidly 'maturing' their FDI and hybrid interbank structures simultaneously across multiple distant markets.

Our analysis of banks' *spatial strategies* demonstrated that, over the course of their transition from international to transregional banking models, British overseas banks pursued unique spatial transition routes, combining different orders of spatial transitions with diverse entry mode and timing strategies. We identified distinct strategic groups that evolved their spatial positions in foreign markets through complementary entry mode strategies (at different timings), while the remainder of the banks pursued uniplex FDI strategies alone. Furthermore, the early internationalization strategies of British overseas banks were characterized with a greater extent of regional diversification and entry mode complementarity than previously uncovered in the international business and banking history literatures.

Coincidentally, we also observed varying *timing strategies* among the British overseas banks, which also change within their lifespan. These findings indicate that the speed of firms' first market entry can significantly

differ compared to post-entry international expansion, as well as across post-entry spatial transitions. Upon analyzing internationalization as a continuous change over a longer time horizon, we found that banks, on average, depicted a higher internationalization speed at the early stages of their internationalization (within 10 years of their incorporation), both through FDI and complementary entry modes. The long-period evidence thus challenges the unrealistic simplicity of viewing internationalization timing through the conceptual lens of either gradual or accelerated expansion, as it contradicts firms' inherently heterogeneous strategic behavior. Importantly, our long-period historical analysis also confirmed that accelerated internationalization is not a recent strategic phenomenon, as British overseas banks demonstrated a tendency to accelerate their transition to multinationality and leapfrog to multiregional and transregional banking models, prior to accumulating international experience and bank-specific FSAs. This strategy of early and rapid internationalization was pursued by banks founded both during the early stages of internationalization of the UK banking sector during the 19th century.

Remarkably, banks were able to leverage complex governance mechanisms by complementing *entry mode strategies*, which significantly expedited the banks' initial expansion across multiple foreign countries, nearly halving the duration of banks' transition processes to multinationality and transregional operations. Importantly, banks expanded their spatial boundaries by simultaneously evolving their FDI and hybrid interbank networks – in contrast to sequentially increasing the complexity of organizational forms, as predicted by the internationalization theory. Furthermore, the internationalization speed differed significantly between these two main expansion modes, as we also found that the spatial structures of the banks' branch networks (FDI) and interbank networks (hybrid) evolved at varying speed rates. Besides, the common assumption that contractual or hybrid modes expedite expansion did not universally apply to the banks' internationalization routes, which we mapped in our study, as the banks formed their cross-border relational networks at various stages of their internationalization process.

Lastly, our long-period strategic analysis has uncovered new evidence complementing previous research on international banking, which suggested that incremental internationalization may not exhaustively explain the observed heterogeneity in banks' international operations (e.g., Tschoegl, 2002). Our multidimensional clustering analysis revealed a higher degree of complexity of the internationalization strategies of British overseas banks than suggested in past studies, which transformed the landscape of British overseas banking at a global scale. From their emergence, British overseas banks pursued multiplex internationalization strategies by complementing FDI and hybrid entry modes to establish polycentric multi-relational ecosystems, frequently within the same foreign market, in order to gain information advantages and broaden banking services in culturally and geographically distinct markets without a direct presence. This finding challenges the conceptual assumption in the international business literature that banks utilize interbank arrangements and branches or subsidiaries as strategic substitutes to expedite their foreign expansion into a specific market.

Our historical evidence also shows that banks leveraged more complex governance modes for interbank arrangements as opposed to the arm's length transactions or contractual entry modes conventionally used by the international business literature to classify correspondent arrangements. We observed that British overseas banks rather utilized dense and longer-lasting interbank networks as a hybrid entry mode, thus combining the benefits of longer-term partnerships that enhance reciprocal information and service flows with the capability to mitigate potential risks of opportunistic behavior and agency problems via mutually beneficial relational arrangements.

In addition, the rapid transition to multiregional and transregional operations, uncovered by our analysis, challenges the stereotyped view on the regional specialization of British overseas banks in the international banking literature, as well as the existing theoretical reasoning behind accelerated internationalization across multiple regions, explained through the gradual accumulation of firms' experience across culturally and geographically dispersed regions.

Everything considered, our long-period analysis reiterates the importance for international business research to integrate the multidimensional evolutionary approach into the internationalization theory, in order to expand the conceptual boundaries of firms' international strategic choices beyond the established unidimensional frameworks and explicitly incorporate the concept of strategic multiplexity into the analysis of firms' unique internationalization processes.

6 | Conclusion

We designed this study to advance the internationalization theory by reconciling the evolutionary view on firm operations in foreign markets with the accessibility of long-period strategic data and advanced ML techniques to model the multidimensionality and dynamic variation of firm internationalization strategies. International business research has so far been grounded on the unrealistic assumption that firm internationalization evolves as a homogeneous and unidimensional process, and, consequently, lacked adequate conceptual grounding and methodological designs to explain the dynamic variation in internationalization strategies across the key dimensions of space, mode, and time throughout firms' lifespan. Our study addresses both of these shortcomings.

In contrast to the established internationalization theories, our findings revealed that firm internationalization evolves as (1) a *multidimensional process* which is defined by strategic multiplexity as a result of firms' blending of spatial, entry mode, and timing strategies, as opposed to the conventional view that firms follow a uniform and gradual internationalization process; and (2) a *continuous change* over longer time horizons defined by significant variation in firms' spatial, entry mode, and timing strategies throughout their lifetime, as opposed to conceptualizing and modelling internationalization as a homogeneous and short-term staged process.

The concept of strategic multiplexity provides a theoretical lens that enables explaining how firms' internationalization choices interrelate across multiple strategic dimensions and change over time, thus accounting for the unexplained core aspects of internationalization, i.e., strategic variation and change over time. To test the theory of *multiplex internationalization*, we offer a replicable long-period research design, demonstrating how new historic data can be used to reconstruct *dynamic internationalization portfolios* over longer time horizons.

6.1 | Theoretical implications

We revisited the internationalization theory by treating firm internationalization as a unique multidimensional process that continuously evolved in historical time. Our coherent multidimensional evolutionary framework reconciles the detached theories of regional diversification, entry modes, and internationalization timing, by conceptualizing how the interaction between firms' spatial, entry mode, and timing strategies defines their unique internationalization process over longer time horizons. Based on our long-period evidence and multidimensional clustering analysis, we argue that the internationalization theory needs to integrate *strategic variation* and *multiplexity* as explicit theoretical constructs to understand how internationalization strategies change over time.

Our theory of multiplex internationalization enables explaining the dynamic variation in firms'

internationalization processes within the multidimensional settings of space, mode, and time, which is essential to examining internationalization strategies as a continuously evolving process throughout firms' lifespan. The demonstrated significance of this multidimensional evolutionary approach challenges the sequential logic of the existing internationalization theories, as our findings showed that firms evolve their international network positions via multiplex combinations of entry mode, spatial, and timing strategies. Therefore, all of these three strategic dimensions should be explicitly and collectively integrated in the multidimensional analysis of firms' internationalization strategies to overcome the unrealistic assumption of unidimensional and uniform internationalization strategies.

Ultimately, our study advances the theoretical arguments in the location choice, entry mode, and internationalization timing literatures. Firstly, our findings on the diverse spatial transition routes pursued by firms suggest that the theories on foreign market selection should explicitly consider the location choice as a spatial evolutionary route, rather than as a singular strategic decision – in order to account for firms' dynamic and cumulative processes of learning and asset augmentation in foreign markets, as firms evolve their spatial equity and relational networks over time. Our multidimensional evolutionary approach suggests that foreign market selection should be conceptualized in conjunction with entry mode and timing choices as key ingredients of the firm's global competitive positioning strategy.

Secondly, the entry mode theories should explicitly conceptualize and operationalize firms' entry mode strategies as a varying degree of complementarity amongst various organizational forms embedded within multi-relational ecosystems that firms establish across foreign markets, rather than a continuum of alternative entry mode types viewed as discrete choices for foreign market entry. Particular consideration should be given to the over-time change in entry mode complementarity, as our findings show that firms leverage more complex organizational forms at the earlier stages of their internationalization, in contrast to gradual increases in the level of resource commitment and control in foreign markets. Moreover, the existing entry mode typologies need to embed the variety of hybrid entry mode types which differ in the extent of reciprocity and cross-border knowledge exchange, as our evidence confirms that firms complement strategic relational networks with equity-based modes to accelerate their transitions into multiregional operations.

Thirdly, internationalization theories need to conceptualize timing as a variegated strategy, which, as our findings demonstrated, continuously changes throughout the early stage of firm internationalization and subsequent post-entry transitions. The established theoretical view that firms accelerate internationalization as they accumulate FSAs over time only reflects short-term internationalization dynamics. Overcoming the limitation of this partial view requires incorporating longer time horizons to explain how internationalization speed changes throughout firms' lifespan, as firms evolve their spatial positions and organizational forms.

Fundamentally, our multidimensional evolutionary analysis confirms that viewing internationalization through the concept of *polycentric structures* allows more effectively explaining the firm internationalization process, to which we suggest an important improvement by reconciling the interaction between the three strategic dimensions, i.e., space, mode, and time. Therefore, to accurately reflect the change in organizational boundaries across borders over time, we argue that polycentric structures should be conceptualized as multilayered networks, which evolve through spatial diversification (spatial structure) and complementary organizational forms (governance structure), i.e., through a multiplex internationalization process. Viewing the evolution of internationalization strategies through this theoretical lens can help to develop new conceptual approaches in

international business research to better understand the continuous change in firms' international behavior across foreign markets.

6.2 | Analytical implications for international business research

To operationalize the multiplex internationalization process to understand the interaction between the strategic dimensions of space, mode, and time, international business research needs to experiment with new data structures and modelling processes. We provide a documented analytical workflow that future studies can replicate to (1) collect finer-grained data which systematically reconciles multiple foreign market decisions over long time horizons and (2) model continuous change in multidimensional internationalization processes.

Our analytical workflow demonstrates the importance of reconstructing firms' dynamic internationalization portfolios that encompass interrelated spatial, entry mode, and timing strategies, to overcome the unrealistic assumption of unidimensionality and homogeneity of internationalization strategies in the extant theories. Specifically, we developed a strategic data pipeline to digitize and transform long-period firm-level data from printed archival sources into an analyzable and accessible format for the analysis of multiplex internationalization strategies. We demonstrated how modern AI technology can be applied to construct new datasets, in order to (1) create longitudinal strategic metrics to analyze the evolution of firms' multidimensional internationalization strategies throughout their lifespan, and (2) model strategic multiplexity in the internationalization processes through ML-based multidimensional clustering algorithms to understand the dynamic variation in firms' internationalization patterns and a variety of internationalization trajectories not explained by existing theories.

6.3 | Managerial implications

Our findings on the multiplexity of internationalization strategies offer important implications for managers in banking and other sectors, as they underscore the importance of embedding multiple strategic dimensions for advancing their global competitive positions and subsequently their firm performance in foreign markets. When developing their internationalization strategies, managers should define their strategic vision for an ambitioned spatial scope across foreign markets by considering multiplex strategies that can help to accelerate the transition into their desired position. Specifically, developing the capability to coordinate complementary organizational forms can enable firms to more effectively internationalize by optimizing the timing and resources required to achieve multiregional positions. Our long-period analysis also underscores the importance for managers to underpin their firms' internationalization strategies with a multidimensional framework and systematically track the internationalization positions of their firms over time to improve the agility of their strategy adjustments in response to arising pressures and opportunities in foreign markets.

We demonstrated how multidimensional clustering algorithms can be used by firms to advance their business intelligence and analyze their strategic positions in foreign markets. Although the multidimensional clustering method is effective in identifying multiplex internationalization strategies, strategy researchers and managers should be aware that the choice of clustering algorithm can return different strategic distributions, so that the clustering results can be optimized for specific research and strategic objectives.

6.4 | Limitations and future research

Notwithstanding the limitations in our sampling process, focused on overseas banks originating from one country (i.e., the UK), the insights uncovered by our study highlight the multidimensionality and uniqueness of the continuous process of the evolution of firm strategies in foreign markets. This inspires further exploration into

the multidimensionality and dynamic variation of strategic choices, which have been overlooked in past international business research, and thus yield more comprehensive conceptualizations of multiplex internationalization processes that continuously evolve throughout the firm's lifespan.

To test the generalizability of our findings, future research should advance the comparative analysis by including a more diverse mix of foreign and local banks within cross-country designs, as well as applying our framework in other sectoral contexts. This should also involve re-validating the historic sources of banking data to assure the accuracy of banks' market presence by cross-checking these records against bank correspondence and meeting records on operations and financial transactions in specific branch locations. Furthermore, international business researchers should endeavor to apply advanced ML techniques to model firms' long-period internationalization as continuous change in polycentric structures, i.e., a multiplex co-evolving process of expansion and contraction in FDI-based and inter-firm networks across temporal and spatial dimensions throughout their lifetime. Importantly, future research can examine the city-level dynamics of the internationalization process to capture the changes in entry mode decisions within the same countries and regions over time. Lastly, to improve the long-period research design and overcome the limitations of atemporal structural approaches to studying the antecedents of firms' foreign market choices, internationalization theories should embed the dynamic nature of environmental factors that prompt strategic changes in organizational forms and spatial boundaries across foreign markets.

APPENDIX

Application of machine learning to the long-period analysis of multiplex internationalization strategies

Contents

Appendix A: Data digitization process

Source digitization and data transformation

Optical character recognition (OCR) technology is widely available, both as off-the-shelf and open-source software (e.g., Shen et al., 2021), which significantly lowers the barrier to use by international business researchers. AI technology, such as OCR and ML, consequently opens the opportunity for researchers to capitalize on the untapped large-scale research potential provided by text-based archival sources that can be used to study the evolution of firm internationalization strategies as a multidimensional phenomenon in long-period contexts. As such, OCR has been applied in a wide range of economic and business history research to generate new evidence and uncover novel insights for theory building (e.g., Carlson, Bryan, & Dell, 2023; Correia & Luck, 2023; Kamlah, Schmidt, & Shigapov, 2022; Schomaker, 2016). This research method, however, has not yet been adopted in the international business field, which can learn from large-scale projects within the digital humanities field that have re-invented the 'new business history' research (de Jong et al., 2015; de Jong, 2022; Sharp at al., 2023) by advancing the growing corpora of digital archives and machine learning technologies used to digitize and analyze unstructured archival data (e.g., Shen et al., 2021).

To this end, the abundance of firm-level archival data sources provides untapped research potential for the international strategy field, as it can inspire novel large-scale research into the evolution of firm internationalization strategies, based on comprehensive archival records on the year-on-year changes in firm locations (across regions, countries, and cities), branch and subsidiary establishments, cross-border consolidations, as well as the associated intra- and inter-firm networks across foreign markets. Periodical archival sources can foster a new realm of research into firm internationalization by embedding granular longitudinal data on firms' foreign operations into the systematic contextual information on location-specific market, economic, and political events. Consistent use of the archival sources and data techniques can consequently help to unveil the continuous evolution of firms' multi-relational ecosystems via complementary strategies as part of their selection and adaptation processes to location-specific opportunities and hazards.

Therefore, we aim to advance the international business research by developing a multi-disciplinary approach centered on the large-scale digitization of archival sources advocated by the digital humanities, and using innovative techniques developed by the data science field to transform long-period data to enable analyzing the continuous changes in firms' multidimensional strategic positions across foreign markets throughout their entire lifespan. This long-period data approach is essential to analyze how banks' internationalization strategies continuously evolved across the three strategic dimensions throughout their lifetime.

Data digitization and transformation workflow

To overcome the lack of granular long-period evidence from archival sources in the field of international business, we developed a step-wise data extraction and transformation workflow that can be replicated to study firm internationalization.

The initial step in our data workflow starts with identifying and scanning printed periodic archival sources containing information on internationalization strategies of British overseas banks (Figure A1). To digitize

the text-based records on the foreign branches and contractual interbank arrangements of British overseas banks within the global banking sector, we used the 1845–1980 editions of *The Banker's Almanac* (previously known as *The Banking Almanac and Directory*). This banking directory was published annually in the UK, in printed book format (Figures A3-A8), and inherently contains relatively more complete information records on domestic banking compared to the foreign banking operations of the global population of internationally active non-UK banks. Consequently, focusing on British overseas banks helps us prevent selection bias.

The scope of the digitized books varied across the years due to the expansion of the global banking activity, ranging from 330 and to over 2000 pages for each year. However, we selectively sourced the information on the British overseas banks only from the following three sections in each annual directory volume: '*List of Foreign and British Colonial Banks*' (Figures A3-A4), '*Alphabetical List of Foreign and Colonial Towns with Names of Banks and Bankers*' (Figures A5-A6), and '*Advertisements*' (Figure A7). For instance, for The Banking Almanac and Directory of 1891, the digitized section on '*Foreign and British Colonial Banks*' ranged from page 225 to 299, from which we extracted 35 pages with data on foreign subsidiaries, branches, and correspondent relationships of the British overseas banks.

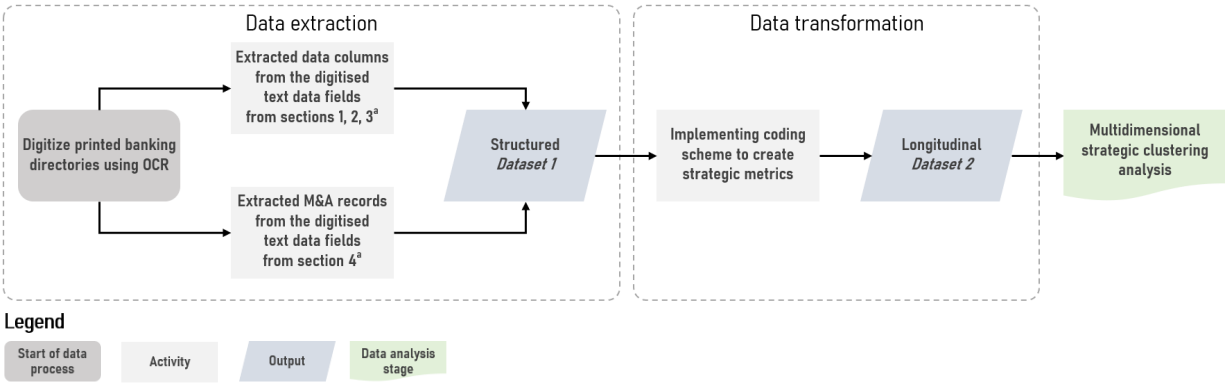
We selected a different edition (published in 2000, volume 6) of *The Banker's Almanac* to digitize the records on mergers, acquisitions, and absorptions by British overseas banks across all foreign markets, as this edition provided the most complete information for the global sector in a suitable format to create clear undistorted scanned images. We selected the 2000 edition of *The Banker's Almanac* for the data extraction, based on the completeness of information on banks' consolidations for the period of 1800–1980 and the suitability of the printed format of the source data to minimize image recognition errors during the digitization process. The total volume of digitized data on mergers and acquisitions was taken from section '*Bank Name Changes & Liquidations*' (Figure A8) and amounted to 141 pages (i.e., The Banker's Almanac, 2000, vol. 6, pp. 8176–8317).

Maximizing the recognition rates of text from scanned images through OCR requires that characters in the printed texts are identifiable and recognizable as well as known to the OCR model. We prevented these issues by scanning the selected sections of the banking directories in a high resolution to obtain sharp images of printed text. Next, we applied the advanced image pre-processing technology, based on Standard Template Library (STL) algorithms included in open-source 'Magick' R libraries (ImageMagick STL), configuring the algorithm settings to (1) reduce image noise, (2) normalize image color, (3) enhance color contrast, (4) re-position the images, (5) standardize page size, (6) segment separate pages, and (7) append images in year-batches. With the pre-OCR processing, we produced batches of images that capture separate (segmented) book pages in a standardized format, which we further used to run OCR with Tesseract 5 and Kofax engines, with a full-text recognition option. We also applied automatic text corrections using extensive multi-language libraries, incorporated in Tesseract and Kofax text recognition packages, thus also recognizing bank names recorded in languages other than English. To improve the OCR output, we configured OCR attributes to remove black borders and lines on sources images, as well as filtering out advertisements and margins.

Importantly, the banking information was recorded in printed free-text, meaning that the converted text-encoded images are inherently unstructured and are not readily analyzable by conventional analytical tools and models, which require data to be stored in a structured, tabular format. Therefore, we subsequently

converted the text-encoded images into structured datasets. Figure A1 provides a high-level overview of the data extraction from the banking directory sections and the subsequent data transformation workflow; whilst Figure A2 illustrates the multi-step data process in more detail. We standardized our data workflow so that it can be applied to data on firms in other sectors.

Figure A1. Data extraction and transformation workflow



[a] Source data sections of The Banker's Almanac:

1. 'List of Foreign and British Colonial Banks'
2. 'Alphabetical List of Foreign and Colonial Towns with Names of Banks and Bankers'
3. 'Advertisements'
4. 'Bank Name Changes & Liquidations'

Transforming the digitized data into structured Dataset 1

We used Tesseract and Kofax text recognition engines to automatically extract distinct data fields from the text-encoded images, including (1) bank name and the location of its head office (i.e., country and city), (2) bank incorporation date, its establishment mode (e.g., whether the bank was established as a new entity, a joint-venture, or through amalgamation), and market exit date, (3) locations of all bank branches in foreign countries and cities (outside of the UK), (4) countries and cities of banks' contractual interbank arrangements (outside of the UK), and the name of the foreign correspondent bank, as well as (5) mergers and acquisitions by British overseas banks in foreign countries and cities (outside of the UK), including target name, target location, deal year, and deal description. Data field (2) was used to identify the lifespan of each British overseas bank and create the data panel with a year-variable. We used data fields (3), (4), and (5) to identify banks' foreign market presence throughout their lifespan and differentiate between the types of foreign market entry modes used by the banks, i.e., greenfield establishments (FDI strategy), brownfield establishments (FDI strategy), and contractual arrangements (market and hybrid strategy).

To ensure the correct identification of the bank name in the source data ('entity identification', Figure A2), we created complete dictionaries with every alternative bank name spelling and abbreviation that appeared in the source documents throughout the studied period, and standardized those by linking each identified spelling to the bank's most recent legal name. We used the standardized list of banks' most recent legal names in our Tables and Figures for consistency and clarity of data visualizations. The banking directories used for the study offer an important advantage for the data extraction process and entity linking, as they report banks by their official legal names consistently across the annual volumes, with differences between banks names occurring when the bank's legal name changed.

We accomplished entity linking (see Figure A2) by assigning a unique identifier to each bank across all

years of its existence. To enable this, we tracked all name changes due to re-organizations and amalgamations, based on the establishment and history notes provided for each bank in '*British Banking: A Guide to Historical Records*' (Orbell & Turton, 2017) and *The Banking Almanac and Directory*, which we also cross-checked against the individual bank history information available in other digital archives of individual banks and comprehensive data appendices in bank history books (e.g., Jones, 1993; Nishimura, Suzuki, & Michie, 2012).

With source skepticism in mind, we cross-validated the digitized data against other sources to confirm that each subsidiary did indeed operate in a foreign market based on four criteria. Firstly, we cross-checked the consistency of bank presence across the consecutive issues of the banking directory and against the error registers (containing corrections to previous issues) within each issue. Secondly in validating the data on British overseas banks' internationalization profiles, we cross-checked the occurrence and years of branch formations and M&As across other digital archives of individual banks as well as bank history books (e.g., Jones, 1993; King, 2002; Nishimura, Suzuki, & Michie, 2012; Orbell & Turton, 2017). Thirdly, the timings of branch and inter-firm arrangements were cross-checked against banks' *'Advertisements'* section in the directory (Figure A7) as well as banks' records contained in *The Colonial Office List* for the years 1862–1939 (Figure A9). Finally, we verified actual market presence using records of allocated capital and acting local managers across the archival sources.

In the next step of the data workflow, we organized the extracted data fields in individual columns and used the assigned unique identifiers and year-variable to merge the digitized data into the structured *Dataset 1* (Figure A2). We illustrate the structure and data composition of *Dataset 1* in Table A1.

Constructing internationalization portfolios: longitudinal Dataset 2

The extracted data on banks' merger activity and other foreign market entry modes, i.e., foreign branches and interbank partnerships, integrated into *Dataset 1*, were transformed into a separate *Dataset 2*. The purpose of *Dataset 2* is to reconstruct the complete internationalization portfolios of British overseas banks (Figure A2). The internationalization portfolios captured banks' internationalization processes across the three strategic dimensions (space, mode, and time) and all foreign markets, throughout their entire lifetime.

We used the structured data fields (*Dataset 1*) to code a range of strategic metrics for the three strategic dimensions, namely, *spatial strategies*, *entry mode strategies*, and *timing strategies*. All strategic metrics were coded as time-variant variables (i.e., for each bank and each year) to trace the year-to-year changes in firm internationalization across multiple strategic dimensions, and thus, capturing the evolutionary process of multiplex internationalization strategies. We provide the detailed coding scheme that explains the construction of all longitudinal strategic metrics across the three strategic dimensions of space, mode, and time in Table A3 below. Subsequently, we used the assigned unique identifiers and coded strategic metrics to construct a longitudinally linked *Dataset 2*, which we used for multidimensional strategic clustering analysis. Table A2 illustrates the structure and data composition of *Dataset 2*.

Constructing the strategic metrics and internationalization portfolios would be unfeasible without data digitization through OCR, which enabled us to create the structured datasets needed to analyze how the internationalization strategies of British overseas banks evolved simultaneously across the space, mode, and time dimensions. Based on large-scale data digitization, we developed a longitudinal approach to studying

internationalization strategies, in contrast to the dominant approach in banking history research of relying on case study methodologies to provide historical overviews of the foreign operations of selected banks, without explicitly embedding internationalization frameworks. Importantly, the data digitization and transformation process enabled us to proceed with the multidimensional clustering analysis covering the entire population of British overseas banks, whilst future research can implement other longitudinal data modelling techniques to study firms' internationalization processes.

On the basis of this data process and analysis, we contribute to the international business field a coherent analytical approach embedding the key strategic dimensions of the multiplex internationalization process, traced throughout firms' entire lifetime, which can be replicated for studying the multiplex nature of internationalization strategies pursued by firms across various sectors and country-specific contexts. This analytical approach provides an important advantage for testing the internationalization theories across different industry contexts, in contrast to alternative analytical approaches based on single-case analysis.

Data availability

The digitized source documents and constructed datasets can be made available by the authors on request.

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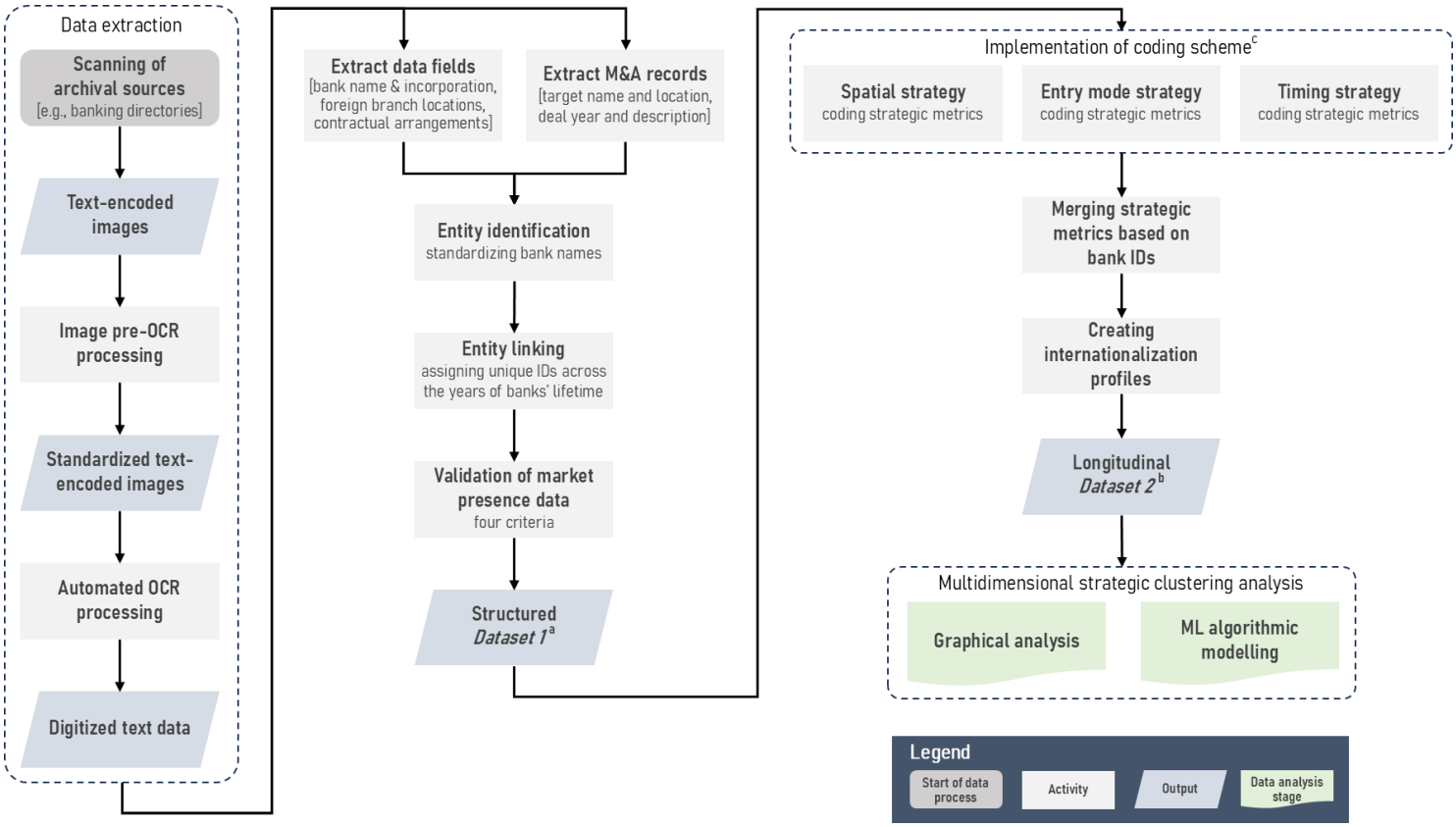
Figure A2. Detailed data extraction and transformation workflow



Notes

[a] see Table A1

[b] see Table A2

[c] the coding scheme is provided in Table A3

Table A1. The structure of Dataset 1: format of digitized data fields on foreign market entries

Firm ID	Firm establishment						Foreign market entries							
	Historic name	Recent legal name	Year of incorporation	Year ceased to exist	Lifespan (duration)	Establishment mode	Region	Country	City	Year of entry	Year of exit	Type of entry mode [Branch | M&A | CA]	Name of M&A target or CA partner	Description of the market entry
integer	*text*	*text*	*year*	*year*	*years*	*text*	*text*	*text*	*text*	*year*	*year*	*category*	*text*	*text*

Table A2. The structure of Dataset 2: format of firm internationalization portfolios and strategic metrics

Years since firm incorporation	Firm		Metrics: spatial strategy					Metrics: entry mode strategy				Metrics: timing strategy		
	Firm ID	Firm name	Foreign countries	Foreign regions	Regional diversification	Spatial transitions (FDI & CA)	Spatial transitions (FDI)	Foreign branches	Foreign M&As	Foreign CAs	Complementary mode	Time as International	Time to Multinational	Time to Multiregional
integer	*integer*	*text*	*count*	*count*	*ratio*	*count*	*count*	*count*	*count*	*count*	*category*	*interval*	*interval*	*interval*

Table A3. The construction of internationalization portfolios: coding scheme for time-variant strategic metrics

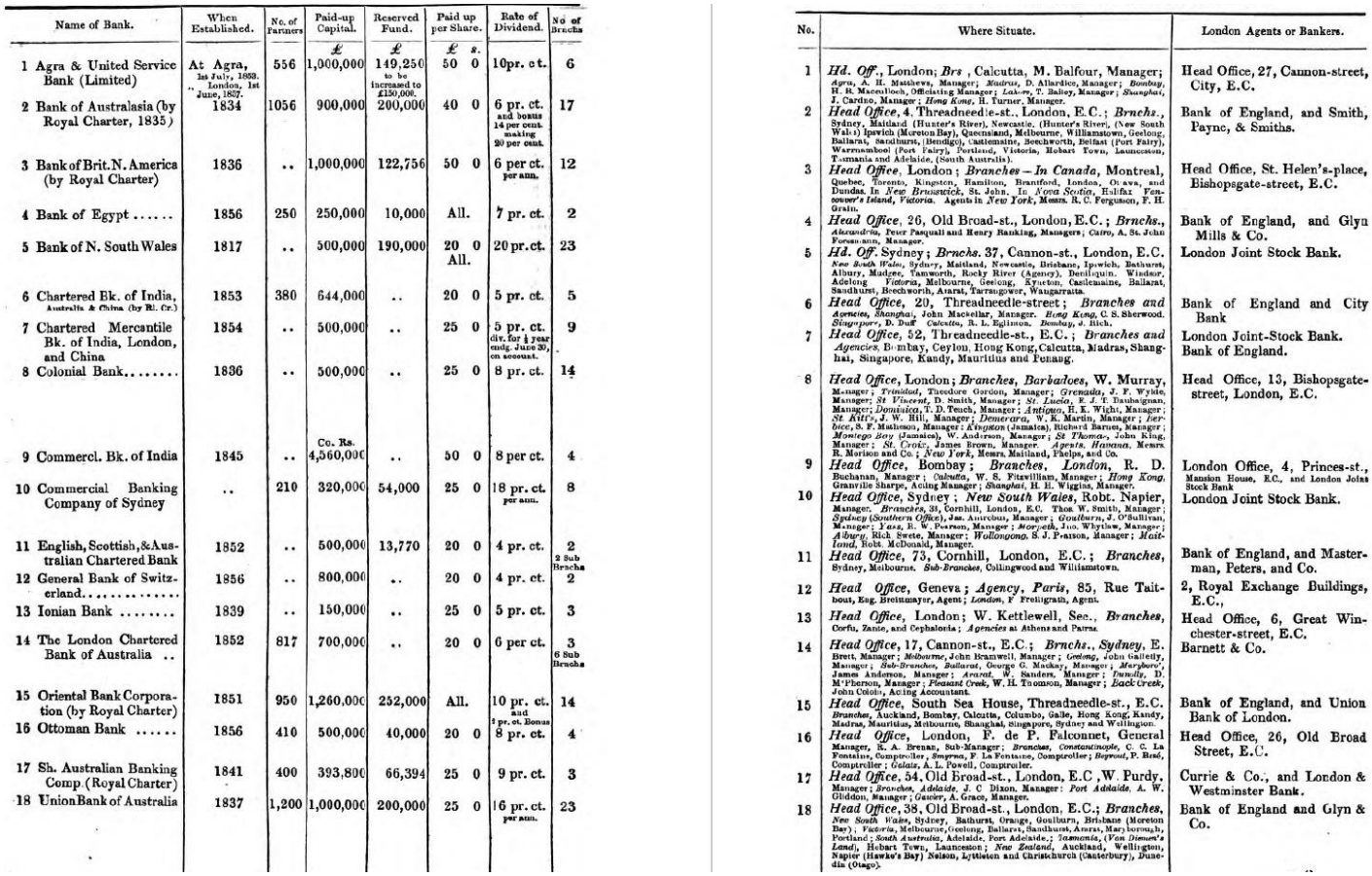
Metrics	Variable type and operationalized measure
Strategic dimension: Space [spatial strategies]	
Spatial position	**Code name:** *SD Space: Spatial position* **Type:** multicategorical variable [1,2,3,4] **Time:** time-variant variable across years **Coding:** the category [1,2,3,4] is assigned for each firm and each year, based on two criteria, i.e., the cumulative number of foreign countries and the cumulative number of foreign regions in which a firm established presence via branches, M&As, or contractual arrangements (CAs) by a specific year. **[1] International** Foreign countries [=1]: firm has market presence via branches, M&As, or CAs in one foreign country Foreign regions [=1]: firm has market presence via branches, M&As, or CAs in one foreign region **[2] Multinational** Foreign countries [>1]: firm has market presence via branches, M&As, or CAs in more than one foreign country Foreign regions [=1]: firm has market presence via branches, M&As, or CAs in one foreign region **[3] Multiregional** Foreign countries [>1]: firm has market presence via branches, M&As, or CAs in more than one foreign country Foreign regions [>1]: firm has market presence via branches, M&As, or CAs in more than one foreign region **[4] Transregional** Foreign countries [>1]: firm has market presence via branches, M&As, or CAs in more than one foreign country Foreign regions [>2]: firm has market presence via branches, M&As, or CAs in more than two foreign regions **Spatial strategy:** this metric captures the year-to-year changes in the firm's international diversification across foreign countries and regions.
Spatial transitions	**Code name:** *SD Space: Spatial transitions* **Type:** count variable [1,2,…,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the number of changes in spatial positions made by a firm throughout its lifetime, i.e., transitions between international [1], multinational [2], multiregional [3], and transregional [4] categories of the *Spatial Position* metric by a specific year. The spatial transition is defined as a change or move between two spatial positions made by a firm. For example, in a year when a firm established presence in the second foreign country within the same foreign region will be counted as one transition in its spatial position from international [1] to multinational [2], i.e.: **Spatial transition [=1]** Firm made one change or transition in its spatial position by a given year, e.g., by gradually transiting from international [1] to multinational [2] position, or leapfrogging from international [1] to multiregional [3] or transregional [4] position. **Spatial transition [=2]** Firm made two changes or transitions in its spatial position by a given year, e.g., by gradually transiting from international [1] to multinational [2] position, and then to multiregional [3] position. **Spatial strategy:** along with the *Spatial Position* metric, this metric captures the incremental or leapfrogging strategy pursued by a firm in its internationalization.
Foreign countries	**Code name:** *SD Space: Countries* **Type:** count variable [1,2,..,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the cumulative number of foreign countries in which a firm established presence by a specific year. **Spatial strategy:** this metric captures the year-to-year changes in the firm's international diversification across foreign countries.
Foreign regions	**Code name:** *SD Space: Regions* **Type:** count variable [1,2,..,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the cumulative number of foreign regions in which a firm established presence in a specific year. Eight regions were defined as Europe (outside of the UK), North America, Central America, South America, Middle East, Asia, Australasia, and Africa. **Spatial strategy:** this metric captures the year-to-year changes in the firm's regional diversification, as a proxy for the firm's ability to overcome cultural, institutional, and geographical distances in its internationalization.

Regional diversification	**Code name:** *SD Space: Regional diversification* **Type:** ratio variable [cont.] **Time:** time-variant variable across years **Coding:** the value was calculated as a ratio of foreign countries per foreign region for each firm and each year. **Spatial strategy:** this metric captures the year-to-year changes in the extent of the firm's diversification within foreign regions, as a proxy for the firm's regional business model, i.e., establishing regional centers versus an extensive regional base by integrating multiple countries within its regional network.
Strategic dimension: Mode [entry mode strategies]	
Foreign branches	**Code name:** *SD Mode: Branches* **Type:** count variable [1,2,..,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the cumulative number of foreign branches (subsidiaries or offices) established by a firm in foreign markets by a given year. **Entry mode strategy:** this metric captures the greenfield establishments as part of the entry mode strategy (i.e., the establishment mode) pursued by a firm on the course of its internationalization.
Foreign M&As	**Code name:** *SD Mode: MAs* **Type:** count variable [1,2,..,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the cumulative number of mergers and acquisitions (M&As) accomplished by a firm in foreign markets by a given year. **Entry mode strategy:** this metric captures the brownfield entry mode strategy (i.e., the establishment mode) pursued by a firm on the course of its internationalization.
Foreign CAs	**Code name:** *SD Mode: CAs* **Type:** count variable [1,2,..,n] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on the cumulative number of contractual arrangements and partnerships (CAs) established by a firm in foreign markets by in a given year. **Entry mode strategy:** this metric captures the hybrid entry mode strategy (i.e., the establishment mode) used by a firm on the course of its internationalization.
Complementary mode	**Code name:** *SD Mode: Complementary mode* **Type:** multicategorical variable [1,2,3] **Time:** time-variant variable across years **Coding:** the value is assigned for each firm and each year, based on how many types of entry modes a firm used by a given year. The three entry mode types are defined as 'Foreign branches' (greenfield FDI strategy), 'Foreign M&As' (brownfield FDI strategy), and 'Foreign CAs' (contractual or hybrid entry mode strategy). **Complementary mode [=1]** Firm used only one entry mode type to enter foreign markets by a given year, i.e., internationalizing via either 'Foreign branches', 'Foreign M&As', or 'Foreign CAs'. **Complementary mode [=2]** Firm used two entry mode types to enter foreign markets by a given year, i.e., internationalizing via 'Foreign branches' and 'Foreign M&As', 'Foreign branches' and 'Foreign CAs', or 'Foreign M&As' and 'Foreign CAs'. **Complementary mode [=3]** Firm used all three entry mode types to enter foreign markets by a given year, i.e., internationalizing via 'Foreign branches', 'Foreign M&As', and 'Foreign CAs'. **Entry mode strategy:** this metric captures the complementarity in entry mode strategies used by a firm in its internationalization, i.e., how many entry mode types a firm complemented within its internationalization portfolio.
Strategic dimension: Time [timing strategies]	
Time as international	**Code name:** *SD Time: International* **Type:** duration variable **Time:** time interval **Coding:** the value is assigned for each firm, based on the number of years during which a firm remained international, i.e., having market presence in one foreign country only (see coding for 'Spatial position [1]' above). **Entry mode strategy:** this metric captures timing between spatial transitions made by a firm on the course of its internationalization; and specifically, how much time a firm needed to accumulate resources, specific assets, and international experience before diversifying across other foreign markets, since it first became an international business.

Time to multinational	**Code name:** *SD Time: Multinational* **Type:** duration variable **Time:** time interval **Coding:** the value is assigned for each firm, based on the number of years that elapsed since a bank's incorporation and its transition into a multinational position. Multinational position is defined as firm having market presence in more than one foreign country within one foreign region (see coding for 'Spatial position [2]' above). **Entry mode strategy:** this metric captures timing between spatial transitions made by a firm on the course of its internationalization, which, when compared with the *Time as international* metric, allows differentiating between 'born global' strategies and gradual internationalization strategies whereby firms transitioned sequentially from domestic to international and, subsequently, multinational operations.
Time to multiregional	**Code name:** *SD Time: Multiregional* **Type:** duration variable **Time:** time interval **Coding:** the value is assigned for each firm, based on the number of years that elapsed since a bank's incorporation and its transition into a multiregional position. Multiregional position is defined as firm having market presence in more than one foreign region (see coding for 'Spatial position [3]' above). **Entry mode strategy:** this metric captures timing between spatial transitions made by a firm on the course of its internationalization; and specifically, when analyzed together with the other two *Time* metrics, indicates whether a firm was able to leverage its accumulated market knowledge and international experience to accelerate its diversification across world regions.

Source: *Dataset 1* (Table A1), based on the digitized data based on '*British Banking: A Guide to Historical Records*' (Orbell & Turton, 2017) and *The Banking Almanac and Directory* (1845–2000).

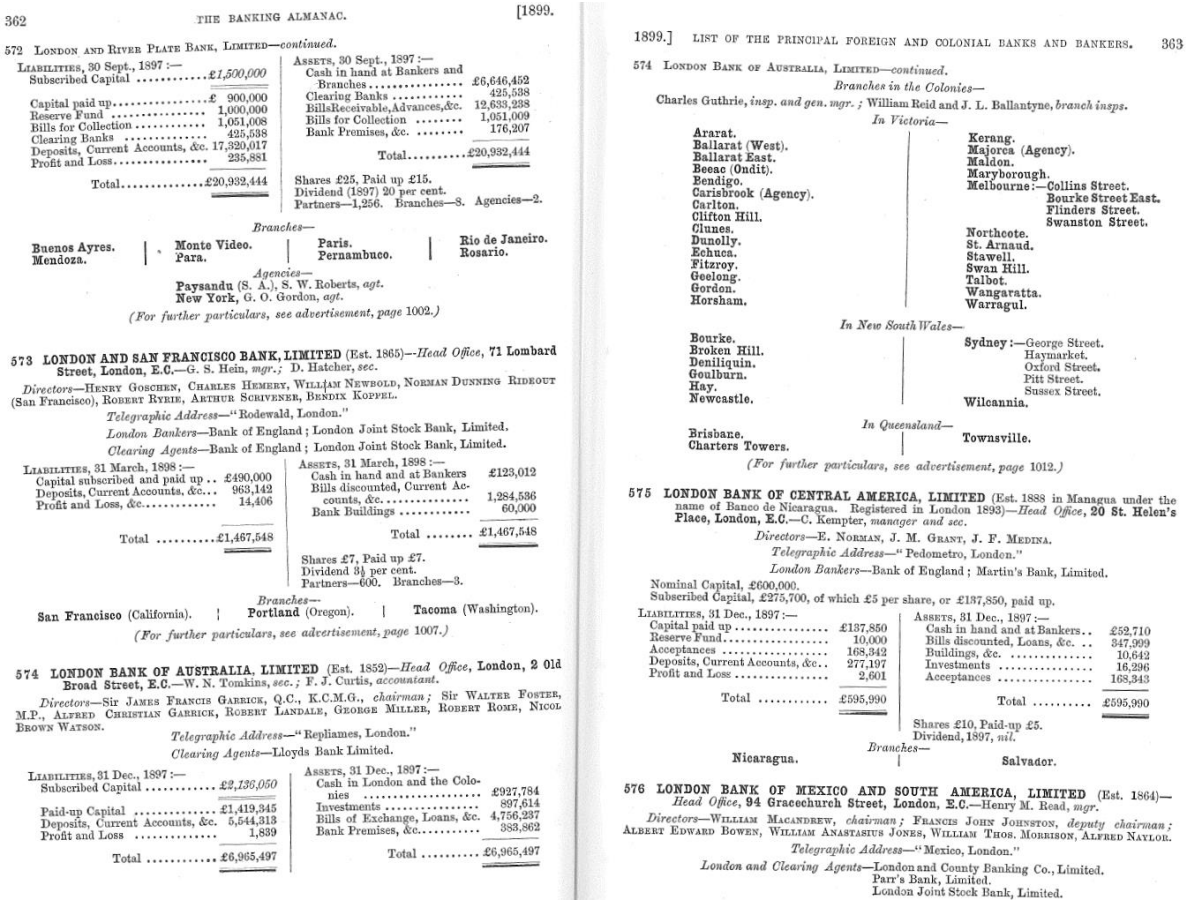
Figure A3. The data source: the list of foreign and British colonial banks (The Banking Almanac and Directory, 1860, pp. 130–131)



Name of Bank.	When Established.	No. of Partners	Paid-up Capital.	Reserved Fund.	Paid up per Share.	Rate of Dividend.	No of Branchs
			£	£	£ s.		
1 Agra & United Service Bank (Limited)	At Agra, 1st July, 1833. ,, London, 1st June, 1857.	556	1,000,000	149,250 to be increased to £150,000.	50 0	10pr. c t.	6
2 Bank of Australasia (by Royal Charter, 1835)	1834	1056	900,000	200,000	40 0	6 pr. ct. and bonus 14 per cent. making 20 per cent.	17
3 Bank of Brit. N. America (by Royal Charter)	1836	..	1,000,000	122,756	50 0	6 per ct. per ann.	12
4 Bank of Egypt	1856	250	250,000	10,000	All.	7 pr. ct.	2
5 Bank of N. South Wales	1817	..	500,000	190,000	20 0 All.	20 pr. ct.	23
6 Chartered Bk. of India, Australia & China (by Rl. Cr.)	1853	380	644,000	..	20 0	5 pr. ct.	5
7 Chartered Mercantile Bk. of India, London, and China	1854	..	500,000	..	25 0	5 pr. ct. div. for ½ year endg. June 30, on account.	9
8 Colonial Bank.....	1836	..	500,000	..	25 0	8 pr. ct.	14
9 Commercl. Bk. of India	1845	..	Co. Rs. 4,560,000	..	50 0	8 per ct.	4
10 Commercial Banking Company of Sydney	..	210	320,000	54,000	25 0	18 pr. ct. per ann.	8
11 English, Scottish, & Australian Chartered Bank	1852	..	500,000	13,770	20 0	4 pr. ct.	2 2 Sub Branchs
12 General Bank of Switzerland.....	1856	..	800,000	..	20 0	4 pr. ct.	2
13 Ionian Bank	1839	..	150,000	..	25 0	5 pr. ct.	3
14 The London Chartered Bank of Australia ..	1852	817	700,000	..	20 0	6 per ct.	3 6 Sub Branchs
15 Oriental Bank Corporation (by Royal Charter)	1851	950	1,260,000	252,000	All.	10 pr. ct. and 2 pr. ct. Bonus	14
16 Ottoman Bank	1856	410	500,000	40,000	20 0	8 pr. ct.	4
17 Sh. Australian Banking Comp. (Royal Charter)	1841	400	393,800	66,394	25 0	9 pr. ct.	3
18 Union Bank of Australia	1837	1,200	1,000,000	200,000	25 0	16 pr. ct. per ann.	23

No.	Where Situate.	London Agents or Bankers.
1	*Hd. Off.*, London; *Brs*, Calcutta, M. Balfour, Manager; *Agra*, A. H. Matthews, Manager; *Madras*, D. Allardice, Manager; *Bombay*, H. R. Macculloch, Officiating Manager; *Lahore*, T. Bailey, Manager; *Shanghai*, J. Cardno, Manager; *Hong Kong*, H. Turner, Manager.	Head Office, 27, Cannon-street, City, E.C.
2	*Head Office*, 4, Threadneedle-st., London, E.C.; *Brnchs.*, Sydney, Maitland (Hunter's River), Newcastle, (Hunter's River), (New South Wales) Ipswich (Moreton Bay), Queensland, Melbourne, Williamstown, Geelong, Ballarat, Sandhurst, (Bendigo), Castlemaine, Beechworth, Belfast (Port Fairy), Warrnambool (Port Fairy), Portland, Victoria, Hobart Town, Launceston, Tasmania and Adelaide, (South Australia).	Bank of England, and Smith, Payne, & Smiths.
3	*Head Office*, London; *Branches—In Canada*, Montreal, Quebec, Toronto, Kingston, Hamilton, Brantford, London, Ottawa, and Dundas. In *New Brunswick*, St. John. In *Nova Scotia*, Halifax Fenouver's Island, *Victoria*. Agents in *New York*, Messrs. B. C. Ferguson, F. H. Grain.	Head Office, St. Helen's-place, Bishopsgate-street, E.C.
4	*Head Office*, 26, Old Broad-st., London, E.C.; *Brnchs.*, Alexandria, Peter Pasquali and Henry Banking, Managers; *Cairo*, A. St. John Forsaman, Manager.	Bank of England, and Glyn Mills & Co.
5	*Hd. Off.* Sydney; *Brnchs.* 37, Cannon-st., London, E.C. *New South Wales*, Sydney, Maitland, Newcastle, Brisbane, Ipswich, Bathurst, Albury, Madgee, Tamworth, Rocky River (Agency), Deniliquin. Windsor, Adelong *Victoria*, Melbourne, Geelong, Eyuchon, Castlemaine, Ballarat, Sandhurst, Beechworth, Ararat, Tarrangower, Wangarratta.	London Joint Stock Bank.
6	*Head Office*, 20, Threadneedle-street; *Branches and Agencies*, Shanghai, John Macsellar, Manager. *Hong Kong*, C. S. Sherwood. *Singapore*, D. Duff *Calcutta*, R. L. Eglinton. *Bombay*, *d.* Rich.	Bank of England and City Bank
7	*Head Office*, 52, Threadneedle-st., E.C.; *Branches and Agencies*, Bombay, Ceylon, Hong Kong, Calcutta, Madras, Shanghai, Singapore, Kandy, Mauritius and Penang.	London Joint-Stock Bank. Bank of England.
8	*Head Office*, London; *Branches, Barbadoes*, W. Murray, Manager; *Trinidad*, Theodore Gordon, Manager; *Grenada*, J. F. Wylie, Manager; *St Vincent*, D. Smith, Manager; *St. Lucia*, F. J. T. Daubiagnan, Manager; *Dominica*, F. D. Teach, Manager; *Antigua*, H. E. Wight, Manager; *St. Kitts*, J. W. Hill, Manager; *Demerara*, W. K. Martin, Manager; *Berbice*, S. F. Matheson, Manager: *Kingston* (Jamaica), Richard Barnes, Manager; *Montego Bay* (Jamaica), W. Andrson, Manager; *St Thomas*, John King, Manager; *St. Croix*, James Brown, Manager. *Agents. Havanna*, Messrs. R. Morison and Co.; *New York*, Messrs. Maitland, Phelps, and Co.	Head Office, 13, Bishopsgate-street, London, E.C.
9	*Head Office*, Bombay; *Branches, London*, R. D. Buchanan, Manager; *Calcutta*, W. S. Fitzwilliam, Manager; *Hong Kong*, Granville Sharpe, Acting Manager; *Shanghai*, H. H. Wiggins, Manager.	London Office, 4, Princes-st., Mansion House, E.C. and London Joint Stock Bank
10	*Head Office*, Sydney; *New South Wales*, Robt. Napier, Manager. *Branches*, 39, Cornhill, London, E.C. Thos. W. Smith, Manager; *Sydney* (Southern Office), Jas. Aurcious, Manager; *Goulburn*, J. O'Sullivan, Manager; *Yass*, R. W. Pearson, Manager; *Morpeth*, Jno. Whytlaw, Manager; *Albury*, Rich. Swete, Manager; *Wollongong*, S. J. Pearson, Manager; *Maitland*, Robt. McDonald, Manager.	London Joint Stock Bank.
11	*Head Office*, 73, Cornhill, London, E.C.; *Branches*, Sydney, Melbourne. *Sub-Branches*, Collingwood and Williamstown.	Bank of England, and Masterman, Peters, and Co.
12	*Head Office*, Geneva; *Agency, Paris*, 85, Rue Taitbout, Eng. Breitmmayer, Agent; *London*, F Freligrath, Agent.	2, Royal Exchange Buildings, E.C.,
13	*Head Office*, London; W. Kettlewell, Sec., *Branches*, Corfu, Zante, and Cephalonia; *Agencies* at Athens and Patras.	Head Office, 6, Great Winchester-street, E.C.
14	*Head Office*, 17, Cannon-st., E.C.; *Brnchs., Sydney*, E. Brett, Manager; *Melbourne*, John Bramwell, Manager; *Geelong*, John Gallelly, Manager; *Sub-Branches, Ballarat*, George G. Mackay, Manager; *Maryboro'*, James Anderson, Manager; *Ararat*, W. Sanders, Manager; *Dunolly*, D. M'Pherson, Manager; *Pleasant Creek*, W. H. Thomson, Manager; *Back Creek*, John Colvin, Acting Accountant.	Barnett & Co.
15	*Head Office*, South Sea House, Threadneedle-st., E.C. *Branches*, Auckland, Bombay, Calcutta, Columbo, Galle, Hong Kong, Kandy, Madras, Mauritius, Melbourne, Shanghai, Singapore, Sydney and Wellington.	Bank of England, and Union Bank of London.
16	*Head Office*, London, F. de P. Falconnet, General Manager, K. A. Brenas, Sub-Manager; *Branches, Constantinople*, C. C. La Fontaine, Comptroller; *Smyrna*, F. La Fontaine, Comptroller; *Beyrout*, P. Brsé, Comptroller; *Galatz*, A. L. Powell, Comptroller.	Head Office, 26, Old Broad Street, E.C.
17	*Head Office*, 54, Old Broad-st., London, E.C, W. Purdy, Manager; *Branches, Adelaide*, J. C. Dixon, Manager: *Port Adelaide*, A. W. Gliddon, Manager; *Gawler*, A. Grace, Manager.	Currie & Co., and London & Westminster Bank.
18	*Head Office*, 38, Old Broad-st., London, E.C.; *Branches*, *New South Wales*, Sydney, Bathurst, Orange, Goulburn, Brisbane (Moreton Bay); *Victoria*, Melbourne, Geelong, Ballarat, Sandhurst, Ararat, Maryborough, Portland; *South Australia*, Adelaide, Port Adelaide,; *Tasmania*, (*Van Diemen's Land*), Hobart Town, Launceston; *New Zealand*, Auckland, Wellington, Napier (Hawke's Bay) Nelson, Ispitieton and Christchurch (Canterbury), Dunedin (Otago).	Bank of England and Glyn & Co.

Figure A4. The data source: the list of foreign and British colonial banks (The Banking Almanac and Directory, 1899, pp. 362–363)



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572 LONDON AND RIVER PLATE BANK, LIMITED—*continued.*

LIABILITIES, 30 Sept., 1897 :—		ASSETS, 30 Sept., 1897 :—	
Subscribed Capital	£1,500,000	Cash in hand at Bankers and Branches	£6,646,452
Capital paid up	£ 900,000	Clearing Banks	425,538
Reserve Fund	1,000,000	Bills Receivable, Advances, &c.	12,633,238
Bills for Collection	1,051,008	Bills for Collection	1,051,009
Clearing Banks	425,538	Bank Premises, &c.	176,207
Deposits, Current Accounts, &c.	17,320,017		
Profit and Loss	235,881	Total	£20,932,444
Total	£20,932,444		

Shares £25, Paid up £15.
Dividend (1897) 20 per cent.
Partners—1,256. Branches—8. Agencies—2.

Branches—

Buenos Ayres. | **Monte Video.** | **Paris.** | **Rio de Janeiro.**
Mendoza. | **Para.** | **Pernambuco.** | **Rosario.**

Agencies—

Paysandu (S. A.), S. W. Roberts, *agt.*
New York, G. O. Gordon, *agt.*

(For further particulars, see advertisement, page 1002.*)*

573 **LONDON AND SAN FRANCISCO BANK, LIMITED** (Est. 1865)—*Head Office,* **71 Lombard Street, London, E.C.**—G. S. Hein, *mgr.;* D. Hatcher, *sec.*

Directors—HENRY GOSCHEN, CHARLES HEMBERY, WILLIAM NEWBOLD, NORMAN DUNNING RIDEOUT (San Francisco), ROBERT RYRIE, ARTHUR SCRIVENER, BENDIX KOPPEL.

Telegraphic Address—"Rodewald, London."

London Bankers—Bank of England; London Joint Stock Bank, Limited.

Clearing Agents—Bank of England; London Joint Stock Bank, Limited.

LIABILITIES, 31 March, 1898 :—		ASSETS, 31 March, 1898 :—	
Capital subscribed and paid up	£490,000	Cash in hand and at Bankers	£123,012
Deposits, Current Accounts, &c.	963,142	Bills discounted, Current Accounts, &c.	1,284,536
Profit and Loss, &c.	14,406	Bank Buildings	60,000
Total	£1,467,548	Total	£1,467,548

Shares £7, Paid up £7.
Dividend 3½ per cent.
Partners—600. Branches—3.

Branches—

San Francisco (California). | **Portland** (Oregon). | **Tacoma** (Washington).

(For further particulars, see advertisement, page 1007.*)*

574 **LONDON BANK OF AUSTRALIA, LIMITED** (Est. 1852)—*Head Office,* **London, 2 Old Broad Street, E.C.**—W. N. Tomkins, *sec.;* F. J. Curtis, *accountant.*

Directors—Sir JAMES FRANCIS GARRICK, Q.C., K.C.M.G., *chairman;* Sir WALTER FOSTER, M.P., ALFRED CHRISTIAN GARRICK, ROBERT LANDALE, GEORGE MILLER, ROBERT ROME, NICOL BROWN WATSON.

Telegraphic Address—"Repliames, London."

Clearing Agents—Lloyds Bank Limited.

LIABILITIES, 31 Dec., 1897 :—		ASSETS, 31 Dec., 1897 :—	
Subscribed Capital	£2,136,050	Cash in London and the Colonies	£927,784
Paid-up Capital	£1,419,345	Investments	897,614
Deposits, Current Accounts, &c.	5,544,313	Bills of Exchange, Loans, &c.	4,756,237
Profit and Loss	1,839	Bank Premises, &c.	383,862
Total	£6,965,497	Total	£6,965,497

1899.] LIST OF THE PRINCIPAL FOREIGN AND COLONIAL BANKS AND BANKERS. 363

574 LONDON BANK OF AUSTRALIA, LIMITED—*continued.*

Branches in the Colonies—

Charles Guthrie, *insp. and gen. mgr.;* William Reid and J. L. Ballantyne, *branch insps.*

In Victoria—

Ararat.
Ballarat (West).
Ballarat East.
Beeac (Ondit).
Bendigo.
Carisbrook (Agency).
Carlton.
Clifton Hill.
Clunes.
Dunolly.
Echuca.
Fitzroy.
Geelong.
Gordon.
Horsham.
Kerang.
Majorca (Agency).
Maldon.
Maryborough.
Melbourne:—**Collins Street.**
Bourke Street East.
Flinders Street.
Swanston Street.
Northcote.
St. Arnaud.
Stawell.
Swan Hill.
Talbot.
Wangaratta.
Warragul.

In New South Wales—

Bourke.
Broken Hill.
Deniliquin.
Goulburn.
Hay.
Newcastle.
Sydney:—George Street.
Haymarket.
Oxford Street.
Pitt Street.
Sussex Street.
Wilcannia.

In Queensland—

Brisbane.
Charters Towers.
Townsville.

(For further particulars, see advertisement, page 1012.*)*

575 **LONDON BANK OF CENTRAL AMERICA, LIMITED** (Est. 1888 in Managua under the name of Banco de Nicaragua. Registered in London 1893)—*Head Office,* **20 St. Helen's Place, London, E.C.**—C. Kempter, *manager and sec.*

Directors—E. NORMAN, J. M. GRANT, J. F. MEDINA.

Telegraphic Address—"Pedometro, London."

London Bankers—Bank of England; Martin's Bank, Limited.

Nominal Capital, £600,000.
Subscribed Capital, £275,700, of which £5 per share, or £137,850, paid up.

LIABILITIES, 31 Dec., 1897 :—		ASSETS, 31 Dec., 1897 :—	
Capital paid up	£137,850	Cash in hand and at Bankers	£52,710
Reserve Fund	10,000	Bills discounted, Loans, &c.	347,999
Acceptances	168,342	Buildings, &c.	10,642
Deposits, Current Accounts, &c.	277,197	Investments	16,296
Profit and Loss	2,601	Acceptances	168,343
Total	£595,990	Total	£595,990

Shares £10, Paid-up £5.
Dividend, 1897, *nil.*

Branches—

Nicaragua. | **Salvador.**

576 **LONDON BANK OF MEXICO AND SOUTH AMERICA, LIMITED** (Est. 1864)—*Head Office,* **94 Gracechurch Street, London, E.C.**—Henry M. Read, *mgr.*

Directors—WILLIAM MACANDREW, *chairman;* FRANCIS JOHN JOHNSTON, *deputy chairman;* ALBERT EDWARD BOWEN, WILLIAM ANASTASIUS JONES, WILLIAM THOS. MORRISON, ALFRED NAYLOR.

Telegraphic Address—"Mexico, London."

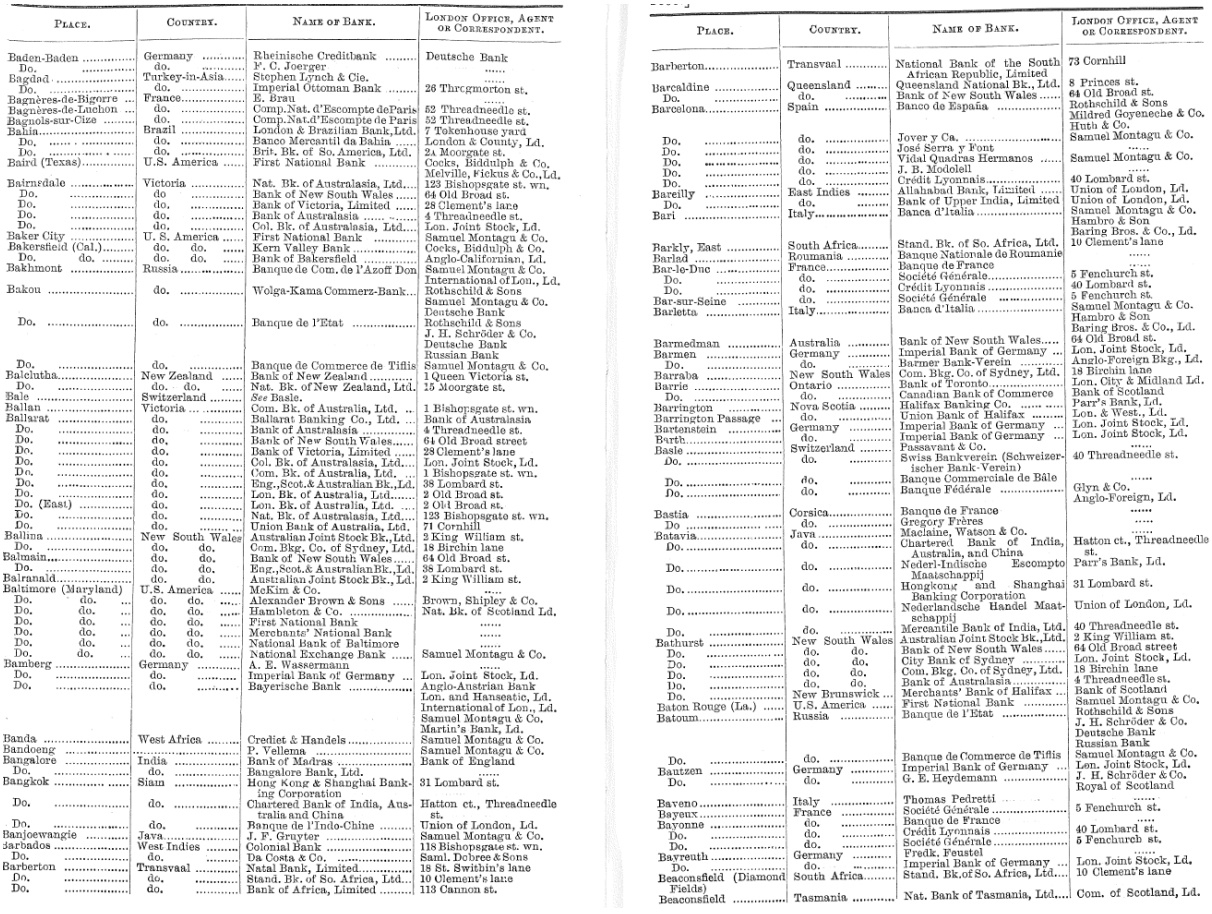
London and Clearing Agents—London and County Banking Co., Limited.
Parr's Bank, Limited.
London Joint Stock Bank, Limited.

Figure A5. The data source: the geographic register of city location of foreign banks and bankers (The Banking Almanac and Directory, 1860, pp. 132–133)

COLONIAL AND FOREIGN BANKS AND BANKERS.

ABBEVILLE.—Gavelle and Co.
ADELAIDE (South Australia). — Bank of Australia; Union Bank of Australia; South Australian Banking Company; English and Scottish Australian Bank; National Bank of Australasia.
AHLANOPLE.—John Kerr.
AGRA.—Branch of Agra and United Service Bank.
AIX-LA-CHAPELLE.—Oeder and Co.
ALEPPO.—Gibb, Calder and Co.
ALEXANDRIA (Africa).—Briggs&Co.
ALGIERS.—De M comble Frères.
ALICANT.—Wallace and Co.
ALLAHABAD.—Branch of Delhi Bank.
AMIENS.—Deforceville and Degore.
AMSTERDAM.—Hope and Co.; Stadnitski and Van Heukelom.
ANCONA.—Gallizc and Constantini.
ANTWERP.—Jules Ranscelot & Co.
ARARAT (Victoria). — Branch of Bank of New South Wales; Branch of Union Bank of Australia.
ATHENS.—Fred. Strong, & P. Scaludi; Branch of Ionian Bank, C. I. W. Merlin.
AUCKLAND (New Zealand).—Union Bank of Australia; Branch of Oriental Bank Corporation.
AVRANCHES.—Gilbert, junr.
BACK CREEK.—Branch of London Chartered Bank of Australia.
BADEN-BADEN.—Klose and Co.; G. Miller; T. S. Meyer.
BAHIA.—Douglas, Mills and Co.
BALE.—Vischer and Co.
BALLARAT (Victoria). — Branch of Bank of Australasia; Branch of Union Bank of Australia; Branch of Bank of New South Wales; Branch of Bank of Victoria.
BARBADOS. — Branch of Colonial Bank.
BARCELONA.—Joseph Roca.
BATHURST (New South Wales).—Union Bank of Australia; Branch of Bank of New South Wales; Australian Joint Stock Bank.
BAYONNE.—Rodrigues and Salzedo.
BERBICE.—Colonial Bank; British Guiana Bank, Demerara.
BERGEN.—Alexander Greig and Son.
BERLIN.—Schickler, Brothers; The Discount Company, A. Paderstein.
BERNE.—Marcuard and Co.
BESANÇON.—Jacquard and Co.
BEYROUT.—Duchesne, Stussy and Co.; Ottoman Bank.
BILBOA.—Uhagon and Son.
BLOIS.—A. Blanchon.
BOLOGNA.—G. B. Ranoli.
BOMBAY (India).—Agra and United Service Bank; Oriental Bank Corporation; Commercial Bank of India (Head Office); Chartered Bank of India, Australia and China; Chartered Mercantile Bank of India, London and China.
BONN.—J. Cahn.
BORDEAUX.—F. Samazeuilh & Son; J. J. Jemain.
BOSTON (United States). — Allen Neale and Co.
BOULOGNE.—S. M. Achille Adam; Alexander Adam and Co.; L. Fortaine and Lesage; Dubout & Co.
BREMEN.—S. Leuriman and Son; Bremen Bank.
BRESLAU.—Eichborn and Co.
BREST.—H. F. Guilhem.
BRISBANE (Queensland). — Union Bank of Australia; Branch of Bank of New South Wales.
BRUNSWICK.—Lobbecke, Brothers.
BRUSSELS.—Salter and Bigwood; F. Brugmann and Son.
CADIZ.—John D. Shaw.
CAEN.—F. Guilbert and Co.
CAIRO.—Briggs and Co.
CALAIS.—Bellart and Son; P. Bevot and Co.
CALCUTTA.—Oriental Bank Corporation; Branch of Agra and United Service Bank; Commercial Bank of India; Chartered Mercantile Bank of India, London and China; Chartered Bank of India, Australia and China.
CANTON (China). — Oriental Bank Corporation, P. Campbell; Commercial Bank of India; Chartered Mercantile Bank of India, London and China; Agra and United Service Bank.
CAPE TOWN.—Cape of Good Hope Bank.
CARLSBAD.—B. Gottl and Son.
CARLSRUHE.—A. Klose and Co.
CASSEL (Hesse).—Gebr. Goldschmidt.
CASTLEMAINE (Victoria).—Branch of Bank of Australasia; Branch of Bank of New South Wales.
CEPHALONIA.—J. Saunders; Barff, Hancock and Co.
CHAMONIX.—Charles Neyroni and Co.
CHERBOURG.—Manger, Brothers.
CHICAGO (U.S.).—G. Smith and Co.
CHRISTIANA.—A. Grüning and Co.
CHRIST CHURCH, CANTERBURY (New Zealand).—Union Bank of Australia.
CINCINNATI (United States).—J. P. Meline and Co.
COBLENTZ.—Delnhard and Jordan.
COLOGNE.—A. Schaaffhausen's Union Bank.
COLOMBO (Ceylon).—Chartered Mercantile Bank of India, London and China; Oriental Bank Corporation.
CONSTANCE.—Macaire and Co.
CONSTANTINOPLE.—C. S. Hanson & Co.; Branch of Ottoman Bank.
COPENHAGEN.—Smidt and Le Maire.
CORUNA.—Edward Santos.
DAMASCUS.—Giorgio Marcopoli.
DANTZIC.—G. Tonniges and Co.
DELHI (India).—Delhi Bank.
DEMERARA. — Branch of Colonial Bank; British Guiana Bank.
DENILIQUIN (New South Wales).—Bank of New South Wales.
DIEPPE.—Osmond, Dufour and Co.
DIJON.—Marion and Co.
DOMINICA. Branch of Colonial Bank.
DRESDEN.—H. G. Bassenge and Co.
DRONTHEIM.—Jonssen and Co.
DUNKIRK.—V D. Morel and Son.
D'URBAN (Port Natal).—Natal Bank
DUSSELDORF.—Baum & Co.
ELSINORE.—Fenwick and Co.
EMS.—Deinhard and Jordan.
FLORENCE.—E. Fenzi and Co.; Plowden and French; Maquay and Pakenham.
FRANKFORT-ON-MAINE. — Gogel, Koch and Co.; Grünebaum and Ballin.
FREDERICTON (New Brunswick).—Central Bank of New Brunswick.
GALATZ.—Branch of Ottoman Bank.
GALENA (U.S.).—J. Carter and Co.
GALLE (Ceylon). — Oriental Bank Corporation
GAWLER (South Australia). Branch of South Australian Banking Co.
GEELONG (Victoria).—Bank of Victoria; Bank of Australasia; Union Bank of Australia; National Bank of Australasia; Colonial Bank of Australasia.
GENEVA. — Lombard, Odier and Co. General Bank of Switzerland.
GENOA.—Grants, Balfour and Co.
GHENT.—Bank of Flanders.
GIBRALTAR.—Archbold Johnson and Powers.
GÖTTENBURG.—D. Carnegie and Co.
GOTTINGEN.—H. F. Klotwig & Son.
GOULBURN—(N. S. W.) Union Bank of Australia; Com. Bank of Sydney.
GRAHAM'S TOWN (Cape).—Frontier Commercial & Agricultural Banking Co.; Eastern Province Bank.
GRENADA. Branch of Colonial Bank.
GUERNSEY.—Commercial Bank.
HAGUE, THE.—Overklift and Co.
HALIFAX (Nova Scotia). Bank of British N. America; Bank of Nova Scotia; Union Bank of Halifax.
HAMBURGH.—J. Berenberg and Co.; Vereins Bank.
HAMILTON (Canada).—Gore Bank; Bank of British North America; Bank of Upper Canada.
HANOVER.—Leffman and Abraham Cohen; Bank of Hanover.
HAVANA.—R. Morison & Co., Agents
HAVRE DE GRACE.—C. Dubois and Co.; Commercial Bank of Havre.
HAWKE'S BAY (New Zealand).—Union Bank of Australia.
HEIDELBURGH.—W. Köster & Co.
HOBART TOWN (Tasmania). Bank of Australasia; Union Bank of Australia; Bank of Van Diemen's Land; Commercial Bank of Tasmania.
HOMBURG.—B. J. Geldschmidt.
HONGKONG (China).—Oriental Bank Corporation; Chartered Mercantile Bank of India, London and China; Chartered Bank of India, Australia and China; Commercial Bank of India.
INSPRUCK.—F. J. Habtmann.
IPSWICH (Queensland).—Bank of Australasia; Bank of N.S.Wales.
JERUSALEM.—M P. Bergheim.
KANDY (Ceylon).—Oriental Bank Corporation; Mercantile Bank of India, London, and China.
KIEL.—Klotz and Son.
KINGSTON (Jamaica).— Branch of Colonial Bank.
KINGSTON (Canada). — Branch of Bank of British North America; Commercial Bank of Canada.
KISHINOFF.—E. Maalick.
LAHORE. — Franch of Agra and United Service Bank.
LAUNCESTON (Tasmania).—Branch of Bank of Australasia; Union Bank of Australia.
LEGHORN.—Grants & Co.; Maquay Pakenham and Smyth.
LEIPSIC.—Frege and Co.
LIEGE.—Nagelmackers and Corfontaine.
LILLE.—Le Comptoir d'Escompte de l'Arrondissement de Lille.
LISBON.—Wm. Wynn.
LUBECK.—W. Marthy.
LUCCA.—Fran. Petri.
LUCKNOW.—F. Knörr & Fils.
LYONS.—Guerin and Sons; J. and S. Symon.
LYTTELTON (New Zealand).—Union Bank of Australia.
MADEIRA.—Stoddart and Co.; Cossart Gordon and Co.; Wm. Grant.
MADRAS.—Arbuthnot & Co.; Branch of Chartered Mercantile Bank of England, London, and China; Oriental Bank Corporation; Branch of Agra and United Service Bank.
MADRID.—O'Shea and Co.
MAITLAND, HUNTER'S RIVER (N.S.W.) Bank of Australasia; Bank of New South Wales.
MALAGA.—John Giro.
MALTA.—Jas Bell and Co.
MANHEIM.—H. L. Hohenemser & Co.
MANILA.—J. M. Tuason and Co.
MANTUA.—The Heirs of D. Bassano.
MARSEILLES.—Pascal, Son and Co.; Robt. Gower and Co.
MARYBOROUGH (Victoria).—Branch of Union Bank of Australia.
MAYENCE.—G. L. Kayser.
MELBOURNE (Victoria.) — Bank of Australasia; Union Bank of Australia; Colonial Bank of Australasia; Bank of Victoria; Bank of New South Wales; London Chartered Bank of Australia; English, Scottish, and Australian Chartered Bank; Oriental Bank Corporation; Edw. Khull; National Bank of Australasia.
MESSINA.—Caillet and Co.
METZ.—F. J. Chedeaux.
MILAN.—Ulrich and Co.; Carli feu Thomas and Co.
MODENA.—The Heirs of B. Sanguinetti.
MONTEGO BAY (Jamaica).—Branch of Colonial Bank, W. Anderson.
MONTPELLIER. — Blonquier and Westphal.
MONTREAL (Canada).— Commercial Bank of the Midland District; City Bank of Montreal; Bank of Upper Canada; Bank of Montreal. H. Chapman and Co.
MOSCOW.—A. Marc and Co.
MUNICH.—Robert de Frosilich & Co.
NANCY.—Elie Bailly; Lenglet & Co.
NANTES.—Gouin, Père, Fils and Co.
NAPLES.—Iguilden and Co.; Rothschild and Co.
NELSON (New Zealand). — Union Bank of Australia.
NEUFCHATEL.—Pury and Co.
NEWCASTLE, HUNTER'S RIVER, (N.S.W.)—Bank of Australasia; Bank of New South Wales.
NEWFOUNDLAND.—Union Bank.
NEW ORLEANS.— Southern Bank; Canal and Banking Company.
NEW YORK.—Maitland, Phelps & Co., Agents; R. C. Fergusson, F. H. Grain, Agents of Duncan, Sherman & Co.; Badcock, Brothers & Co.; Bank of the Republic: Bank of Commerce: Ballin & Sander.
NIAGARA.—Bank of Upper Canada.
NICE.—E. Carlone and Co.
NISMES.—Veante, Abric and Co.
NUREMBERG.—Loedel and Merkel.
ODESSA.—Ernst, Mahs and Co.
OPORTO.—Van Zellers & Co.; Mercantile Bank of Oporto.
ORLEANS.—Dagnet, Senr., and Co.
OSTEND.—F. A. Bellecroche.
OTAGO (New Zealand).—Branch of Union Bank of Australia.
OTTAWA (Canada).—Bank of British N. America; Bank of Montreal.
PALERMO.—Morrison, Seager and Co.; Chr. Fischer.
PARIS.—P. Gill & Co.; F. M. Chaigneau; Luke Callaghan & Co.; M. Ferrers Lafitte; Mallet Frères; Charles Lafitte & Co.; Lecuyer & Co.; Desmarest & Dueoing; A. Marcuard & Co.; Edw. Blount & Co.; Widow of Thos. de Lisle & Co.; Branch of General Bank of Switzerland; Leon Lillo & Co.; F. S. Balin & Co.
PARMA.—L. Laurent.
PATRAS.—Barff, Hancock and Co.; Ionian Bank, W. R. Yardley.
PAU.—Bergerot and Co.; W. Taylor.
PESTH.—C. T. Malvieux.
PICTOU.—Bank of Montreal.
PIETERMARITZBURG.—Natal Bank.
PISA.—F. Pevereda.
PORT ADELAIDE (South Australia). —Union Bank of Australia; South Australian Banking Company.
PORTLAND (Victoria).—Union Bank of Australia; Bank of Australasia.
PORT LOUIS (MAURITIUS).—Oriental Bank Corporation; Chartered Bank of India, London & China.
PORT STANLEY.—Bank of Montreal.
PRAGUE.—Leopold Lasenel.
PRESSBURG.—Jos. Scherz.
PRINCE EDWARD ISLAND, Bank of.
QUEBEC (Canada).— City Bank; Bank of British North America; Bank of Montreal; Bank of Quebec; Commercial Bank of Canada; Bank of Upper Canada.
QUEENSLAND (New South Wales).—Union Bank of Australia; Branch of Bank of New South Wales.
RAGLAN (Australia).—Bank of Victoria.
RHEIMS.—Ruinart and Son.
RIGA.—Jacobs and Co.
RIO DE JANEIRO.—Faria, Brothers; Bank of Brazil.
ROME.—Freebon and Co.; Torlonia and Co.; Pakenham, Hooker and Co.; Plowden, Chomeley and Co.
ROTTERDAM.—Crujs van Casteel & Co.; Schurmans, Gerrit & Sons.
ROUEN.—Delafosse, Frères.
SALONIA.—Charles Blunt.
SALZBURG.—J. Spath, Junr.
SANDHURST, BENDIGO (Victoria).—Bank of Australasia; Union Bank of Australia; Bank of New South Wales; Colonial Bank of Australasia.
SCHAFFHAUSEN.—Tobie, Hurter and Co.
SEMLIN.—C. R. Thomics.
SEVILLE.—Cahill, White and Beck.
SHANGHAI (China). — Chartered Mercantile Bank of India, London and China; Oriental Bank Corporation; Chartered Bank of India, Australia and China; Commercial Bank of India.
SINGAPORE.—Chartered Mercantile Bank of India, London and China; Oriental Bank Corporation; Chartered Bank of India, Australia and China.
SMYRNA.—Hanson & Co.; Branch of Ottoman Bank.
SPA.—Henry Hayemal.
ST. CROIX. — Branch of Colonial Bank, J. Brown.
ST. GALLEN.—J. J. Mayer, Junr.
ST. JOHN'S (Newfoundland).—Commercial Bank of Newfoundland.
ST. JOHN (N. B.).—Bank of British North America; Commercial Bk.; Bank of New Brunswick.
ST KITTS.—Branch of Colonial Bank J. W. Hill.
ST. LUCIA.—Branch of Colonial Bank.
ST. MALO.—Thomas, fils and V. Duclodieux.
ST. OMER.—A. Cafflel.
ST. PETERSBURGH.—Stieglitz & Co.
ST. SEBASTIAN.—J. and F. Brunet.
ST. THOMAS. — Colonial Bank, J. King; Bank of St. Thomas.
ST. VINCENT —Colonial Bank.
STOCKHOLM.—Teddie and Arfwedson; Stockholm Joint Stock Bank
STRALSUND.—F. A. Spalding.
STRASBURG.—Renouard de Bussière.
STUTTGARD.—Sons of G. H. Keller.
SYDNEY (N. S. W.).—Union Bank of Australia; Branch of Oriental Bank Corporation; Commercial Bank of Sydney; Bank of New South Wales; Australian Joint Stock Bank; Bank of Australia; English, Scottish and Australian Chartered Bank.
TORONTO (Upper Canada).—Bank of Upper Canada; City Bank of Montreal; Commercial Bank of Midland District; R. H. Brett and Co (Exchange Bank); Bank of Toronto; Bank of Montreal.
TOULON.—Trabaud, Brothers.
TOULOUSE.—Courtois and Co.
TOURS.—Gouin, Brothers.
TREVES.—Ruverchon and Co.
TRIESTE.—Grant, Brothers and Co.; Moore and Co.
TRINIDAD.—Colonial Bank, T. Gordon
TURIN.—Nigra, Brothers.
UTRECHT.—Vlaer and Kol.
VALENCIENNES.—E. Lefebvre and Co.
VALENCIA.—White, Llano & Yague
VENICE.—Schielin, Brothers.
VERONA.—Giovanni Smania.
VICTORIA (Port Philip). — Union Bank of Australia.
VICTORIA (Vancouver's Island).—Bank of British North America.
VIENNA.—M. H. Weikersheim & Co.
WANGARATTA (Victoria).—Branch of Bank of New South Wales.
WARSAW.—S. A. Fraenkel.
WEIMAR.—Julius Elkan.
WELLINGTON (New Zealand). — Union Bank of Australia; Branch of Oriental Bank Corporation.
WEST MAITLAND.—Australian Joint Stock Bank.
WIESBADEN.—M. Berle.
WILLIAMSTOWN (Victoria).—Branch of Bank of Australasia; Sub-Branch of English, Scottish and Australian Chartered Bank.
WINDSOR (Canada). — Branch of Bank of Upper Canada; Commercial Bank of Canada.
WOOLSTOCK (Canada).—Gore Bank; Branch of Bank of Montreal
WOOLONGOOT. — Commercial Bank of Sydney.
YVERDUN.—Chas. Constancon.
ZANTE.—Ionian Bank, J. Lindsey, Manager; Barff, Hancock and Co.
ZURICH.—Gaspard, Schulthess and Co.

Figure A6. The data source: the geographic register of city location of foreign banks and bankers (The Banking Almanac and Directory, 1899, pp. 608–609)



Place.	Country.	Name of Bank.	London Office, Agent or Correspondent.
Baden-Baden	Germany	Rheinische Creditbank	Deutsche Bank
Do.	do.	F. C. Joerger	.....
Bagdad	Turkey-in-Asia	Stephen Lynch & Cie.	.....
Do.	do.	Imperial Ottoman Bank	26 Throgmorton st.
Bagnères-de-Bigorre	France	E. Bran	.....
Bagnères-de-Luchon	do.	Comp.Nat. d'Escompte deParis	52 Threadneedle st.
Bagnols-sur-Cize	do.	Comp.Nat.d'Escompte de Paris	52 Threadneedle st.
Bahia	Brazil	London & Brazilian Bank,Ltd.	7 Tokenhouse yard
Do.	do.	Banco Mercantil da Bahia	London & County, Ld.
Do.	do.	Brit. Bk. of So. America, Ltd.	24 Moorgate st.
Baird (Texas)	U.S. America	First National Bank	Cocks, Biddulph & Co.
			Melville, Fickus & Co.,Ld.
Bairnsdale	Victoria	Nat. Bk. of Australasia, Ltd.	123 Bishopsgate st. wn.
Do.	do	Bank of New South Wales	64 Old Broad st.
Do.	do.	Bank of Victoria, Limited	28 Clement's lane
Do.	do.	Bank of Australasia	4 Threadneedle st.
Do.	do.	Col. Bk. of Australasia, Ltd.	Lon. Joint Stock, Ld.
Baker City	U. S. America	First National Bank	Samuel Montagu & Co.
Bakersfield (Cal.)	do. do.	Kern Valley Bank	Cocks, Biddulph & Co.
Do. do.	do. do.	Bank of Bakersfield	Anglo-Californian, Ld.
Bakhmont	Russia	Banque de Com. de l'Azoff Don	Samuel Montagu & Co.
			International of Lon., Ld.
Bakou	do.	Wolga-Kama Commerz-Bank	Rothschild & Sons
			Samuel Montagu & Co.
			Deutsche Bank
Do.	do.	Banque de l'Etat	Rothschild & Sons
			J. H. Schröder & Co.
			Deutsche Bank
			Russian Bank
Do.	do.	Banque de Commerce de Tiflis	Samuel Montagu & Co.
Balclutha	New Zealand	Bank of New Zealand	1 Queen Victoria st.
Do.	do. do.	Nat. Bk. of New Zealand, Ltd.	15 Moorgate st.
Bale	Switzerland	*See* Basle.	
Ballan	Victoria	Com. Bk. of Australia, Ltd.	1 Bishopsgate st. wn.
Ballarat	do.	Ballarat Banking Co., Ltd.	Bank of Australasia
Do.	do.	Bank of Australasia	4 Threadneedle st.
Do.	do.	Bank of New South Wales	64 Old Broad street
Do.	do.	Bank of Victoria, Limited	28 Clement's lane
Do.	do.	Col. Bk. of Australasia, Ltd.	Lon. Joint Stock, Ld.
Do.	do.	Com. Bk. of Australia, Ltd.	1 Bishopsgate st. wn.
Do.	do.	Eng.,Scot.&Australian Bk.,Ld.	38 Lombard st.
Do.	do.	Lon. Bk. of Australia, Ltd.	2 Old Broad st.
Do. (East)	do.	Lon. Bk. of Australia, Ltd.	2 Old Broad st.
Do.	do.	Nat. Bk. of Australasia, Ltd.	123 Bishopsgate st. wn.
Do.	do.	Union Bank of Australia, Ltd.	71 Cornhill
Ballina	New South Wales	Australian Joint Stock Bk.,Ltd.	2 King William st.
Do.	do. do.	Com. Bkg. Co. of Sydney, Ltd.	18 Birchin lane
Balmain	do. do.	Bank of New South Wales	64 Old Broad st.
Do.	do. do.	Eng.,Scot.& AustralianBk.,Ld.	38 Lombard st.
Balranald	do. do.	Australian Joint Stock Bk., Ld.	2 King William st.
Baltimore (Maryland)	U.S. America	McKim & Co.	.....
Do. do.	do. do.	Alexander Brown & Sons	Brown, Shipley & Co.
Do. do.	do. do.	Hambleton & Co.	Nat. Bk. of Scotland Ld.
Do. do.	do. do.	First National Bank	.....
Do. do.	do. do.	Merchants' National Bank	.....
Do. do.	do. do.	National Bank of Baltimore	.....
Do. do.	do. do.	National Exchange Bank	Samuel Montagu & Co.
Bamberg	Germany	A. E. Wassermann	.....
Do.	do.	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Do.	do.	Bayerische Bank	Anglo-Austrian Bank
			Lon. and Hanseatic, Ld.
			International of Lon., Ld.
			Samuel Montagu & Co.
			Martin's Bank, Ld.
Banda	West Africa	Crediet & Handels	Samuel Montagu & Co.
Bandoeng		P. Vellema	Samuel Montagu & Co.
Bangalore	India	Bank of Madras	Bank of England
Do.	do.	Bangalore Bank, Ltd.	.....
Bangkok	Siam	Hong Kong & Shanghai Banking Corporation	31 Lombard st.
Do.	do.	Chartered Bank of India, Australia and China	Hatton ct., Threadneedle st.
Do.	do.	Banque de l'Indo-Chine	Union of London, Ld.
Banjoewangie	Java	J. F. Gruyter	Samuel Montagu & Co.
Barbados	West Indies	Colonial Bank	118 Bishopsgate st. wn.
Do.	do.	Da Costa & Co.	Saml. Dobree & Sons
Barberton	Transvaal	Natal Bank, Limited	18 St. Swithin's lane
Do.	do.	Stand. Bk. of So. Africa, Ltd.	10 Clement's lane
Do.	do.	Bank of Africa, Limited	113 Cannon st.

Place.	Country.	Name of Bank.	London Office, Agent or Correspondent.
Barberton	Transvaal	National Bank of the South African Republic, Limited	73 Cornhill
Barcaldine	Queensland	Queensland National Bk., Ltd.	8 Princes st.
Do.	do.	Bank of New South Wales	64 Old Broad st.
Barcelona	Spain	Banco de España	Rothschild & Sons
			Mildred Goyeneche & Co.
			Huth & Co.
Do.	do.	Jover y Ca.	Samuel Montagu & Co.
Do.	do.	José Serra y Font	.....
Do.	do.	Vidal Quadras Hermanos	Samuel Montagu & Co.
Do.	do.	J. B. Modolell	.....
Do.	do.	Crédit Lyonnais	40 Lombard st.
Bareilly	East Indies	Allahabad Bank, Limited	Union of London, Ld.
Do.	do.	Bank of Upper India, Limited	Union of London, Ld.
Bari	Italy	Banca d'Italia	Samuel Montagu & Co.
			Hambro & Son
			Baring Bros. & Co., Ld.
Barkly, East	South Africa	Stand. Bk. of So. Africa, Ltd.	10 Clement's lane
Barlad	Roumania	Banque Nationale de Roumanie	.....
Bar-le-Duc	France	Banque de France	.....
Do.	do.	Société Générale	5 Fenchurch st.
Do.	do.	Crédit Lyonnais	40 Lombard st.
Bar-sur-Seine	do.	Société Générale	5 Fenchurch st.
Barletta	Italy	Banca d'Italia	Samuel Montagu & Co.
			Hambro & Son
			Baring Bros. & Co., Ld.
Barmedman	Australia	Bank of New South Wales	64 Old Broad st.
Barmen	Germany	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Do.	do.	Barmer Bank-Verein	Anglo-Foreign Bkg., Ld.
Barraba	New South Wales	Com. Bkg. Co. of Sydney, Ltd.	18 Birchin lane
Barrie	Ontario	Bank of Toronto	Lon. City & Midland Ld.
Do.	do.	Canadian Bank of Commerce	Bank of Scotland
Barrington	Nova Scotia	Halifax Banking Co.	Parr's Bank, Ld.
Barrington Passage	do.	Union Bank of Halifax	Lon. & West., Ld.
Bartenstein	Germany	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Barth	do.	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Basle	Switzerland	Passavant & Co.	.....
Do.	do.	Swiss Bankverein (Schweizerischer Bank-Verein)	40 Threadneedle st.
Do.	do.	Banque Commerciale de Bâle	.....
Do.	do.	Banque Fédérale	Glyn & Co.
			Anglo-Foreign, Ld.
Bastia	Corsica	Banque de France	.....
Do	do.	Gregory Frères	.....
Batavia	Java	Maclaine, Watson & Co.	.....
Do.	do.	Chartered Bank of India, Australia, and China	Hatton ct., Threadneedle st.
Do.	do.	Nederl-Indische Escompto Maatschappij	Parr's Bank, Ld.
Do.	do.	Hongkong and Shanghai Banking Corporation	31 Lombard st.
Do.	do.	Nederlandsche Handel Maatschappij	Union of London, Ld.
Do.	do.	Mercantile Bank of India, Ltd.	40 Threadneedle st.
Bathurst	New South Wales	Australian Joint Stock bk.,Ltd.	2 King William st.
Do.	do. do.	Bank of New South Wales	64 Old Broad street
Do.	do. do.	City Bank of Sydney	Lon. Joint Stock, Ld.
Do.	do. do.	Com. Bkg. Co. of Sydney, Ltd.	18 Birchin lane
Do.	do. do.	Bank of Australasia	4 Threadneedle st.
Do.	New Brunswick	Merchants' Bank of Halifax	Bank of Scotland
Baton Rouge (La.)	U.S. America	First National Bank	Samuel Montagu & Co.
Batoum	Russia	Banque de l'Etat	Rothschild & Sons
			J. H. Schröder & Co.
			Deutsche Bank
			Russian Bank
Do.	do.	Banque de Commerce de Tiflis	Samuel Montagu & Co.
Bautzen	Germany	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Do.	do.	G. E. Heydemann	J. H. Schröder & Co.
			Royal of Scotland
Baveno	Italy	Thomas Pedretti	.....
Bayeux	France	Société Générale	5 Fenchurch st.
Bayonne	do.	Banque de France	.....
Do.	do.	Crédit Lyonnais	40 Lombard st.
Do.	do.	Société Générale	5 Fenchurch st.
Bayreuth	Germany	Fredk. Feustel	.....
Do.	do.	Imperial Bank of Germany	Lon. Joint Stock, Ld.
Beaconsfield (Diamond Fields)	South Africa	Stand. Bk. of So. Africa, Ltd.	10 Clement's lane
Beaconsfield	Tasmania	Nat. Bank of Tasmania, Ltd.	Com. of Scotland, Ld.

Figure A7. The data source: 'Advertisements' section with banks' overseas locations (The Banking Almanac, 1860, pp. 182–183)

ORIENTAL BANK CORPORATION.

(INCORPORATED BY ROYAL CHARTER, 30TH AUGUST, 1851.)

PAID-UP CAPITAL, £1,260,000.—RESERVED FUND, £252,000.

COURT OF DIRECTORS.

(1859-1860.)

HARRY GEORGE GORDON, Esq., CHAIRMAN.

WILLIAM SCOTT BINNY, Esq., DEPUTY-CHAIRMAN.

JAMES BLYTH, Esq.	ALEXANDER MACKENZIE, Esq.
JOHN LEWIS BONHOTE, Esq.	LESTOCK ROBERT REID, Esq.
WILLIAM WALTER CARGILL, Esq.	PATRICK F. ROBERTSON, Esq.

Bankers.

THE BANK OF ENGLAND. | THE UNION BANK OF LONDON.

Agents in Scotland. | **Agents in Ireland.**

NATIONAL BANK OF SCOTLAND. | PROVINCIAL BANK OF IRELAND.
COMMERCIAL BANK OF SCOTLAND. | NATIONAL BANK.

HEAD OFFICE, THREADNEEDLE STREET, LONDON, E.C.

Banks, Branch Banks, and Agencies.

BOMBAY.	MAURITIUS.	MELBOURNE.
CALCUTTA.	SINGAPORE.	SYDNEY.
MADRAS.	HONG KONG.	AUCKLAND.
CEYLON.	SHANGHAI.	WELLINGTON.

WILLIAM McLAY ELLES, INSPECTOR.
WILLIAM MATHER ANDERSON, ASSISTANT INSPECTOR.

The Corporation grant Drafts, and negotiate or collect Bills payable at the above-named dependencies, on terms which may be ascertained at their office; they also issue Circular Notes and Letters of Credit for the use of Travellers by the Overland Route.

They undertake the Agency of Parties connected with India and the Colonies, make investments in the Public Funds, and other British and Foreign Securities, and receive Pay, Pension, Dividends, and Interest, free of charge to constituents.

They also receive Deposits of £100 and upwards, repayable (in one sum) at a notice of 10 days, and allow Interest thereon at one per cent. below the Bank of England's minimum rate of discount—rising and falling therewith. Deposits subject to longer notices of withdrawal, or for fixed terms, generally bear higher rates. At present 2 per cent. is allowed at ten days, 3 per cent. at six months, and 4 per cent. at twelve months' notice.

Applications for the sanction of the Directors to Credits established by firms here in favour of parties abroad, must be sent in not less than three days before despatch of the mail, otherwise they will be deferred until the mail following. Bills for Collection in India and the Colonies, and other transactions involving correspondence by the overland mails, also applications for Drafts, are required to be sent in one clear day before the day of despatch.

The Corporation undertake the safe custody of Indian and Colonial Government Paper, Shares in the Capital Stock of the Government Banks and other Local Stocks, and draw Interest and Dividends on the same as they fall due, on the following terms:—

If to be remitted through the Corporation	Without charge.
If to be paid in India or the Colonies, a Commission will be charged of	1-4th per cent.
On returning Government Paper or Share Certificates out of safe custody, or if sold, on paying the proceeds of such Sale in India or the Colonies, a Commission will be charged of	1-4th per cent.
On the Sale of Government Paper or other Stock, the proceeds of which are to be remitted through the Corporation	No charge.
On Investments in Government Paper or other Stock, the Purchase Money and Interest on which are remitted through the Corporation	No charge.

They also make the necessary Registry of Indian Government Loan Notes, so as to obtain payment of the Interest in England.

N.B.—Powers of Attorney and other Forms are supplied at their Office.

OFFICE HOURS 10 TO 3.—SATURDAYS 10 TO 2.

CHARLES J. F. STUART, Chief Manager.

11th October, 1859.

JOHN RIACH, Sub-Manager.

The Agra and United Service Bank, Limited.

Established in India, 1833.

Incorporated June, 1857, by Letters Patent, under 7 and 8 Vict., cap. 113.

PAID-UP CAPITAL £1,000,000 (One Million Sterling),
SUBSCRIBED CAPITAL £2,000,000 (Two Millions Sterling), in 20,000 Shares of £100 each.

NUMBER OF SHAREHOLDERS 577—RESERVED FUND £175,000.

HEAD OFFICE—27, CANNON STREET, LONDON, E.C.

BRANCHES AT

Calcutta, Bombay, Madras, Agra, Lahore, Hong Kong, and Shanghai.

TRUSTEES.

(All of whom are large Proprietors).

William Bracken, Esq., Bengal Civil Service.
Major-General Charles Dennis Dun, Madras Army.
Lieutenant-Colonel Wm. MacGeorge, Bengal Retired List.
Lieutenant-General Sir George Pollock, G.C.B., Bengal Artillery.

DIRECTORS.

Robert Guthrie Macgregor, Esq., Chairman.
James Thomson, Esq., Deputy-Chairman.

George Hay Donaldson, Esq.	George Gordon Macpherson, Esq.
Lieut.-Col. Henry Dovcton.	Charles Grenville Mansel, Esq.
Alderman Thomas Quested Finnis.	J. Carrington Palmer, Esq.
Lieut-Col. Henry Barkley Henderson.	Major-General Duncan Sim.
Colonel James Holland.	James Sydney Stopford, Esq.
Lieut.-Col. James Horsburgh Macdonald.	William Hardinge E. Tyler, Esq.

General Manager—Francis Robert Neilson, Esq.
Secretary—T. J. MacRitchie, Esq.
Accountant—G. B. Dalby, Esq.
Manager at Calcutta—Mackintosh Balfour, Esq.
Officiating Manager at Bombay—Hugh Bowie MacCulloch, Esq.
Manager, Madras—David Allardice, Esq.
Agra—A. H. Matthews, Esq.
Lahore—Thomas Bailey, Esq.
Hong Kong—Henry Turner, Esq.
Shanghai—John Cardno, Esq.
Auditors—W. Newmarch and J. H. Williams, Esqrs.
Solicitors—Messrs. Lacy and Bridges, 19, King's Arms Yard.

Current or Floating Accounts (balanced half-yearly, on the 30th June and 31st December) opened with Individuals and Firms, bearing Interest when the monthly *minimum* balance at credit is not less than £100. When the balance falls below £100, a moderate Commission will be charged, according to the nature of the Account.

Sales and Purchases effected in British and Foreign Securities, in the East India Company's Stock, &c., &c.; and Army, Navy, and Civil Pay and Pensions, realised at the India House, &c.

Deposits for Fixed Periods are received on terms favourable to Depositors, particulars of which may be obtained at the Bank.

Circular Notes payable at the Chief Cities of the Continent granted free of charge.

Bills issued at the Exchange of the day, and *free* of any extra charge, on the Branches of the Bank at Calcutta, Agra, Bombay, Madras, and Lahore, and approved Bills drawn against Funds, or upon parties in *India*, purchased; Bills payable in India sent out for collection. Hours of Business 10 to 4; Saturdays 10 to 3.

October, 1859.

Figure A8. The data source: bank name changes and liquidations (The Banker's Almanac, 2000, pp. 8176–8177)

Alzeptbank Aktiengesellschaft Germany. 31/05/36 in liquidation
Albany City National Bank USA. Dec 1902 absorbed by National Commercial Bank of Albany
Albion Bank Ltd. [1864] UK. 1872 acquired by London Joint Stock Bank
Albion Bank (Liverpool) [1836] UK. 1842 failed
Alcock (J. & G.), Burslem [1830] UK. 1865 absorbed by Manchester & Liverpool District Banking Co. Ltd.
Alcocks, Birkbeck & Co. [1858] UK. 1873 name changed to Birkbeck, Robinson & Co.
Alcocks, Birkbeck, Robinson, Birkbeck & Stansfeld [1844] UK. 1858 name changed to Alcocks, Birkbeck & Co.
Aldred & Cie. SA France. 1933 in liquidation
Alexander & Co. [1810] UK. 1824 name changed to Alexander (A. & G.W.) & Co.
Alexander (A. & G.W.) & Co. [1824] UK. 1862 name changed to Alexanders, Cunliffes & Co.
Alexander, Fletcher & Co. UK. 1910 absorbed by Boulton Brothers & Co.
Alexander (Julius) Germany. 1928 in liquidation
Alexander (William) & Sons, Edinburgh [1760] UK. 1772 failed
Alexanders & Co. Ltd. [1810] UK. Jan 1919 name changed to Alexanders Discount Company Ltd.
Alexanders & Co. [1877] UK. 1891 name changed to Alexanders & Co. Ltd.
Alexanders & Co., Ipswich [1744] UK. 1878 absorbed by Gurney Group to form Gurneys, Alexanders & Co.
Alexanders Bank, Dublin Ireland. 1820 failed
Alexanders, Cunliffes & Co. [1862] UK. 1877 name changed to Alexanders & Co.
Alexanders, Spooner & Alexanders [1744] UK. Name changed to Gurneys, Alexanders, Birkbeck, Barclay, Buxton & Kerrison
Alford & Spilsby Bank (Bourne, Rhodes & Co.) [1844] UK. 1861 acquired by Stamford, Spalding & Boston Banking Co.
Algemeene Bankvereeniging Belgium. 1928 merged with Volksbank van Leuven SA to form Algemeene Bankvereeniging en Volksbank van Leuven
Algemeene Bankvereeniging NV Belgium. 08/02/35 absorbed by Kredietbank voor Handel en Nijverheid NV
Algemeene Centrale Bankvereeniging voor Middenstand Netherlands. Nov 1927 acquired by Nederlandsche Middenstandsbank
Algemene Bank Nedereland (Geneve) Switzerland. 1979 name changed to Algemene Bank Nederland (Schweiz)
Algemene Bank Nederland (Maroc) SA [30.06.70] Morocco. 02/12/75 name changed to Algemene Bank Marokko SA
Algemene Bank Nederland (Ugandan branches) Uganda. Feb 1972 absorbed by Grindlays Bank (Uganda) Ltd.
Algemene Bank Nederland NV (Saudi Arabian branches) Saudi Arabia. Aug 1977 acquired by Albank Alsaudi Alhollandi
Algemene Bank Nederland NV (Tanzanian branches) Tanzania. 06/02/67 taken over by National Bank of Commerce (The)
Algemene Volkscredietbank [1934] Indonesia. 1942 name changed to Syomin Ginko
Allan (Robert) & Son, Edinburgh [1776] UK. 1834 ceased
Allan (T.H.) & Co. UK. Dec 1932 failed
Allaway & MacDougall (Ross Old Bank) [1853] UK. 1863 absorbed by West of England & South Wales District Bank
Allen (Alexander), Edinburgh [1774] UK. 1855 ceased
Allen Harvey & Ross [1905] UK. 22 Sept 1943 name changed to Allen Harvey & Ross Ltd.
Allen, Hellings & Co. [1888] UK. June 1905 name changed to Allen, Harvey & Ross
Allen & Steuart, Edinburgh [1780] UK. 1800 ceased
Allen (Wm.), Manchester [1780] UK. 1793 ceased
Allgauer Vereinsbank eGmbH, Kaufbeuren Germany. 1931 in liquidation
Allgemeine Bankgesellschaft Germany FR. 28/02/79 merged with Berliner Bank
Allgemeine Creditanstalt AG (Credit General) Germany. Nov 1929 in liquidation
Allgemeine Oesterreichische Boden Credit-Anstalt Austria. Oct 1929 absorbed by Oesterreichische Credit-Anstalt für Handel und Gewerbe
Allgemeine Wirtschaftsbank AG. 1975 in liquidation
Allgemeiner Bohmischer Bank-Verein, Prague Czechoslovakia. 1929 absorbed by Bohmische Union Bank
Alliance Bank Ltd. [1862] UK. 1892 merged with Parr's Banking Co. Ltd. to form Parr's Banking Company & the Alliance Bank Ltd.
Alliance Bank (Branch) [1862] UK. 1872 merged with Lancashire & Yorkshire Bank
Alliance Bank (Liverpool business) [1862] UK. 1871 absorbed by National Bank of Liverpool
Alliance Bank (Manchester) [1836] UK. 1841 ceased
Alliance Bank of London & Liverpool Ltd. [1862] UK. 1865 name changed to Alliance Bank Ltd.
Alliance Bank of Simla [1874] UK. 28/04/23 suspended payment
Alliance Bank (Southwark branch) [1862] UK. 1870 merged with London Joint Stock Bank
Allied Irish Investment Corporation Ltd. [21.12.66] Ireland. 1968 name changed to Allied Irish Investment Bank Plc
Alloway & Champion Ltd. Canada. 31/07/30 banking business acquired by Canadian Bank of Commerce
Almeida, Basto & Piombino & Ca. Portugal. 04/04/72 absorbed by Banco do Alentejo
Alnwick & County Bank [1858] UK. 1875 merged with North-Eastern Banking Co. Ltd.
Alton Bank (John Levy & Co.) [1820] UK. 1826 failed
Ambler National Bank USA. 14/10/57 absorbed by Girard Trust Corn Exchange Bank
American Bank of Maryland USA. 1978 name changed to First American Bank of Maryland
American Bank & Trust Co. USA. June 1973 name changed to National American Bank of New Orleans
American Colonial Bank of Porto Rico Puerto Rico. Apr 1930 absorbed by National City Bank of New York
American Commercial Bank, Charlotte USA. 01/07/60 merged with Security National Bank, Greensboro to form North Carolina National Bank
American Commercial & Savings Bank USA. 01/06/31 name changed to American Savings Bank & Trust Co.
American Exchange Bank, Seattle USA. 12/12/31 in liquidation
American Exchange Irving Trust Co. USA. Feb 1929 name changed to Irving Trust Co.
American Exchange National Bank, Dallas USA. 01/01/30 merged with City National Bank to form First National Bank in Dallas
American Exchange National Bank of Duluth USA. 1930 merged with First National Bank of Duluth to form First & American National Bank of Duluth
American Exchange Trust Co., Little Rock USA. Nov 1930 in liquidation
American Exchange-Pacific National Bank USA. 1929 name changed to American Exchange Irving Trust Co.
American Express Bank & Trust Co., New York (Banking business) USA. 19/12/31 taken over by Chase National Bank of the City of New York
American Express Bank & Trust Co., New York (Trust business) USA. 19/12/31 taken over by Equitable Trust Company of New York
American Express Company mbH [1907] Germany FR. 1966 name changed to American Express Bank GmbH
American International Bank [06.03.68] USA. Name changed to Fidelity International Bank
American National Bank [1883] USA. 01/02/50 name changed to First American National Bank
American National Bank at Indianapolis [1839] USA. 1954 merged with Fletcher Trust Company to form American Fletcher National Bank & Trust Company
American National Bank of Milwaukee USA. 1929 absorbed by First Wisconsin National Bank
American National Bank of Pensacola USA. Aug 1944 name changed to Florida National Bank at Pensacola
American National Bank, Roanoke USA. 1928 merged with Colonial National Bank to form Colonial American National Bank
American National Bank & Trust Company of Greensboro USA. Oct 1929 merged with 5 other banks to form North Carolina Bank & Trust Co.
American Overseas Banking Corp. [10.04.68] USA. 11/12/68 name changed to Allied Bank International
American Savings Bank & Trust Co. USA. 05/07/32 name changed to Davenport Bank & Trust Co.
American Savings Bank & Trust Co., Seattle USA. 1929 name changed to American Exchange Bank
American Southern Trust Co., Little Rock USA. Feb 1930 merged with Exchange National Bank to form American Exchange Trust Co.
American State Bank [June 1943] USA. 28/06/58 merged with Central Trust Co. to form American Bank & Trust Co.
American State Bank, Detroit USA. 1932 in liquidation
American State Bank, Detroit USA. 1930 in liquidation
American State Bank & Trust Co. USA. July 1931 merged with Pittsburgh State Bank to form Pittsburgh-American Bank & Trust Co.
American State Bank & Trust Co., Pittsburgh USA. July 1931 merged with Pittsburgh State Bank to form Pittsburgh-American Bank & Trust Co.
American State Savings Bank [Feb 1892] USA. June 1943 name changed to American State Bank
American Traders' National Bank USA. 1930 absorbed by National Bank of Birmingham to form First National Bank of Birmingham (The)
American Trust Co. [1854] USA. 25/03/60 merged with Wells Fargo Bank to form Wells Fargo Bank American Trust Co.
American Trust Co. USA. 17/11/30 merged with Bank of Manhattan Trust Co.
American Trust & Banking Co., Chattanooga USA. 01/10/48 name changed to American National Bank & Trust Co.
American Trust Company, Morristown USA. 1946 merged with Morristown Trust Co.
American Trust Company of Boston USA. Mar 1930 absorbed by First National Bank of Boston
American Trust Company of South Bend USA. 16/06/31 ceased
American Trust Co., Detroit USA. 1929 absorbed by Central Trust Co.
American Trust Co., Nashville USA. Mar 1931 merged with Nashville Trust Co. to form Nashville & American Trust Co.
American Trust Co., New York USA. 01/04/66 name changed to American Bank & Trust Co.
American Trust & Savings Bank, Cedar Rapids USA. July 1934 in liquidation
American Trust Co., St. Louis USA. 1929 amalgamated with Franklin Bank to form Franklin-American Trust Co.
American Trust Co., Charlotte USA. 29/11/57 merged with Commercial National Bank to form American Commercial Bank
American Union Bank USA. Sept 1931 ceased
American-First National Bank in Oklahoma City USA. 02/01/30 merged with Security National Bank to form First National Bank & Trust Co.
American-Oriental Bank of Fukien-Foochow China. 1930 in liquidation
American-Oriental Bank of Szechuen China. June 1932 acquired by Mei Feng Bank of Szechuen
Amerikan-Turk Dis Ticaret Bankasi AS [1964] Turkey. 01/04/71 name changed to Turk dis Ticaret Bankasi AS
Ameriko-Slovenska Banka Czechoslovakia. 1933 absorbed by Slovenska Vseobecna Uverna Banka
Ames, Bright, Cave & Daubeny, Bristol [1790] UK. 1821 name changed to Cave, Ames & Cave
Amite County Bank, Gloster [1914] USA. 1966 absorbed by First National Bank of Jackson
Amsterdamsch Diamantkantoor NV [May 1937] Belgium. Aug 1938 name changed to Amsterdamsche Bank voor Belgie NV
Amsterdamsch Effecten-en Bankierskantoor NV Netherlands. 1946 in liquidation
Amsterdamsche Bank NV [1871] Netherlands. 27/07/64 merged with Rotterdamsche Bank NV to form Amsterdam-Rotterdam Bank NV
Amsterdamsche Bank voor Belgie NV [Aug 1938] Belgium. 01/01/73 name changed to Amro Bank voor Belgie NV
Amsterdamsche Beheers (NV)-Compagnie A.B.C. Netherlands. 15/08/50 name changed to Bank voor Internationale-Handel NV
Amsterdamsche Goederen Bank NV Netherlands. 01/10/54 merged with Nederlandsche Bank voor Zuid Afrika NV to form Nederlandse Oerzee Bank
Amsterdamsche Liquidatiekas NV Netherlands. 09/10/40 name changed to Amsterdamsche Goederen Bank NV
Amsterdamse Crediet Maatschappij NV Netherlands. 01/01/72 name changed to Amsterdamse Crediet-en Handelsbank NV
Amyand, Staples & Mercer, Cornhill [1760] UK. 1773 name changed to Cornewall, Staples & Watts
Anacostia National Bank USA. Dec 1960 absorbed by National Bank of Washington
Anderson & Alexander [1792] UK. 1812 ceased
Anderson & Staig, Fermoy Ireland. 1821 failed
Andover Bank (Heath & Co.) [1790] UK. 1861 absorbed by Hampshire Banking Co.
Andover Old Bank (Wakeford & Sons) [1783] UK. 1826 failed
Andreae & Cie. Commandit-Gesellschaft Germany. 1931 in liquidation
Andresens Bank Norway. 01/01/66 merged with Folkebanken-Realbanken to form Andresens Bank Folke-Realbanken
Andresens og Bergens Kreditbank A/S Norway. 1929 acquired by Andresens Bank A/S & Bergens Kreditbanken A/S

Figure A9. The data source: The Colonial Office List Advisers (1860, pp. A1–A2)

THE COLONIAL BANK.

Established and Incorporated by Royal Charter in 1836.

SUBSCRIBED CAPITAL, £2,000,000. PAID UP, £600,000.
RESERVE FUND, £130,000.

LONDON OFFICE—13, BISHOPSGATE STREET WITHIN.

COURT OF DIRECTORS.

Chairman—HARRY HANKEY DOBREE, Esq.
Deputy-Chairman—JAMES FLETCHER, Esq.

LEWIS HILL BLISS, Esq.
JOHN JAMES CATER, Esq.
EDEN COLVILE, Esq.
SPENCER H. CURRIE, Esq.
WILLIAM DAVIDSON, Esq.
RODOLPH ALEX. HANKEY, Esq.
DAVID QUIXANO HENRIQUES, Esq.
CHARLES R. GURNEY HOARE, Esq.
E. BRODIE HOARE, Esq., M.P.
NEVILE LUBBOCK, Esq.
JOHN MAC CONNELL, Esq.
HENRY PRYOR POWELL, Esq.
CHAS. A. PRESCOTT, Esq.

AUDITORS.

COLONEL FRANCIS GORDON HIBBERT.
AUDLEY C. MILES, Esq. FREDERICK H. SCOTT, Esq.

SECRETARY. EDWARD CARPENTER.

BANKERS. LLOYDS, BARNETTS, & BOSANQUETS BANK, LIMITED.

BRANCHES AND AGENCIES.

ANTIGUA.
BARBADOS.
BERBICE.
DEMERARA.
DOMINICA.
GRENADA.
JAMAICA—KINGSTON,
AND AGENCIES AT—
FALMOUTH.
MONTEGO BAY.
SAVANNA-LA-MAR.
MARTINIQUE—AGENCY.
ST. KITTS.
ST. LUCIA.
ST. VINCENT.
ST. THOMAS & ST. CROIX.
TRINIDAD—PORT OF SPAIN,
AND AGENCY AT
SAN FERNANDO.

AGENTS.

New York ... ... Messrs. BROWN BROTHERS & Co.
Copenhagen ... ... THE PRIVATE BANK.
British North American Provinces ... THE BANK OF BRITISH NORTH AMERICA.
Paris ... ... Messrs. MALLET FRÈRES & CIE.
Hamburg ... ... Messrs. SCHRÖDER & Co.

LETTERS OF CREDIT,

Payable on demand, are granted on the several Establishments in the Colonies upon payment of the amount at the London Office.

BILLS

Are sent out for collection, and any other money business transacted, in the above-named Colonies.

BANK OF AUSTRALASIA,

(*Incorporated by Royal Charter*, 1835)

4, THREADNEEDLE STREET, LONDON.

PAID-UP CAPITAL, £1,600,000. RESERVE FUND, £800,000.
Reserve Liability of Proprietors under the Charter, £1,600,000.

COURT OF DIRECTORS.

JAMES ALEXANDER, Esq.
VISCOUNT ANSON.
WILLIAM R. ARBUTHNOT, Esq.
ALBAN G. H. GIBBS, Esq.
EDWARD W. T. HAMILTON, Esq.
JOSEPH HARROLD, Esq.
SAMUEL JOSHUA, Esq.
W. A. MCARTHUR, Esq., M.P.
JOHN SANDERSON, Esq.
MARTIN RIDLEY SMITH, Esq
THOS. SUTHERLAND, Esq., M.
GEO. D. WHATMAN, Esq.

Secretary—PRIDEAUX SELBY. *Accountant*—RICHARD WALTER JEANS.
Bankers—THE BANK OF ENGLAND; Messrs. SMITH, PAYNE & SMITHS.
Solicitors—Messrs. FARRER & CO.
Superintendent of the Colonial Establishments—JOHN SAWERS, Melbourne.
Inspector—EDWARD WAKEFIELD MORRAH, resident in New Zealand.
Inspectors—JOHN BROWN GOULSTON; F. P. G. MCCRAE; E. J. O. FULFORD; and C. R. COWPE

Letters of Credit and Drafts issued on the 140 Branches of the Bank in the Colonies of Queensla New South Wales, Victoria, South Australia, Tasmania, and New Zealand. Bills negotiated or sent collection. Telegraphic transfers made. Deposits received in London at interest for fixed periods terms which may be ascertained at the office.

PRIDEAUX SELBY, *Secreta*

AGENTS AND CORRESPONDENTS.

England—
Alexanders & Co., Ipswich, &c.
Backhouse, Jonathan, & Co., Darlington, &c.
Bank of Bolton, Limited, Bolton.
Bank of Liverpool, Limited, Liverpool.
Bank of Whitehaven, Limited.
Batten, Carne & Carne, Penzance.
Birmingham and Midland Bank, Limited.
Bradford Banking Company, Limited.
Bradford District Bank, Limited.
Coventry Union Banking Company.
Cumberland Union Banking Company, Limited.
Derby and Derbyshire Banking Company, Limited.
Devon and Cornwall Banking Company.
Gurneys & Co., Norwich, &c.
Huddersfield Banking Company, Limited.
Lambton & Co., Newcastle-on-Tyne, Sunderland, &c.
Lancashire and Yorkshire Bank, Limited, Manchester.
Lloyd's Bank, Limited.
London and Provincial Bank, Limited.
London and South Western Bank, Limited.
Manchester and County Bank, Limited.
Manchester and Salford Bank, Limited.
North Western Bank, Liverpool, Limited.
Nottingham and Notts Banking Company.
Fares's Leicestershire Banking Company, Limited.
Sheffield Banking Company, Limited.
Smith, Samuel & Co., Derby and Nottingham.
Smith, Samuel Brothers & Co., Hull.
South Cornwall Bank (Willyams, Treffry & Co.).
Stamford, Spalding, and Boston Banking Company, Limited.
Union Bank of Manchester, Limited.
Weekes, Phillips & Co., Plymouth.
Wilts and Dorset Banking Company.
Wolverhampton and Staffordshire Banking Company.
Worcester City and County Banking Company, Limited.
Yorkshire Banking Company, Limited.
York City and County Bank.

Scotland—
Bank of Scotland.
British Linen Company Bank.
Caledonian Banking Company, Limited.

Scotland—*continued*—
National Bank of Scotland, Limited.
Union Bank of Scotland.

Ireland—
Belfast Banking Company.
Provincial Bank of Ireland, Limited.

Europe—
Credit Lyonnais, Paris.
Danske Landmandsbank, Copenhagen.
Deutsche Bank, Berlin, Bremen, Hamburg and Frankfo
Deutsche Effecten & Wechsel Bank, Frankfort.
Plowden & Co., Rome.
Blumenthal, S. & A. & Co., Venice.
Dionisi, E., Brindisi.
Turner, W. J. & Co., Naples.
Bell, James and Co., Malta.
Skandinaviska Kredit Aktiebolaget, Stockholm.

Africa—
Anglo-Egyptian Banking Company, Cairo.
Bank of Africa, Limited, South Africa.
Bank of Natal, Natal, South Africa.
Standard Bank of South Africa, Limited, Cape of G
Hope, Natal, &c.
Müller, Ludwig, Alexandria & Cairo.

India, China, Mauritius, Java, &c.—
Agra Bank, India, &c.
Chartered Bank of India, Australia, and China.
Chartered Mercantile Bank of India, London, and Chin
Franco-Egyptian Bank, Mauritius.
Hong Kong and Shanghai Banking Corporation.

North America—
Anglo-Californian Bank, Limited, San Francisco.
Bank of British Columbia, San Francisco and Bri
Columbia.
Bank of Montreal, and Branches, Canada.
Maitland, Phelps & Co., New York.
Nevada Bank of San Francisco.

South America—
Bank of Valparaiso, Valparaiso.

Appendix B: The emergence of British overseas banks

Geographic diversification and entry mode strategies

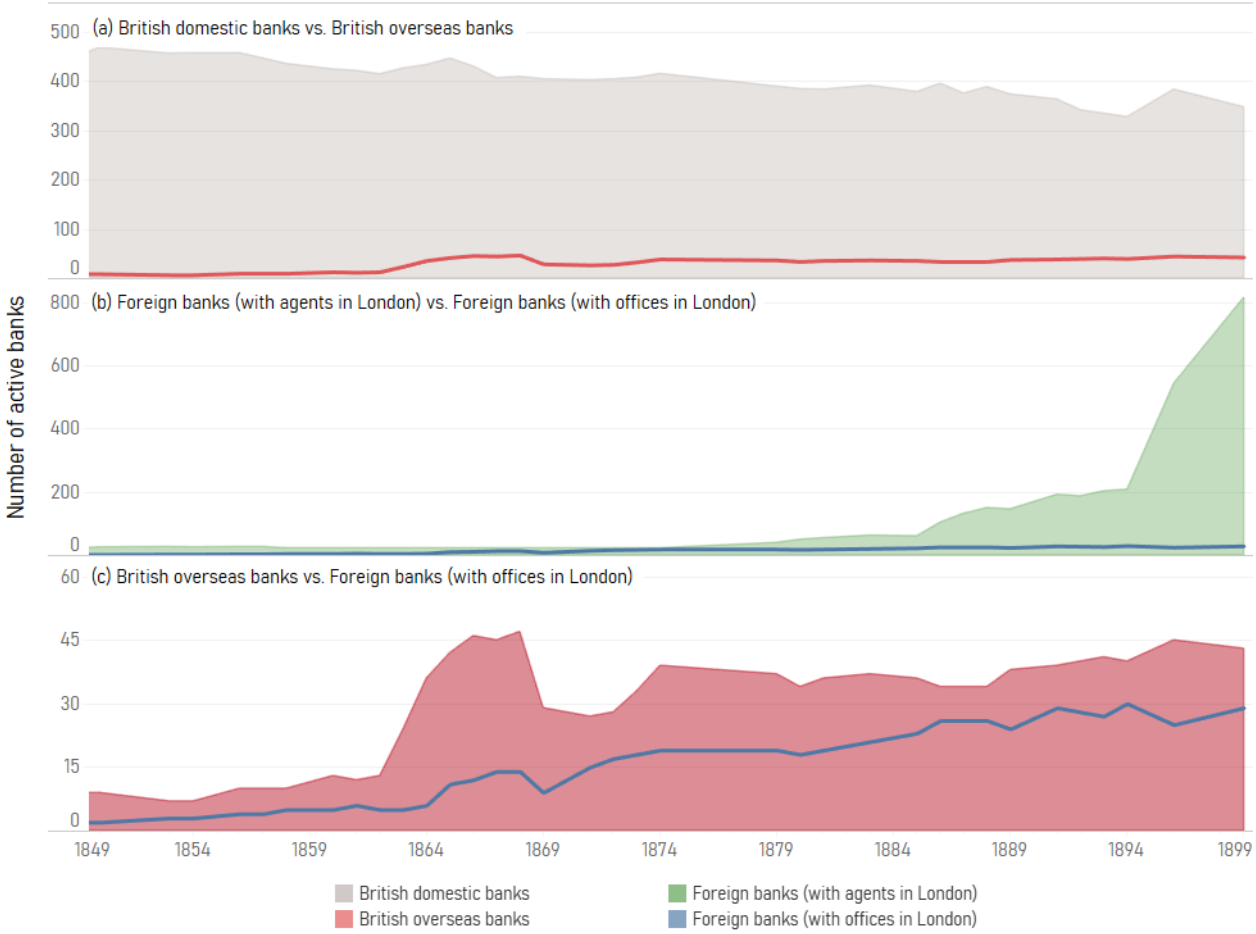
The internationalization of the British banking sector started in the early 1800s after nearly a century of rapid growth since the incorporation of the first financial institutions in England in the mid-17th century, interrupted by recurrent financial crises which shaped the volatility in the UK's domestic sector and served as a precursor for the emergence of British overseas banks. The sector's internationalization was driven by the emergence of British overseas banks in early 19th century and the rapid expansion of their operations in foreign markets, within and beyond British dependent territories. The number of banks headquartered in London and operating in overseas markets increased from five in 1830s, to nine by 1850, and 29 by 1870 (Figure B1).

Among the critical external factors that shaped the internationalization of the British banking sector were the institutional reforms and growth-enhancing economic policies since the 1680s, frequently referred to as the financial revolution or Glorious Revolution (e.g., Dickson, 1967; North & Weingast, 1989). These policy reforms stimulated financial innovation in the market for secondary financial assets, and accelerated the development of capital markets and the convergence of borrowing costs in the UK's domestic market vis-à-vis the more advanced financial centers in continental Europe (Sussman, 2022). This favorable landscape for banking development enhanced the international activity of emerging British overseas banks.

In the first half of the 19th century, the internationalization of banking operations was largely decoupled from the domestic banking climate and required building a new infrastructure of skills and knowledge networks to internalize operations in foreign markets, which had previously not been accumulated in the British domestic sector. The emergence of British overseas banks persisted irrespectively of local business cycles and peaks in endogenous and exogenous financial crises, as the expansion of British overseas banking was predominantly driven by distinct strategic interests and economic growth needs, consistent with trade demand-based explanations (e.g., Linder, 1961).

Fulfilling a flagship role (Rugman & D'Cruz, 1997), the newly-established British overseas banks functioned as vehicles for expanding merchant and industrial interests of the British Empire within and beyond its territorial possessions, by facilitating foreign trade payments, providing general banking services to British residents, financing British business expansions in specific industries, or establishing the first banking presence in foreign markets (Bostock, 1991; Young, 1991; Jones, 1993; Orbell & Turton, 2017). This is consistent with past comparative analysis confirming the importance of economic links, such as bilateral trade and capital flows, driving the expansion of overseas bank branches, especially in geographically and culturally distant countries (Battilossi, 2006). While the levels of new venturing in the domestic banking sector significantly declined following the banking panic of 1866, the number of British overseas banks continued to grow from 13 to 47 during the years 1862–1868 (Figure B1). In line with the follow-your-client argument, these dynamics facilitated the institutional change in foreign trade financing whereby British overseas banks assumed the role of international intermediary to substitute merchant houses' foreign offices in major overseas trade destinations, as indicated in past research (Young, 1991).

Figure B1. The comparative demography of active domestic and foreign banks with equity and interbank links to London (1849–1899)



Notes: The population of British domestic banks includes active private banks and joint-stock banks in England, Wales, Scotland, and North Ireland.

Source: The Banking Almanac and Directory (1849–1899).

The geographic scope of overseas branch locations in developing economies characterized with higher perceived costs of branching where banks had no prior experience expanded at an even greater pace. Contrary to the theoretical assumption that banks would initiate their internationalization in geographically and culturally proximate locations through arm's length modes, the early overseas operations of British overseas banks were localized in the dominant Asian markets (India, Ceylon, Hong Kong, Singapore), Australasia, and West Indies, predominantly through more complex FDI strategies. By 1870, the expansion of recently-established overseas banks was evidently not confined by the liability of newness, cultural or geographic distances that induced higher communication and transaction costs, as the banks rapidly integrated multiregional operations across 54 diverse foreign markets within their organizational hierarchies and interbank networks.

The observed pattern of the early geographic diversification demonstrated that British overseas banks actively leveraged their specialist skills and knowledge assets to move beyond their designated geographic areas (e.g., Bostock, 1991) by expanding their physical presence and interbank linkages across remote developing markets in Asia, Latin America, and Africa. Alongside the geographic diversification, the British overseas banks complemented the conventional entry mode strategy of internalizing their knowledge and

reputational advantages by establishing overseas branches with the aggressive acquisitions of local rival banks, as well as leveraging contractual arrangements with foreign correspondent banks to gain access to complementary knowledge assets in foreign markets. These findings show that British overseas banks were not only successful in leveraging geographic diversification strategies at an earlier stage than indicated in past studies (e.g., Jones, 1990; Bostock, 1991; Young, 1991), but also employed more complex entry mode strategies to reach their diversified spatial positions and scale up their bank-specific advantages.

The British overseas banks utilized increasingly complex internationalization strategies since their incorporation and actively leveraged hybrid entry mode strategies via contractual arrangements in foreign markets – i.e., by establishing and expanding their cross-border interbank networks with internationally established partners. Importantly, the long-period evidence on the British overseas banks' evolving branching models, M&A strategies, and interbank networks in foreign markets, covering their entire lifespan, provided initial evidence on the multiplexity of their unique internationalization processes as continuously evolving strategies.

The growing complexity of the internationalization strategies of British overseas banks was to a great extent prompted by the transformative changes in the foreign banking sector since 1900, which augmented the operational modes and competitive strategies of the traditional banking business. The consecutive consolidation waves, dubbed in the international banking history literature as a "merger movement" (e.g., White, 1985), not only created new large rival banks capable of reaping economies from larger scales, building reputation and attaining expertise in principal foreign markets, but also accelerated the speed at which banks expanded their overseas branch networks. The growing consolidation among internationally active banks in the European, North American, and Asian markets changed the underlying structure of the global banking industry, by wiping out weaker incumbent banks and challenging the previously durable advantages of the British overseas banks with diversified banking models and earning streams, which proliferated after the mergers between different types of financial intermediaries.

In result, the involvement of British banks in overseas merger activity significantly declined vis-à-vis emerging regional leaders, though revived by the 1970s when the dominant British overseas banks started to re-organize their holding structures in foreign markets, and ultimately absorbed their overseas subsidiaries in upstream mergers. The merger activity of foreign banks (or their UK affiliates) in the UK's domestic banking sector, by contrast, became increasingly notable since the 1950s. The emergence of competitive foreign banks with vast domestic and overseas branch networks and diversified operations, however, prompted British banks to leverage hybrid entry mode strategies via agency arrangements in foreign markets – i.e., by establishing and expanding their cross-border interbank networks with internationally established partners.

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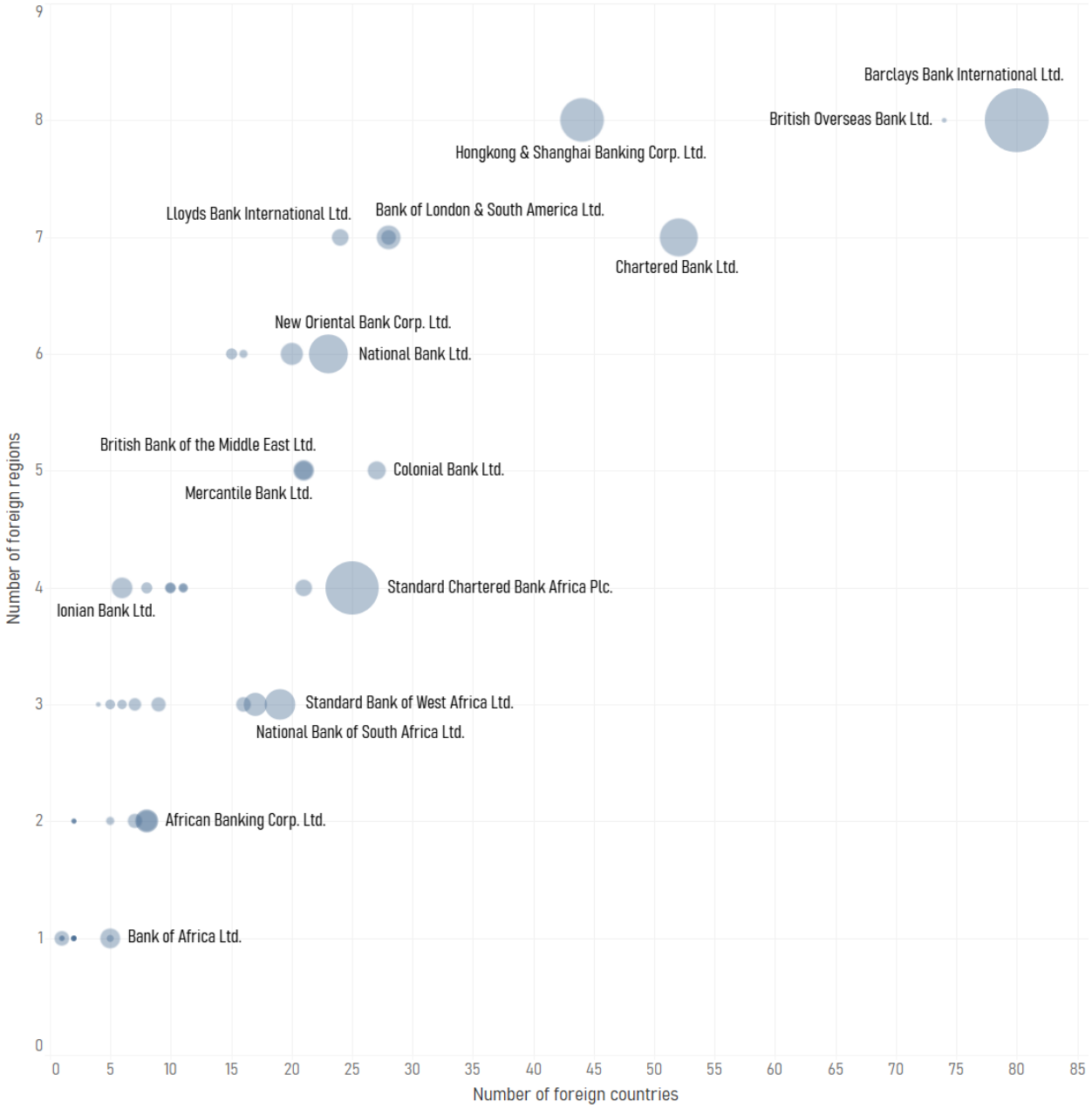
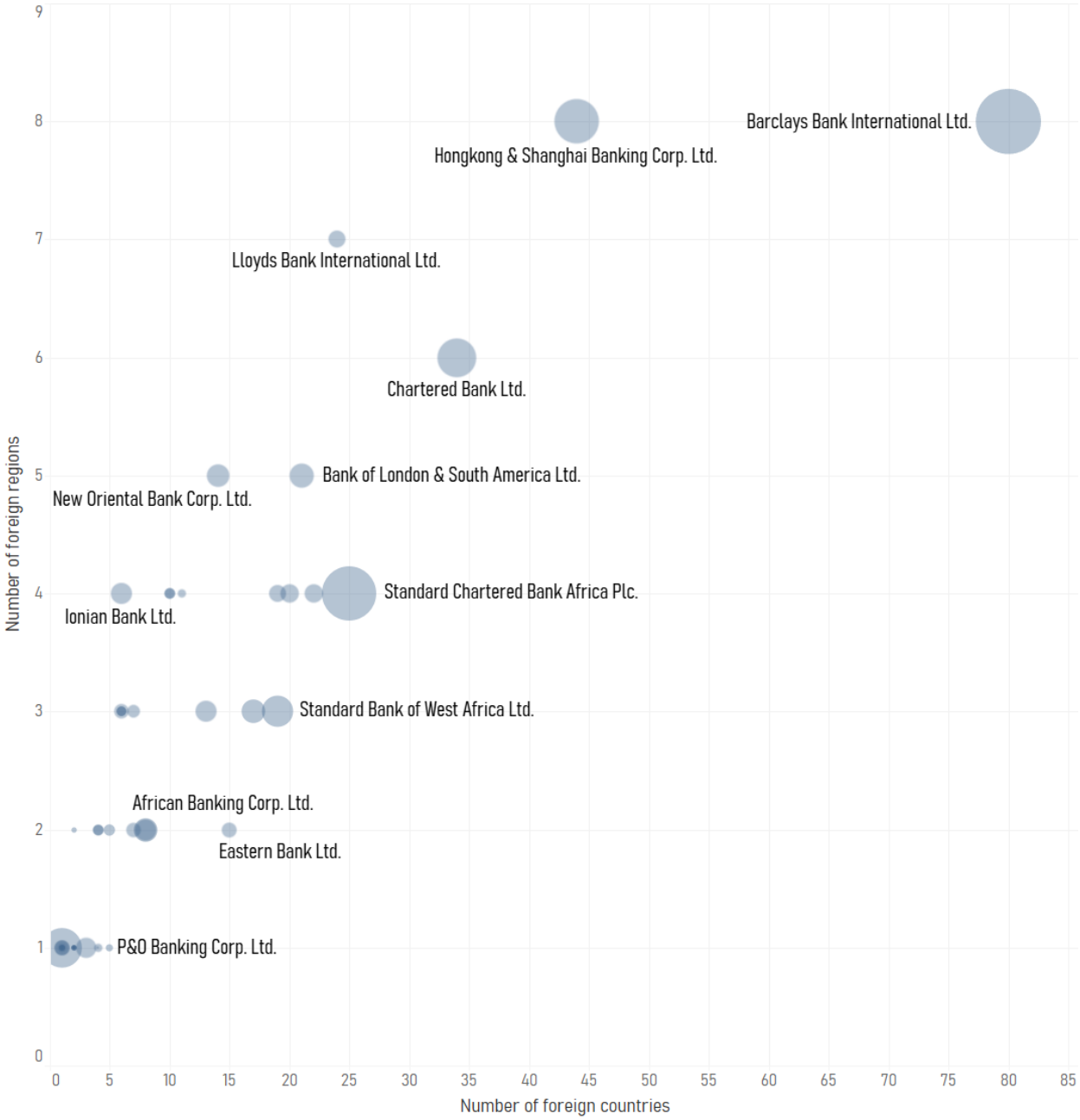
Appendix C: The multiplex internationalization strategies of British overseas banks

Figure C1. The spatial scope of branch and interbank networks of British overseas banks: the number of foreign countries and regions entered via FDI and interbank arrangements



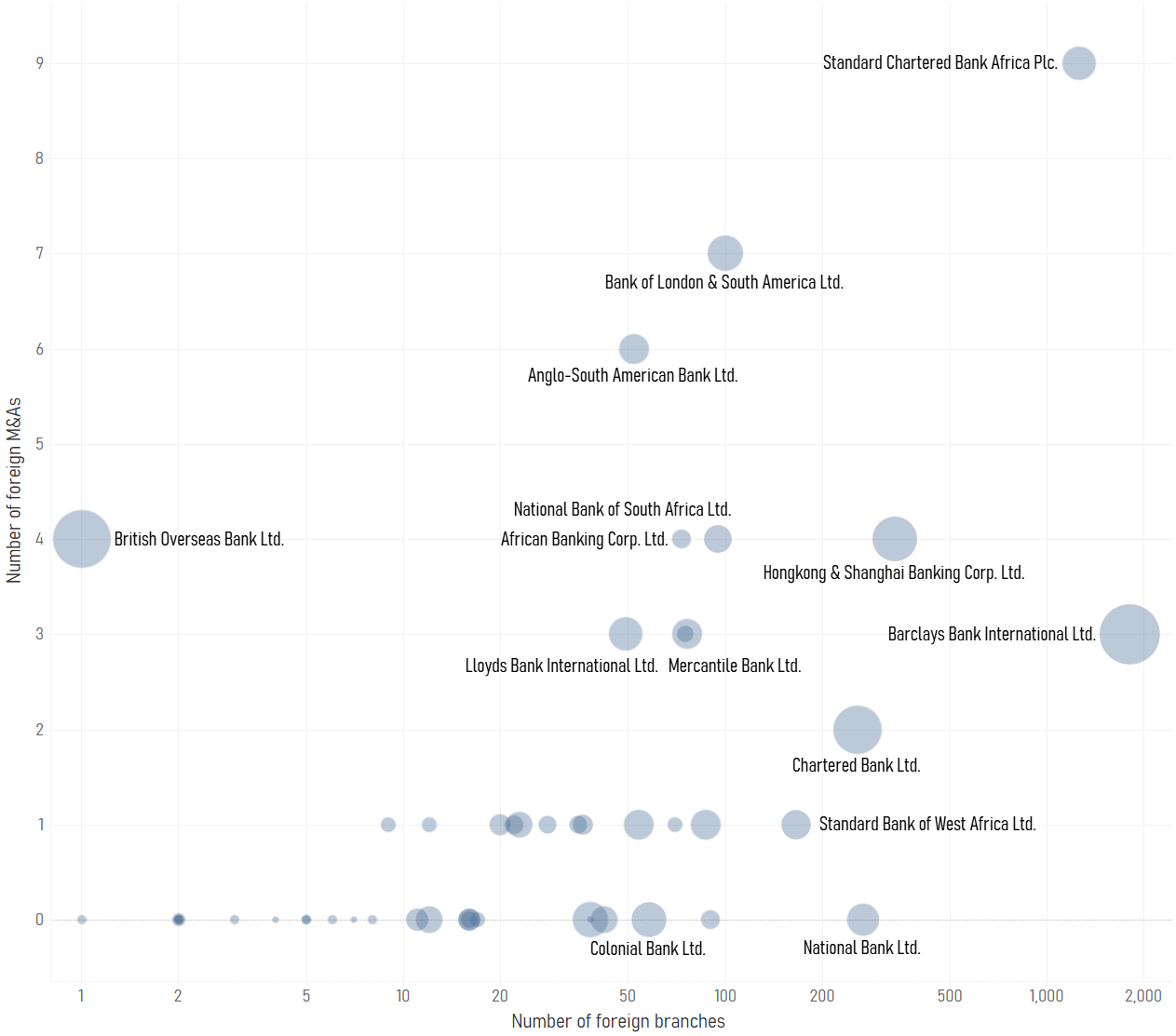
Notes: The circles are scaled by the total number of branches established by banks throughout their entire lifespan. Circles with darker shades indicate clustering of banks with the same number of foreign countries and regions.

Figure C2. The spatial scope of branch networks of British overseas banks: the number of foreign countries and regions entered via FDI



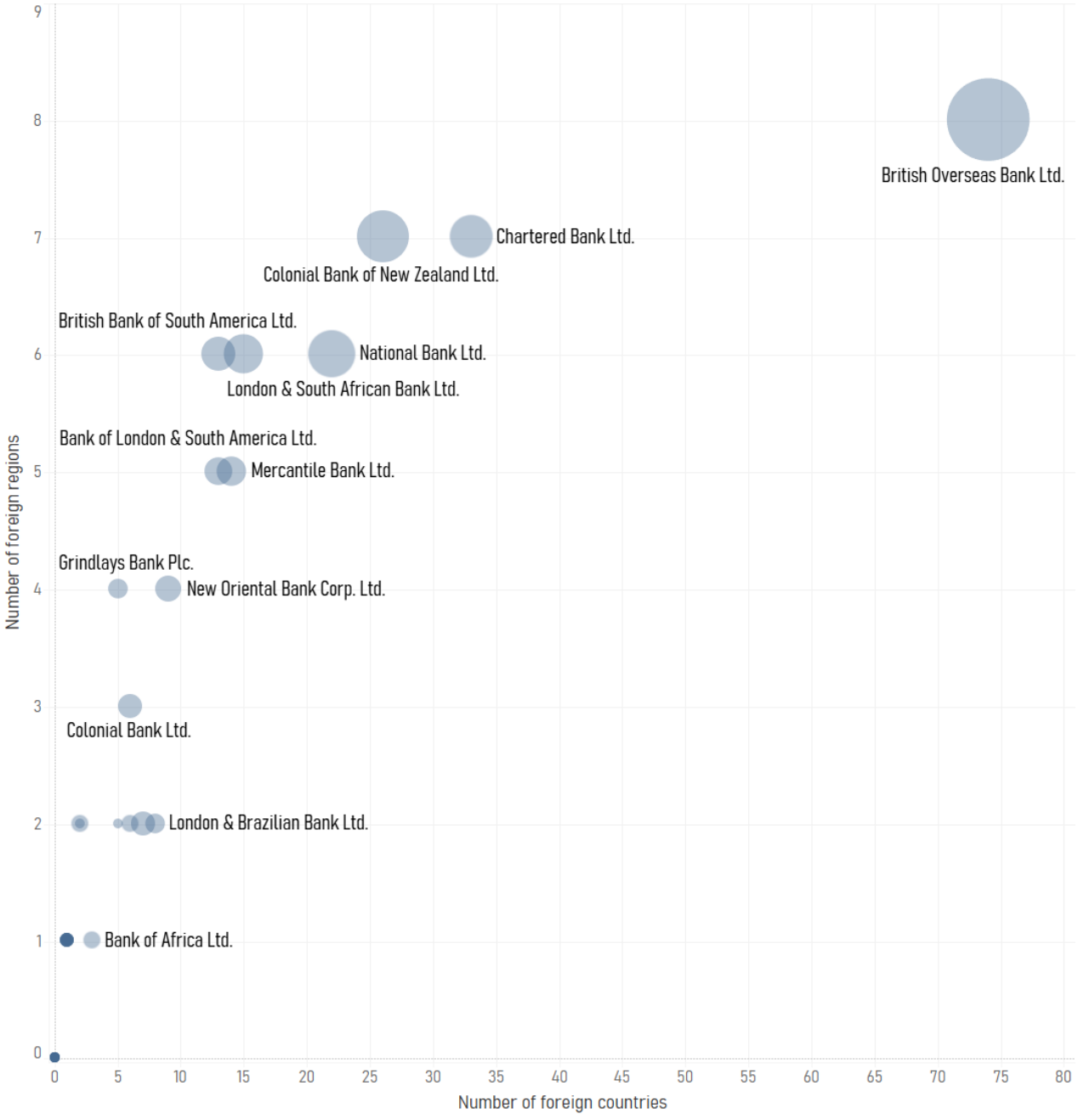
Notes: The circles are scaled by the total number of branches established by banks throughout their entire lifespan. Circles with darker shades indicate clustering of banks with the same number of foreign countries and regions.

Figure C3. Foreign market entries by British overseas banks through FDI: the strategic combination of greenfield branch establishments and consolidations of existing branch networks



Notes: The circles are scaled by the total number of foreign countries entered by banks throughout their entire lifespan. Circles with darker shades indicate clustering of banks with the same number of foreign branches and M&As.

Figure C4. The spatial scope of interbank networks of British overseas banks: the number of foreign countries and regions entered via contractual interbank arrangements



Notes: The circles are scaled by the number of new foreign countries entered by banks solely via agency and/or correspondent arrangements with foreign banks, where they did not have a branch. Circles with darker shades indicate clustering of banks with the same number of foreign countries and regions.

Figure C5. The internationalization timing of British overseas banks: leapfrogging and sequential transitions between spatial positions via FDI entry modes

	Spatial strategy				
	International (single country)	Multinational (single region)	Multiregional (single country)	Multiregional (multi country)	Transregional (>2 regions)
African Banking Corp. Ltd.	0	1		8	
Agra Bank Ltd.	0	23		31	33
Anglo Argentine Bank Ltd.	0	1			
Anglo-Austrian Bank Ltd.	0		6	17	
Anglo-International Bank Ltd.	6	0			
Anglo-Brazilian Commercial & Agency Co. Ltd.				0	2
Anglo-Egyptian Bank Ltd.	0			14	54
Anglo-South American Bank Ltd.	0	11		17	19
Balfour Williamson & Co. Ltd.	0		18	67	
Bank of Africa Ltd.	0	13			
Bank of London & South America Ltd.		1		23	29
Bank of Mauritius Ltd.	0	17			
Bank of Nigeria Ltd.	0	4			
Barclays Bank (Canada) Ltd.	0				
Barclays Bank (France) Ltd.	0			5	
Barclays Bank International Ltd.					0
Barclays Bank Sai Ltd.	0				
British Bank of Northern Commerce Ltd.	0			53	63
British Bank of South America Ltd.			0	25	
British Bank of the Middle East Ltd.	0	1		3	66
British Guiana Bank Ltd.	0				
British Overseas Bank Ltd.	1	4			
Chartered Bank Ltd.		5		31	49
Colonial Bank Ltd.	0			16	30
Colonial Bank of New Zealand Ltd.	0				
Commercial Bank of Spanish America Ltd.	0		23		31
Eastern Bank Ltd.	1		3	11	
Antony Gibbs & Sons Ltd.	14	18		46	137
Grindlays Bank Plc.	26	114		127	
Hongkong & Shanghai Banking Corp. Ltd.				0	3
International Westminster Bank Ltd.	0	4			
Ionian Bank Ltd.	1	6		68	83
Lloyds Bank International Ltd.	0	9		60	69
London & Brazilian Bank Ltd.	0		1	4	24
London & Dublin Bank Ltd.	0				
London & South African Bank Ltd.	0				
London Merchant Bank Ltd.	0				
Mercantile Bank Ltd.	0	2		6	107
Natal Bank Ltd.	0				
National Bank Ltd.	0				
National Bank of South Africa Ltd.	0	2		9	30
National Bank of Turkey Ltd.	0		11		
New Oriental Bank Corp. Ltd.	0	1		10	11
P&O Banking Corp. Ltd.		0			
Royal Bank of Australia Ltd.	0				
Standard Bank of West Africa Ltd.	0	1		6	22
Standard Chartered Bank Africa Plc.	0	30		43	44
North Western Bank of India Ltd.	0	11			
Average	1	12	9	27	43

Timing strategy: number of years since incorporation

0 — 137

Notes: The numbers on the heatmap reflect the number of years between the bank's incorporation and its transition into the spatial position. Blank cells reflect that the bank leapfrogged or never moved into the spatial position. The first column shows the latest bank names that may differ from the original incorporation names due to banks' name changes.

Figure C6. The internationalization timing of British overseas banks: leapfrogging and sequential transitions between spatial positions via complementary entry modes (FDI and interbank arrangements)

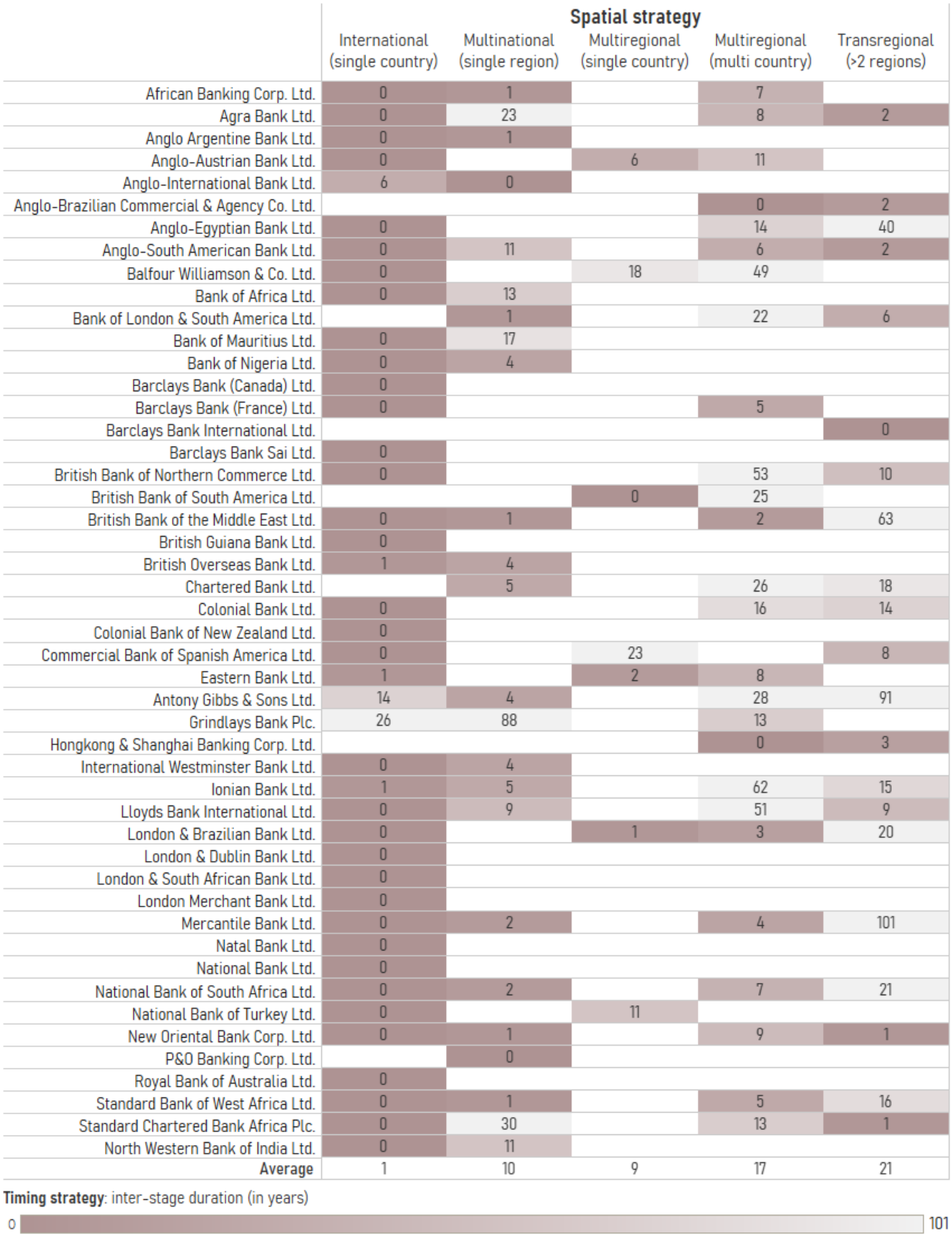
	Spatial strategy				
	International (single country)	Multinational (single region)	Multiregional (single country)	Multiregional (multi country)	Transregional (>2 regions)
African Banking Corp. Ltd.	0	1		8	
Agra Bank Ltd.	0	23		31	33
Anglo Argentine Bank Ltd.	0	1			
Anglo-Austrian Bank Ltd.	0		6	17	
Anglo-International Bank Ltd.	6	0			
Anglo-Brazilian Commercial & Agency Co. Ltd.				0	2
Anglo-Egyptian Bank Ltd.	0			14	54
Anglo-South American Bank Ltd.	0				3
Balfour Williamson & Co. Ltd.	0		18	67	
Bank of Africa Ltd.	0	13			
Bank of London & South America Ltd.		1			2
Bank of Mauritius Ltd.					0
Bank of Nigeria Ltd.	0	4			
Barclays Bank (Canada) Ltd.	0	11			
Barclays Bank (France) Ltd.	0			5	17
Barclays Bank International Ltd.					0
Barclays Bank Sai Ltd.	0		15		
British Bank of Northern Commerce Ltd.	0			53	63
British Bank of South America Ltd.			0	5	21
British Bank of the Middle East Ltd.	0	1		3	31
British Guiana Bank Ltd.	0				
British Overseas Bank Ltd.	1	4			6
Chartered Bank Ltd.		5			19
Colonial Bank Ltd.	0			16	19
Colonial Bank of New Zealand Ltd.	0				4
Commercial Bank of Spanish America Ltd.	0		23		31
Eastern Bank Ltd.	1		3		11
Antony Gibbs & Sons Ltd.	14	18		46	124
Grindlays Bank Plc.	26				92
Hongkong & Shanghai Banking Corp. Ltd.				0	3
International Westminster Bank Ltd.	0	4			7
Ionian Bank Ltd.	1	6		68	83
Lloyds Bank International Ltd.	0	9		60	69
London & Brazilian Bank Ltd.			0	1	24
London & Dublin Bank Ltd.	0				
London & South African Bank Ltd.	0				2
London Merchant Bank Ltd.	0		47		
Mercantile Bank Ltd.	0	2		6	12
Natal Bank Ltd.	0				
National Bank Ltd.	0			14	24
National Bank of South Africa Ltd.	0	2		9	30
National Bank of Turkey Ltd.	0		11		
New Oriental Bank Corp. Ltd.	0	1		10	11
P&O Banking Corp. Ltd.		0			
Royal Bank of Australia Ltd.	0				
Standard Bank of West Africa Ltd.	0	1		6	22
Standard Chartered Bank Africa Plc.	0	30		43	44
North Western Bank of India Ltd.	0	11			
Average	1	7	14	22	28

Timing strategy: number of years since incorporation

0 — 124

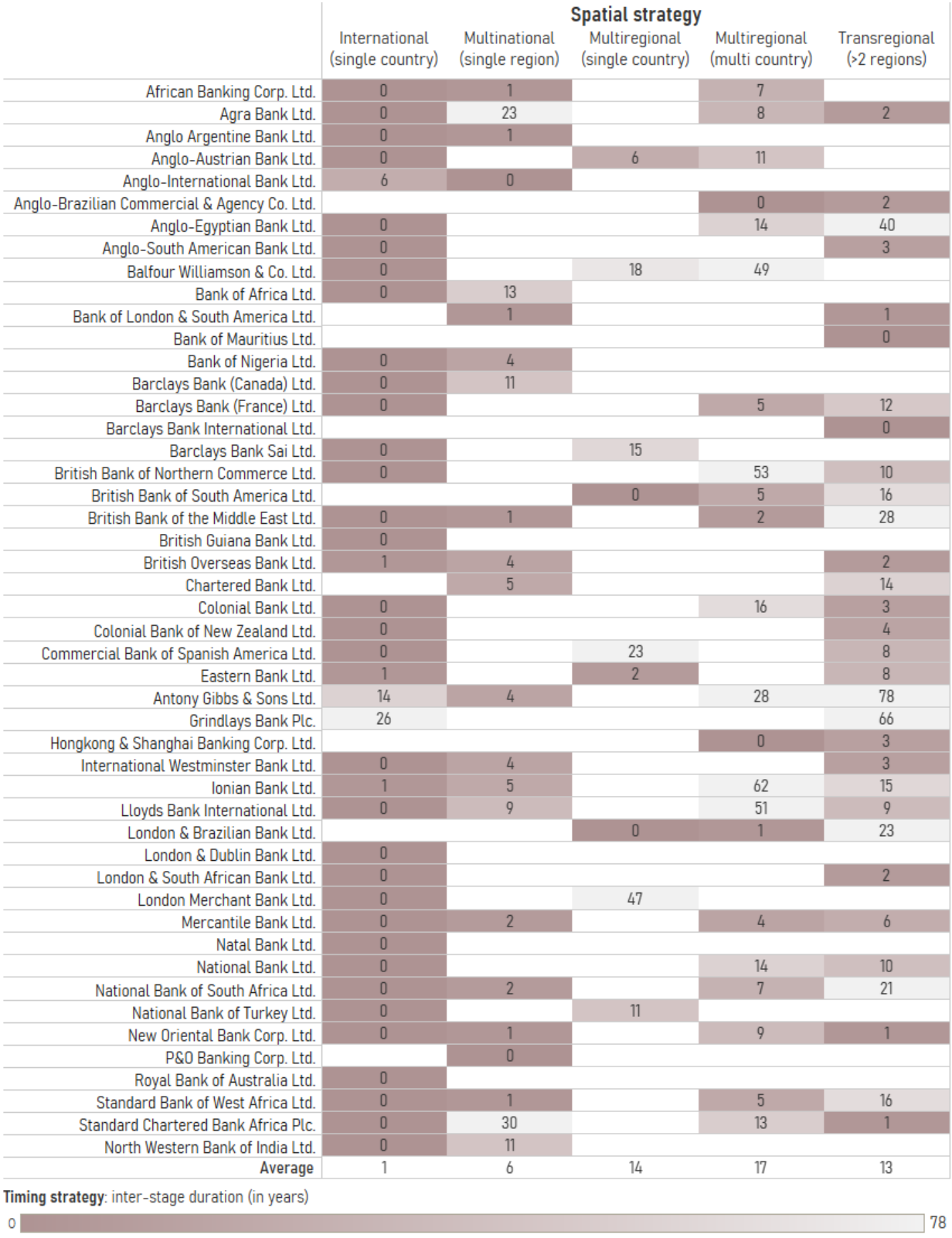
Notes: The numbers on the heatmap reflect the number of years between the bank's incorporation and its transition into the spatial position. Blank cells reflect that the bank leapfrogged or never moved into the spatial position.

Figure C7. The internationalization timing of British overseas banks: the inter-stage durations between spatial transitions via FDI entry modes



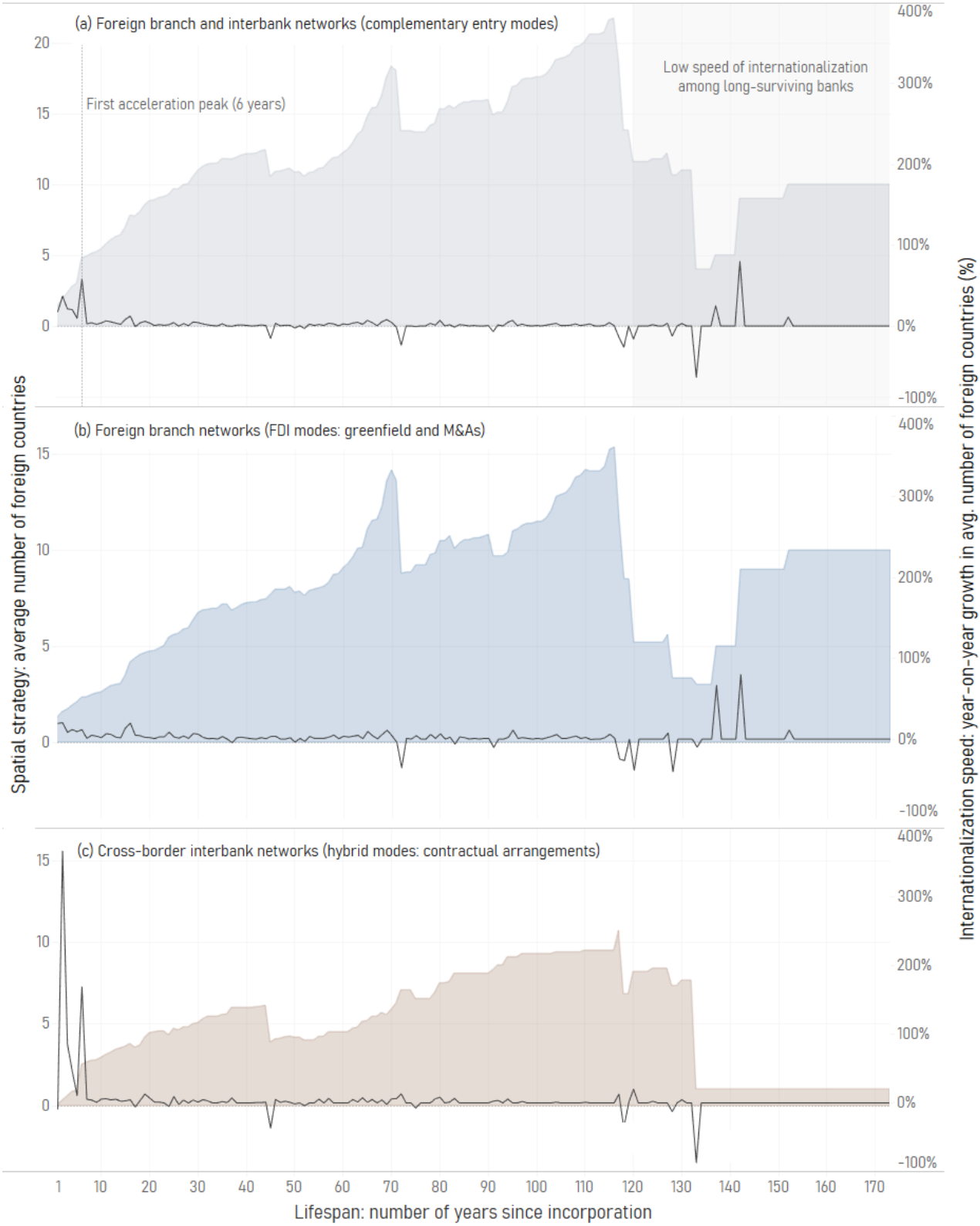
Notes: The numbers on the heatmap reflect the inter-stage durations in the number of years between banks' spatial transitions. Blank cells reflect that the bank leapfrogged or never moved into the spatial position.

Figure C8. The internationalization timing of British overseas banks: inter-stage durations between spatial transitions via complementary entry modes (FDI and interbank arrangements)



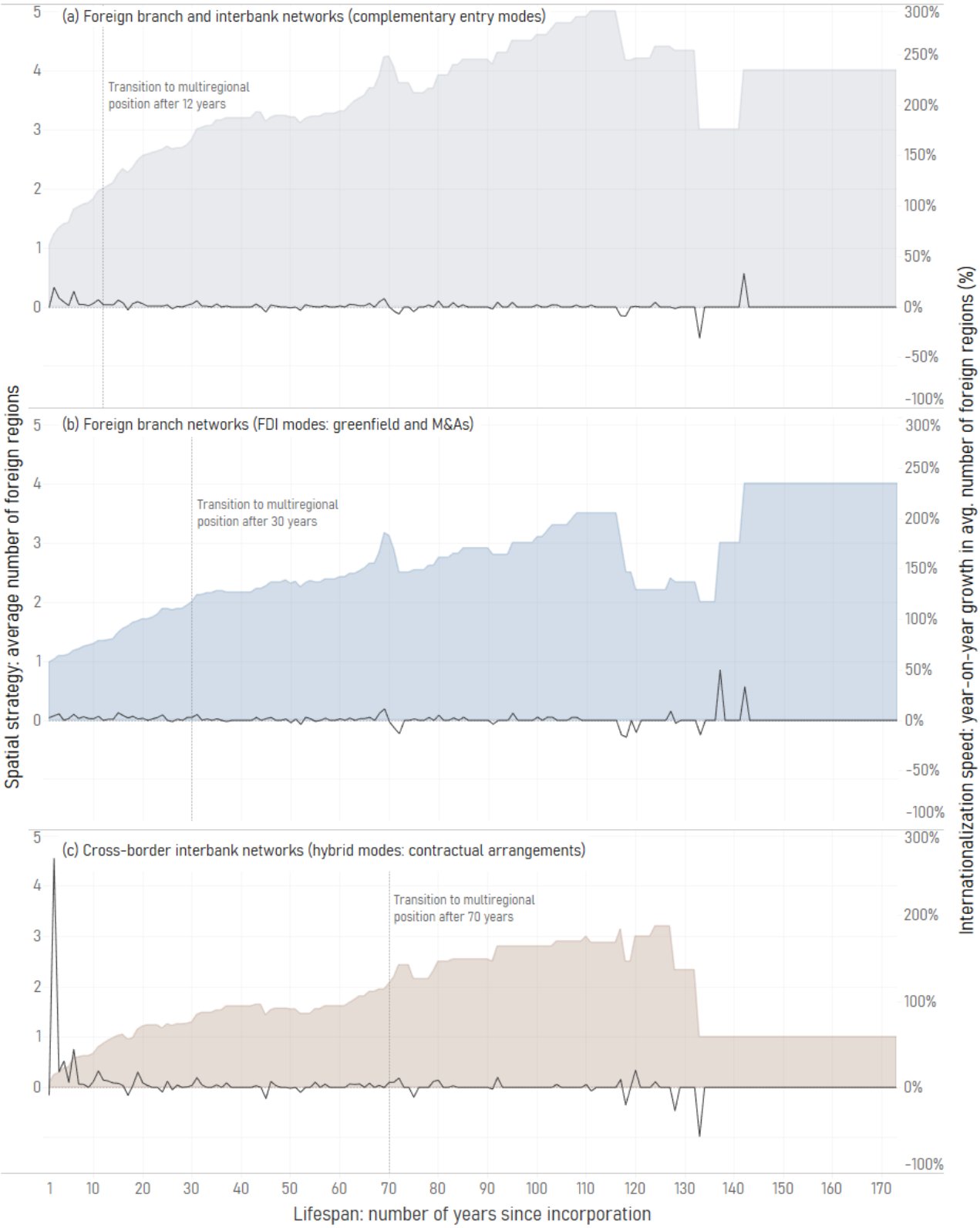
Notes: The numbers on the heatmap reflect the inter-stage durations in the number of years between banks' spatial transitions. Blank cells reflect that the bank leapfrogged or never moved into the spatial position.

Figure C9. The internationalization speed of British overseas banks: the continuous changes in the average number of foreign countries entered throughout the banks' lifespan via complementary entry modes (FDI and interbank arrangements)



Notes: The continuous changes in the average number of foreign countries entered were calculated across all British overseas banks. The internationalization speed, measured as year-on-year spatial growth rate, is shown by the plotted lines in each of the panels.

Figure C10. The internationalization speed of British overseas banks: the continuous changes in the average number of foreign regions entered throughout the banks' lifespan via complementary entry modes (FDI and interbank arrangements)



Notes: The continuous changes in the average number of foreign regions entered were calculated across all British overseas banks. The internationalization speed, measured as year-on-year spatial growth rate, is shown by the plotted lines in each of the panels.

Table C1. The spatial scope of the international networks of British overseas banks

(a) Internationalization via foreign branches (FDI) and contractual interbank arrangements (CAs)

Metric	Total	Average	Min.	Max.	SD
Banks (number)	48	-	-	-	-
Bank lifespan (years)	-	62.7	4	173	41.4
Bank international networks: entry modes					
Foreign branches (number)	5,402	112.5	1	1,804	311.9
Foreign M&As (number)	64	1.3	0	9	2.0
Foreign CAs (number)	443	9.2	0	75	18.0
Bank international networks: spatial scope					
Foreign countries (total)	165	14.9	1	80	17.2
Foreign countries (branches)	146	10.5	1	80	14.0
Foreign countries (CAs)	92	5.8	0	74	12.6
Foreign regions (total)	8	3.6	1	8	2.2
Foreign regions (branches)	8	2.6	1	8	1.9
Foreign regions (CAs)	8	1.7	0	8	2.3

(b) Regional operations of British overseas banks

Regions	Countries (num.)	Banks operating in the region (num.)			M&As (num.)
		Total network	via branches	via CAs	
Europe	36	35	28	14	14
Middle East	19	13	10	4	3
Asia	20	21	16	10	7
Australasia	7	15	9	8	0
Africa	43	28	23	12	21
North America	2	32	20	23	2
Latin America	13	19	14	9	12
Central America	25	9	7	3	5

Table C2. Impact of entry mode complementarity on internationalization timing: the cluster of banks with the most advanced multiplex strategy based on their spatial position and entry mode portfolio

Bank name	Inc. date	Number of years to transregional status (via FDI modes)	Number of years to transregional status (via complementary entry modes)	Acceleration through complementary entry mode strategy (vs. FDI)	Impact of complementary entry mode strategy on internationalization timing
Anglo-South American Bank Ltd.	1888	19	3	16	leapfrogged to transregional position (from international)
Bank of London & South America Ltd.	1862	29	2	27	leapfrogged to transregional position (from multinational)
British Bank of South America Ltd.	1863	-	21	-	achieved transregional position through sequential transition
British Bank of the Middle East Ltd.	1889	66	31	35	accelerated sequential transition to transregional position
British Overseas Bank Ltd.	1919	-	6	-	achieved transregional position through sequential transition
Chartered Bank Ltd.	1853	49	19	30	leapfrogged to transregional position (from multinational)
Grindlays Bank Plc.	1828	-	92	-	achieved transregional position through leapfrogging
London & Brazilian Bank Ltd.	1862	24	24	-	augmented initial position to multiregional
Mercantile Bank Ltd.	1853	107	12	95	accelerated sequential transition to transregional position
New Oriental Bank Corp. Ltd.	1842	11	11	0	diversified the spatial scope of transregional presence

Table C3. Summary statistics for the coded strategic metrics

Strategic metrics	min.	max.	mean	SD	CV
Strategic dimension: Space (spatial strategies)					
Foreign countries	1	80	14.938	17.248	1.155
Foreign regions	1	8	3.583	2.211	0.617
Regional diversification	1	10	3.436	2.096	0.610
Spatial transitions	0	3	1.563	0.987	0.632
Strategic dimension: Mode (entry mode strategies)					
Foreign branches	1	1804	112.542	311.949	2.772
Foreign M&As	0	9	1.333	2.046	1.534
Foreign CAs	0	75	9.229	17.958	1.946
Complementary mode	1	3	2.063	0.727	0.352
Strategic dimension: Time (timing strategies)					
Time as international	0	79	12.542	18.570	1.481
Time to multinational	0	92	10.909	17.115	1.569
Time to multiregional	0	92	17.568	22.320	1.271

Notes: The standard deviation values and coefficients of variation [>1] confirm significant heterogeneity in the spatial, entry mode, and timing strategies pursued by British overseas banks. The description and measures of all coded strategic metrics are provided in Table A3.

Table C4. Multigroup contrasts across the strategic dimensions

Strategic metrics		**Strategic dimension: Mode (entry mode strategies)**			**Homogeneity test**
		Complementary mode			
		[1] One mode	[2] Two modes	[3] Three modes	Chi^2-stat (Prob > Chi^2)
Strategic dimension: Space (spatial strategies)					
Foreign countries	mean	2.909	14.913	24.429	24.246
	sd	3.015	16.500	19.708	(0.000)
	Multigroup contrasts (diff.)	baseline	12.004	21.520	
	Prob > F (Bonferroni)		(0.129)	(0.004)	
Foreign regions	mean	1.545	3.739	4.929	5.565
	sd	1.036	1.959	2.200	(0.062)
	Multigroup contrasts (diff.)	baseline	2.194	3.383	
	Prob > F (Bonferroni)		(0.008)	(0.000)	
Regional diversification	mean	1.705	3.551	4.607	14.083
	sd	0.600	2.088	2.046	(0.001)
	Multigroup contrasts (diff.)	baseline	1.846	2.902	
	Prob > F (Bonferroni)		(0.028)	(0.001)	
Spatial transitions	mean	0.727	1.783	1.857	2.238
	sd	0.647	0.998	0.864	(0.327)
	Multigroup contrasts (diff.)	baseline	1.056	1.130	
	Prob > F (Bonferroni)		(0.007)	(0.009)	
Strategic dimension: Time (timing strategies)					
Time as international	mean	21.455	11.565	7.143	12.028
	sd	28.437	11.548	17.284	(0.002)
	Multigroup contrasts (diff.)	baseline	-9.889	-14.312	
	Prob > F (Bonferroni)		(0.436)	(0.172)	
Time to multinational	mean	12.286	11.609	9.071	8.907
	sd	18.473	11.524	24.107	(0.012)
	Multigroup contrasts (diff.)	baseline	-0.677	-3.214	
	Prob > F (Bonferroni)		(1.000)	(1.000)	
Time to multiregional	mean	21.333	20.571	11.846	0.676
	sd	27.970	20.534	24.630	(0.713)
	Multigroup contrasts (diff.)	baseline	-0.762	-9.487	
	Prob > F (Bonferroni)		(1.000)	(1.000)	

Notes: The average values (mean) and standard deviation (sd) of the strategic metrics were contrasted across the three categories of the *Complementary mode* metric, which depicts how the internationalization choices across the three strategic dimensions of space, mode and time are interrelated. The multigroup contrasts across the three categories of *Complementary mode* were tested using the Bonferroni's method of multiple comparisons. The homogeneity test for equal variances across the three categories of *Complementary mode* metric was conducted with the Bartlett's statistics.

Strategy implications (SD Space): Complementing FDI and hybrid entry mode types in their internationalization portfolios enabled banks to achieve a higher degree of spatial diversification across foreign countries and regions. Using complementary entry modes, however, did not enable banks to leapfrog to more diversified spatial positions, and, instead, is associated with a gradual or staged internationalization strategy, as confirmed by a significantly higher number of spatial transitions made by banks on the course of their internationalization (i.e., categories [2] and [3] of *Complementary modes*).

Strategy implications (SD Time): Complementing FDI and hybrid entry mode types in banks' internationalization portfolios reduced the timing of spatial transitions to more diversified spatial positions in foreign markets, although, the differences are not significant. Contrary to the evolutionary internationalization theories that suggest that firms sequentially increase the complexity of their organizational forms and resource commitments in foreign markets, we observe that more complex entry mode strategies are associated with early internationalization. The banks that use more complex entry mode strategies depict a higher level of heterogeneity in spatial and timing strategies, as confirmed with the higher standard deviation values for category [3] of *Complementary modes*, providing initial evidence indicative of hybrid strategic clustering.

Table C5. Correlation between the coded strategic metrics

Strategic metrics	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
[1] Foreign countries	-									
[2] Foreign regions	0.825 (0.000)	-								
[3] Regional diversification	0.865 (0.000)	0.579 (0.000)	-							
[4] Spatial transitions	0.095 (0.523)	0.295 (0.042)	0.193 (0.188)	-						
[5] Foreign branches	0.600 (0.000)	0.365 (0.011)	0.586 (0.000)	-0.029 (0.846)	-					
[6] Foreign M&As	0.477 (0.001)	0.422 (0.003)	0.536 (0.000)	0.253 (0.083)	0.473 (0.001)	-				
[7] Foreign CAs	0.575 (0.000)	0.590 (0.000)	0.431 (0.002)	0.050 (0.735)	-0.029 (0.843)	0.177 (0.229)	-			
[8] Complementary mode	0.450 (0.001)	0.546 (0.000)	0.495 (0.000)	0.395 (0.006)	0.080 (0.588)	0.430 (0.002)	0.457 (0.001)	-		
[9] Time to multinational	-0.190 (0.218)	-0.097 (0.532)	-0.239 (0.118)	0.013 (0.932)	-0.022 (0.886)	-0.103 (0.505)	-0.160 (0.298)	-0.071 (0.649)	-	
[10] Time to multiregional	-0.220 (0.192)	-0.086 (0.613)	-0.277 (0.097)	0.245 (0.143)	-0.033 (0.846)	0.013 (0.940)	-0.224 (0.182)	-0.175 (0.299)	0.794 (0.000)	-

Notes: The pairwise correlation coefficients indicate collinearity between the timing metrics, as well as the number of foreign countries and regions, and the regional diversification ratio. To control for multicollinearity, the metrics [1] *Foreign countries* and [2] *Foreign regions* were normalized for strategic cluster matrices; whereas metric [3] of regional diversification was not included in the multidimensional clustering analysis. The strategic justification for the inclusion of all timing metrics in the multidimensional strategic clustering analysis is provided in Table A3. Table C6 presents the multicollinearity diagnostics and transformations. The p-values are reported in parentheses.

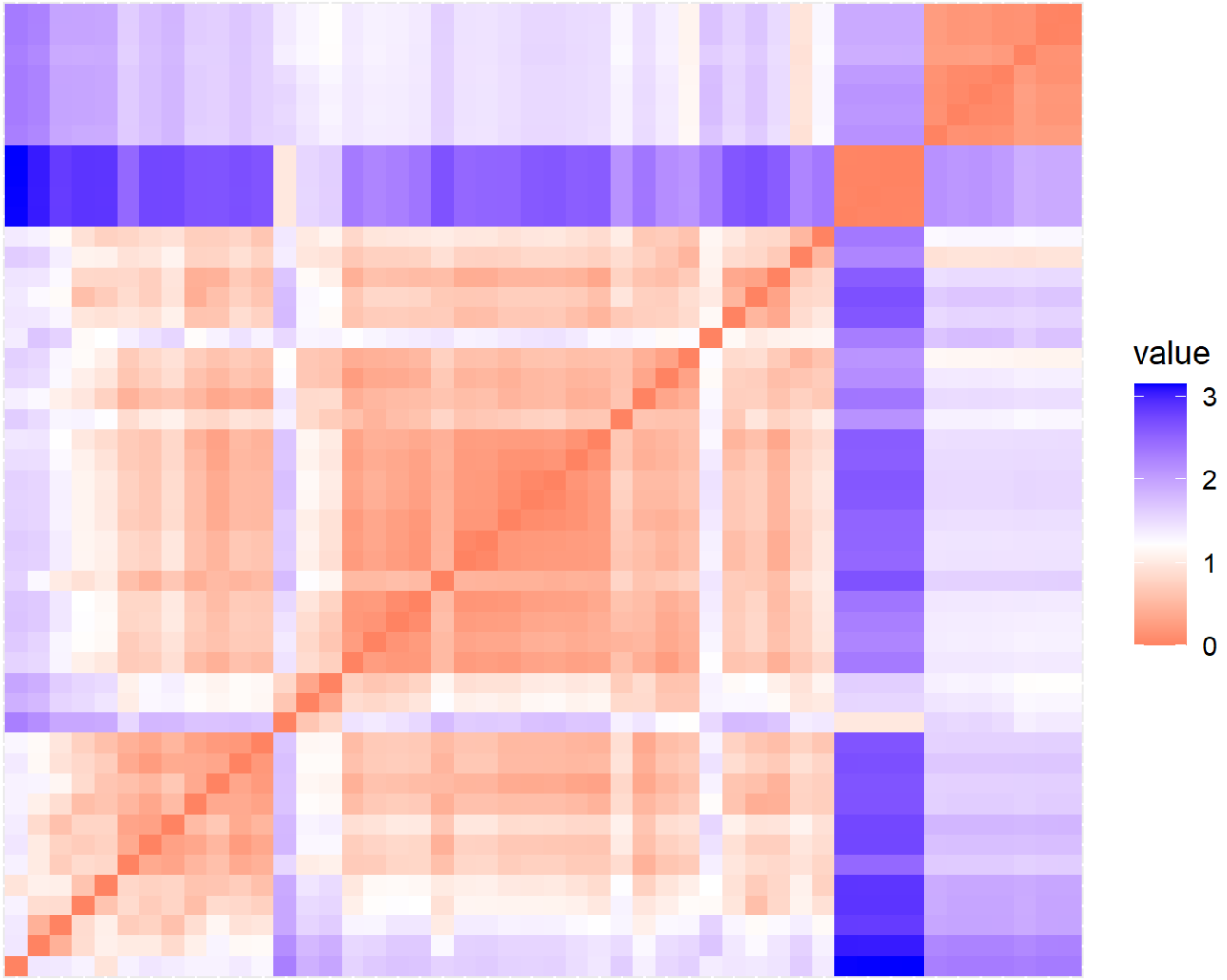
Table C6. Multicollinearity diagnostics and transformations

Raw			**Transformed**		
Strategic metrics	**VIF**	**1/VIF**	**Strategic metrics**	**VIF**	**1/VIF**
Foreign countries	24.65	0.041	Regional diversification	5.27	0.190
Regional diversification	13.22	0.076	Time to multiregional	4.69	0.213
Foreign regions	5.90	0.169	Foreign countries	4.68	0.213
Time to multiregional	4.84	0.207	Time to multinational	4.07	0.246
Time to multinational	4.09	0.245	Foreign branches	2.54	0.393
Foreign branches	2.71	0.368	Foreign regions	2.35	0.426
Foreign CAs	2.24	0.446	Foreign CAs	2.18	0.458
Spatial transitions	2.19	0.456	Spatial transitions	1.75	0.571
Foreign M&As	1.80	0.557	Foreign M&As	1.68	0.596
Complementary mode	1.58	0.631	Complementary mode	1.61	0.623
Mean VIF	**6.32**			**3.08**	

Notes: VIF reports the variance inflation factors for the strategic metrics and 1/VIF report tolerance, both indicating collinearity between the metrics of *Foreign countries* and *Regional diversification* (VIF>10). The 'transformed' solution presents multicollinearity statistics for normalized strategic metrics. The justifications for the inclusion of the strategic metrics in the multidimensional cluster analysis are provided in Table A3.

Appendix D: The multidimensional clustering analysis of multiplex internationalization strategies

Figure D1. Tendency to clustering based on the distance matrix: multidimensional dissimilarity scores between pairs of banks based their internationalization strategies across the three strategic dimensions of space, mode, and time

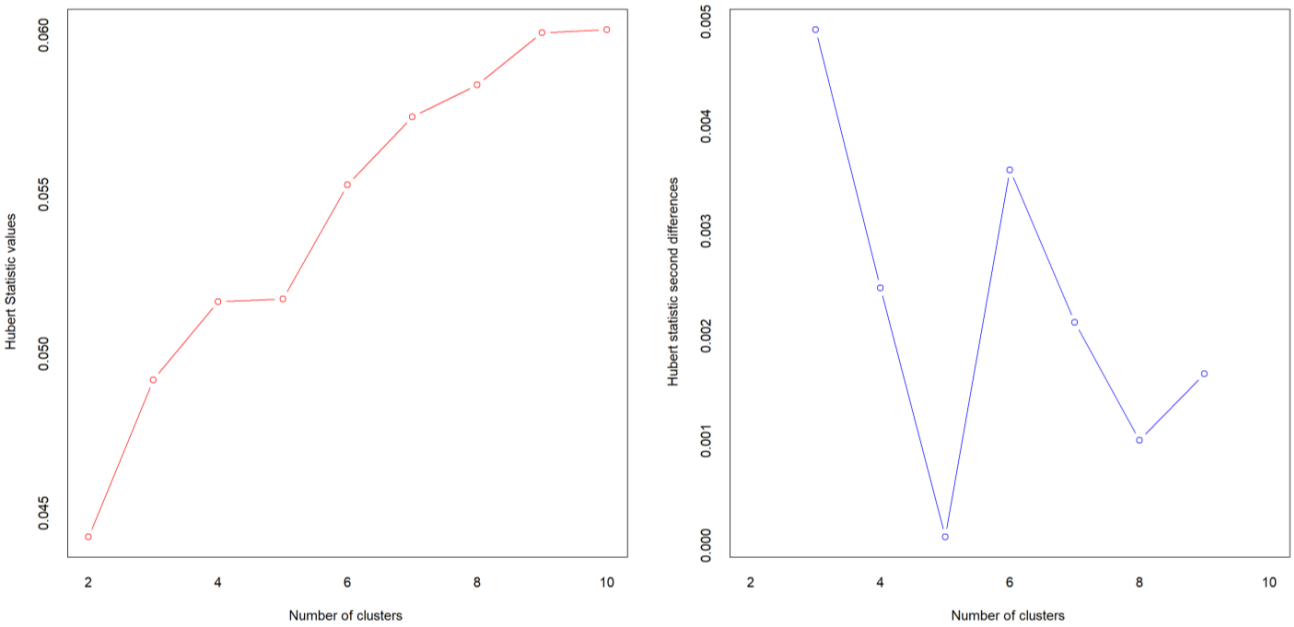


Notes: The multidimensional dissimilarity scores between pairs of banks were estimating using the Euclidian distance metric.

Table D2. Cluster validation: Ward's agglomeration linkage method

Statistics		cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]	cluster [6]
Cluster characteristics							
Number of banks	48						
Cluster size		12	16	6	3	7	4
Diameter		1.4192	0.7947	1.1493	0.8149	0.2641	0.0236
Average distance		0.7765	0.3968	0.8062	0.5981	0.1578	0.0145
Median distance		0.7636	0.4167	0.8390	0.6453	0.1445	0.0151
Separation		0.2956	0.2956	0.3397	0.6106	0.9075	0.9779
Average toother		1.3744	1.2168	1.1680	1.3142	1.6020	2.3795
Average between	1.4309						
Average within	0.4888						
N between	897						
N within	231						
Max diameter	1.4192						
Min separation	0.2956						
Within cluster SS	7.7237						
Cluster avg. silwidths		0.0835	0.5072	-0.0123	0.3554	0.8831	0.9895
Average silwidth	0.4219						
Entropy	1.6338						
WB ratio	0.3416						
Widest gap vector		1.0056	0.4664	0.9397	0.6453	0.1386	0.0172
Widest gap	1.0056						
Cluster validation indices							
Pearson gamma index	0.5361						
Dunn index	0.2083						
Dunn2 index	1.0148						
S index	0.3116						
Cophenetic correlation	0.7865						
CH index	43.4270						
Duda-Hart index	0.6542						
Pseudo T-sqr.	5.29						

Figure D2. Determining the optimal number of clusters: the Hubert index



Notes: The Hubert index is a graphical method of determining the number of clusters. Based on the plot of Hubert index, we selected a six-cluster solution, as it corresponds to a significant increase of the value of the measure, i.e., the significant peak or significant knee in the Hubert index on the second differences plot.

Table D3. Analysis of variance across the strategic clusters

	Inter-cluster variance across strategic dimensions			
	Between-cluster variance		Homogeneity test	
Strategic Dimension (SD)	F-stat	Prob > F	Chi2-stat	Prob > Chi2
Space SD (1): countries	9.47	0.0000	54.90	0.000
Space SD (2): regions	37.99	0.0000	3.19	0.363
Mode SD (3): branches	1.31	0.2777	97.16	0.000
Mode SD (4): M&As	11.66	0.0000	33.02	0.000
Mode SD (5): CAs	6.80	0.0001	47.87	0.000
Time SD (6): international	13.12	0.0000	38.00	0.000
Time SD (7): multinational	28.97	0.0000	19.73	0.001
Time SD (8): multiregional	13.36	0.0000	18.17	0.000

Notes: The analysis of variance was conducted across all six strategic clusters (Table 1). The homogeneity of variance across the strategic clusters was tested with the Bartlett's statistics.

Table D4. Multi-cluster differences across strategic dimensions

(a)	**Space: number of foreign countries (FDI & CAs)**				
Space SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-25.917*** (0.000)				
cluster [3]	-18.333* (0.082)	7.583 (1.000)			
cluster [4]	28.167** (0.017)	-2.250 (1.000)	-9.833 (1.000)		
cluster [5]	-32.310*** (0.000)	-6.393 (1.000)	-13.976 (0.766)	-5.575 (1.000)	
cluster [6]	-33.917*** (0.000)	-8.000 (1.000)	-15.583 (0.906)	-1.607 (1.000)	-4.143 (1.000)

(b)	**Space: number of foreign regions (FDI & CAs)**				
Space SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-3.583*** (0.000)				
cluster [3]	-2.583*** (0.000)	1.000 (0.627)			
cluster [4]	-3.250*** (0.000)	0.333 (1.000)	-0.667 (1.000)		
cluster [5]	-5.583*** (0.000)	-2.000*** (0.001)	-3.000*** (0.000)	-2.333** (0.022)	
cluster [6]	-5.583*** (0.000)	-2.000** (0.013)	-3.000*** (0.000)	-2.333* (0.056)	0.000 (1.000)

(c)	**Space: regional diversification (FDI & CAs)**				
Space SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-2.129* (0.054)				
cluster [3]	-0.727 (1.000)	1.402 (1.000)			
cluster [4]	-3.159 (0.145)	-1.030 (1.000)	-2.433 (0.955)		
cluster [5]	-2.219 (0.200)	-0.090 (1.000)	-1.492 (1.000)	0.940 (1.000)	
cluster [6]	-3.826** (0.010)	-1.697 (1.000)	-3.099 (0.166)	-0.667 (1.000)	-1.607 (1.000)

(d)	**Space: spatial transitions (FDI & CAs)**				
Space SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	0.208 (1.000)				
cluster [3]	0.833 (0.571)	0.625 (1.000)			
cluster [4]	-0.333 (1.000)	-0.542 (1.000)	-1.167 (0.599)		
cluster [5]	-0.810 (0.515)	-1.018* (0.092)	-1.643*** (0.007)	-0.476 (1.000)	
cluster [6]	-1.667*** (0.009)	-1.875*** (0.001)	-2.500*** (0.000)	-1.333 (0.453)	-0.857 (1.000)

(e) **Space: spatial transitions (FDI)**

Space SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	0.479 (1.000)				
cluster [3]	1.500** (0.027)	1.021 (0.338)			
cluster [4]	0.000 (1.000)	-0.479 (1.000)	-1.500 (0.348)		
cluster [5]	-0.619 (1.000)	-1.098 (0.152)	-2.119*** (0.002)	-0.619 (1.000)	
cluster [6]	-1.333 (0.209)	-1.813** (0.012)	-2.833*** (0.000)	-1.333 (0.888)	-0.714 (1.000)

(f) **Mode: number of foreign branches (greenfield FDI)**

Mode SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-219.604 (1.000)				
cluster [3]	11.500 (1.000)	231.104 (1.000)			
cluster [4]	-243.333 (1.000)	-23.729 (1.000)	-254.833 (1.000)		
cluster [5]	-239.952 (1.000)	-20.348 (1.000)	-251.452 (1.000)	3.381 (1.000)	
cluster [6]	-241.917 (1.000)	-22.313 (1.000)	-253.417 (1.000)	1.417 (1.000)	-1.964 (1.000)

(g) **Mode: number of foreign M&As (brownfield FDI)**

Mode SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-1.792** (0.026)				
cluster [3]	2.667*** (0.007)	4.458*** (0.000)			
cluster [4]	-1.833 (0.733)	-0.042 (1.000)	-4.500*** (0.001)		
cluster [5]	-1.881 (0.108)	-0.089 (1.000)	-4.548*** (0.000)	-0.048 (1.000)	
cluster [6]	-2.167 (0.157)	-0.375 (1.000)	-4.833*** (0.000)	-0.333 (1.000)	-0.286 (1.000)

(h) **Mode: number of foreign CAs (hybrid entry mode)**

Mode SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-25.479*** (0.000)				
cluster [3]	-28.333*** (0.004)	-2.854 (1.000)			
cluster [4]	-27.667* (0.062)	-2.188 (1.000)	0.667 (1.000)		
cluster [5]	-28.810*** (0.002)	-3.330 (1.000)	-0.476 (1.000)	-1.143 (1.000)	
cluster [6]	-29.667** (0.011)	-4.188 (1.000)	-1.333 (1.000)	-2.000 (1.000)	-0.857 (1.000)

(i) **Mode: complementary mode (FDI & CAs)**

Mode SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	-0.604 (0.140)				
cluster [3]	-0.500 (1.000)	0.104 (1.000)			
cluster [4]	-0.667 (1.000)	-0.063 (1.000)	-1.667 (1.000)		
cluster [5]	-1.095*** (0.004)	-0.491 (1.000)	-0.595 (1.000)	-0.429 (1.000)	
cluster [6]	-1.667*** (0.000)	-1.063** (0.032)	-1.167** (0.050)	-1.000 (0.440)	-0.571 (1.000)

(j) **Time: international position via FDI & CAs (years)**

Time SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	7.188 (1.000)				
cluster [3]	5.583 (1.000)	-1.604 (1.000)			
cluster [4]	52.583*** (0.000)	45.400*** (0.000)	47.000*** (0000)		
cluster [5]	2.964 (1.000)	-4.223 (1.000)	-2.619 (1.000)	-49.619*** (0.000)	
cluster [6]	35.750*** (0.000)	28.563*** (0.002)	30.167*** (0.007)	-16.833 (1.000)	32.786*** (0.002)

(k) **Time: multinational position via FDI & CAs (years)**

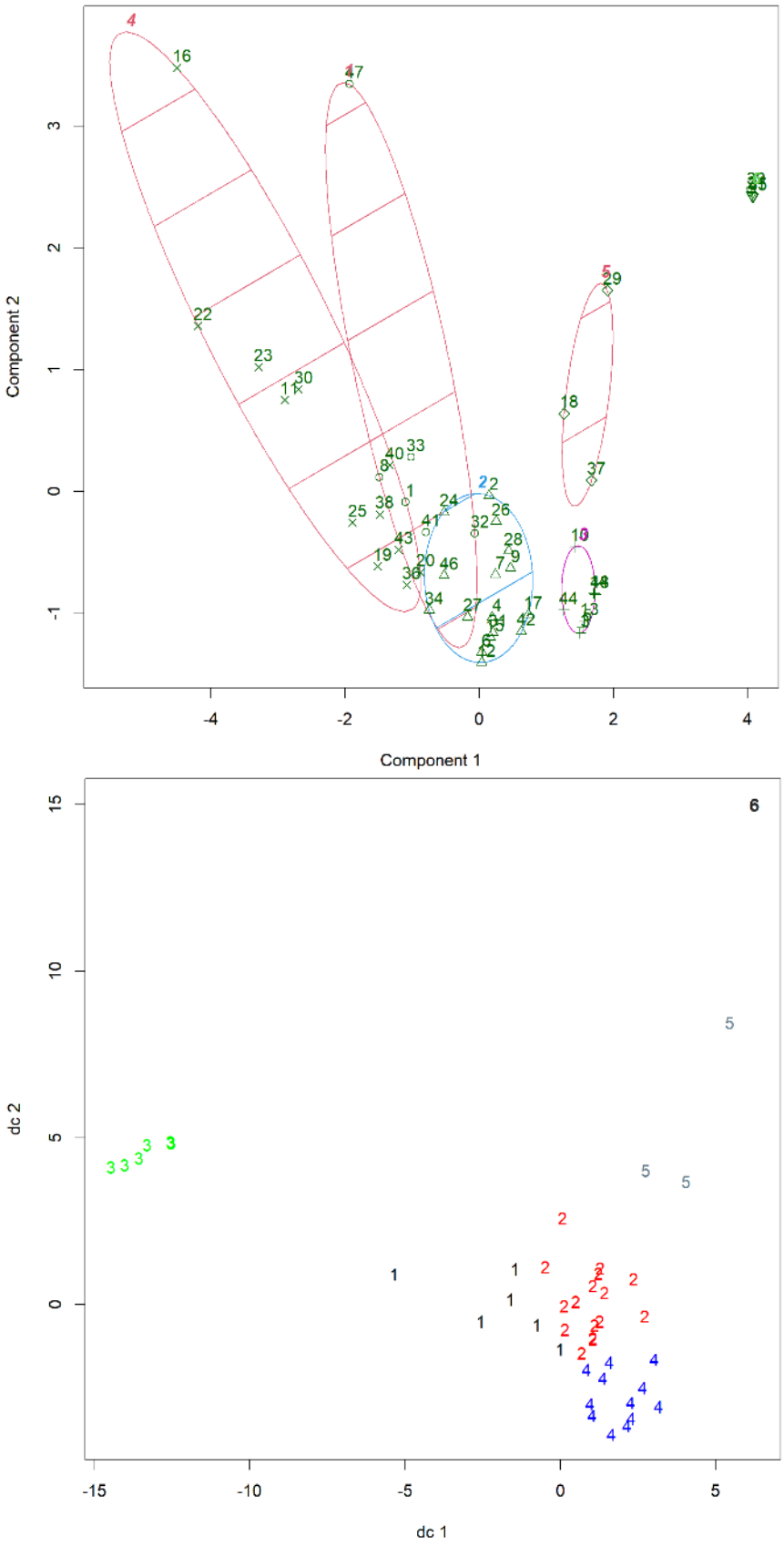
Time SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	6.980 (0.496)				
cluster [3]	5.667 (1.000)	-1.313 (1.000)			
cluster [4]	61.167*** (0.000)	54.188*** (0.000)	55.500*** (0.000)		
cluster [5]	3.738 (1.000)	-3.241 (1.000)	-1.929 (1.000)	-57.429*** (0.000)	
cluster [6]	-	-	-	-	-

(l) **Time: multiregional position via FDI & CAs (years)**

Time SD	cluster [1]	cluster [2]	cluster [3]	cluster [4]	cluster [5]
cluster [2]	7.063 (1.000)				
cluster [3]	26.333** (0.012)	19.271* (0.089)			
cluster [4]	58.500*** (0.000)	51.438 (0.000)	32.167** (0.039)		
cluster [5]	-	-	-		-
cluster [6]	-	-	-	-	-

Notes: The multi-cluster comparisons across strategic dimensions were estimated with the Bonferroni test. The p-values are reported in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.10.

Figure D4. Centroid plot against two discriminant functions: Ward's linkage method with bootstrapped p-values



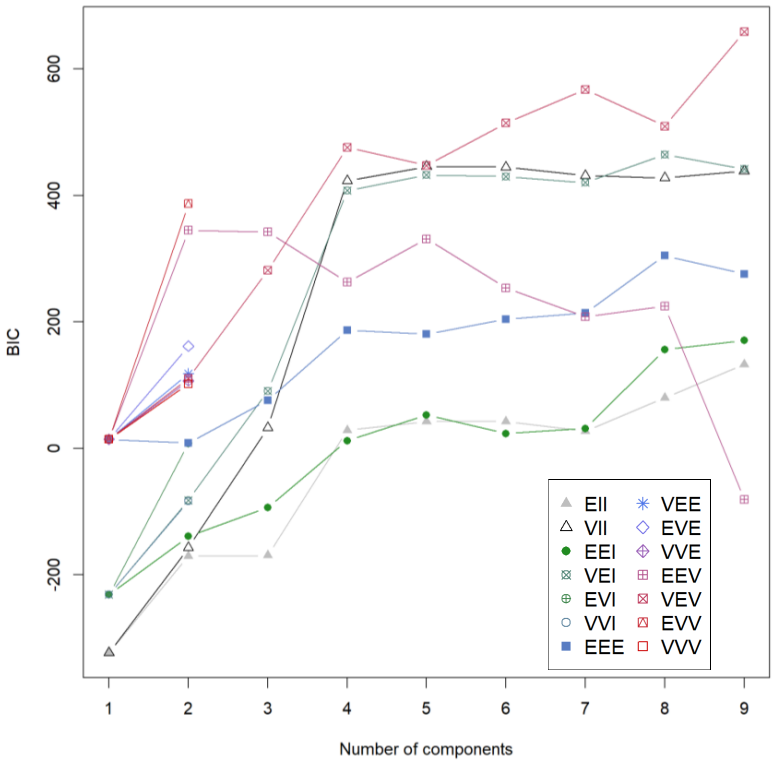
Notes: Two components explain 66.9% of the point variability.

Table D5. Model-based clustering: Gaussian finite mixture models (GMM)

(a) **VEV model with 9 components**

ML estimates	Model fit	
log-likelihood	1002.92	
df	348	
BIC	658.66	
ICL	658.66	
Components	**N: number of banks in cluster**	**Mixing probabilities**
cluster [1]	4	0.0833
cluster [2]	11	0.2292
cluster [3]	2	0.0417
cluster [4]	6	0.1250
cluster [5]	9	0.1875
cluster [6]	2	0.0417
cluster [7]	3	0.0625
cluster [8]	7	0.1458
cluster [9]	4	0.0833
Model validation	**BIC**	**BIC (diff)**
VEV model [9 components]	658.66	0.0000
VEV model [7 components]	567.57	-91.0969
VEV model [6 components]	514.20	-144.4624

(b) The BIC values for all 14 GMM models



(c)

Strategic Dimension (SD)	Mean values in strategic dimensions across VEV components (clusters)								
	cluster [1]	**cluster [2]**	**cluster [3]**	**cluster [4]**	**cluster [5]**	**cluster [6]**	**cluster [7]**	**cluster [8]**	**cluster [9]**
Space SD (1): countries	0.6429	0.2208	0.9286	0.5714	0.5041	0.7143	0.3333	0.0000	0.0000
Space SD (2): regions	0.2247	0.0806	0.7848	0.2068	0.3277	0.6519	0.0759	0.0235	0.0032
Mode SD (3): branches	0.0501	0.0204	0.0710	0.0223	0.0532	0.8472	0.0057	0.0076	0.0065
Mode SD (4): M&As	0.0556	0.0404	0.3333	0.0556	0.4198	0.6667	0.0370	0.0317	0.0000
Mode SD (5): CAs	0.4933	0.0218	0.9933	0.0911	0.1111	0.0000	0.0267	0.0114	0.0000
Time SD (6): international	0.0682	0.1088	0.0682	0.1540	0.0758	0.2273	0.8384	0.0866	1.0000
Time SD (7): multinational	0.0489	0.0761	0.0489	0.1105	0.0568	0.1630	0.6957	0.0714	1.0000
Time SD (8): multiregional	0.0489	0.0840	0.1359	0.1812	0.2258	0.2337	0.6957	1.0000	1.0000

Notes: Clustering solution was obtained by estimating Gaussian finite mixture models (see Scrucca et al., 2023) and selecting an optimal model fit based on the highest Bayesian Information Criterion (BIC). The VEV model with 9 components (C = 9) or clusters was selected, specified with the ellipsoidal distribution, varying volume of clusters (**V**), equal shape of clusters (**E**), and varying orientation of clusters (**V**). The maximum likelihood estimator (MLE) of the finite mixture model was obtained via the EM algorithm. Initialization of EM was performed using the partitions obtained from agglomerative hierarchical clustering. In panel (b), the Bayesian information criterion (BIC) values for all 14 GMM models fitted to the eight strategic metrics of banks' internationalization, with the number of components C = 1, …, 9. The optimal model, as deemed by the BIC, is the VEV model with nine components (C = 9) or strategic clusters. The three letters in the model name denote the varying volume (V), equal shape (E), and varying orientation (V) across clusters. Abbreviations in GMM models: E (equal), I (spherical), V (varying). In panel (c), the mean values were computed based on the normalized scores for each strategic dimension (SD), to control for multicollinearity.

Table D6. Model-based clustering: multiplex internationalization strategies across three strategic dimensions (time, space, and mode)

Strategic Dimension	Timing Strategy			Entry Mode Strategy				Spatial Strategy				
	International (FDI & CA)	Multinational (FDI & CA)	Multiregional (FDI & CA)	Foreign branches (num.)	Foreign M&As (num.)	Foreign CAs (num.)	Complementary mode (cat.)	Foreign countries (num.)	Foreign regions (num.)	Regional diversification	Spatial transitions (FDI & CA)	Spatial transitions (FDI)
cluster [1]												
number	4	4	4	4	4	4	4	4	4	4	4	4
mean	4.50	4.50	4.50	91.25	0.50	37	5.50	18.75	3.33	1.75	1	2.50
sd	6.61	6.61	6.61	118.02	0.58	5.03	1.73	8.42	0.71	0.50	1.41	0.58
cluster [2]												
number	11	11	11	11	11	11	11	11	11	11	11	11
mean	7.18	7	7.73	37.73	0.36	1.64	2.55	7.36	2.82	1.64	1.46	2
sd	6.24	6.43	6.04	49.49	0.51	2.87	0.52	5.41	1.78	0.81	0.82	0.63
cluster [3]												
number	2	2	2	2	2	2	2	2	2	2	2	2
mean	4.50	4.50	12.50	129	3	74.50	7.50	63	8.34	1.50	1.50	3
sd	0.71	0.71	9.19	181.02	1.41	0.71	0.71	15.56	1.29	0.71	0.71	0
cluster [4]												
number	6	6	6	6	6	6	6	6	6	6	6	6
mean	10.17	10.17	16.67	41.17	0.50	6.83	5.000	17.33	3.43	2.33	2.17	2.33
sd	9.95	9.95	16.42	29.94	0.55	8.28	0.894	6.68	1.17	0.82	1.17	0.52
cluster [5]												
number	9	9	9	9	9	9	9	9	9	9	9	9
mean	5	5.22	20.78	96.89	3.78	8.33	4.89	20	4.03	2.22	2.56	2.44
sd	7.31	7.24	26.21	93.22	1.99	12.15	2.03	11.66	1.36	0.97	0.73	0.53
cluster [6]												
number	2	2	2	2	2	2	2	2	2	2	2	2
mean	15	15	21.50	1528.50	6	0	6	52.50	8.13	1.50	1.50	2
sd	21.21	21.21	30.41	389.62	4.24	0	2.83	38.89	2.65	2.12	2.12	0
cluster [7]												
number	3	3	3	3	3	3	3	3	3	3	3	3
mean	55.33	64	64	11.33	0.33	2	3.33	7	1.92	1.33	1.33	2
sd	9.71	24.43	24.44	10.50	0.57	2.65	1.16	4.58	0.88	0.58	1.16	1
cluster [8]												
number	7	7	0	7	7	7	7	7	7	7	7	7
mean	5.71	6.57	.	14.71	0.29	0.86	1	2.86	2.86	0.86	0.71	1.57
sd	5.77	5.19	.	24.51	0.49	1.86	0	1.46	1.46	0.38	0.49	0.79
cluster [9]												
number	4	0	0	4	4	4	4	4	4	4	4	4
mean	38.50	.	.	12.70	0	0	1	1	1	1	0	1
sd	37.19	.	.	16.96	0	0	0	0	0	0	0	0
Total	**48**	**44**	**37**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**	**48**
mean	**12.54**	**10.91**	**17.57**	**112.54**	**1.33**	**9.23**	**3.58**	**14.94**	**3.44**	**1.56**	**1.48**	**2.06**
sd	**18.57**	**17.12**	**22.32**	**311.95**	**2.05**	**17.96**	**2.21**	**17.25**	**2.10**	**0.99**	**1.13**	**0.73**

Notes: The presented clustering solution was obtained by estimating 14 Gaussian finite mixture models and selecting the optimal model fit based the on Bayesian information criterion (BIC), i.e., the VEV model with 9 components or strategic clusters (see Table D5).

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