



## Research Note

## CEO aging and the MNE internationalization portfolio

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## ABSTRACT

Considering rapid global aging, we examine how aging CEOs adjust the internationalization portfolios of multinational enterprises (MNEs). We employ cognitive aging theory, which distinguishes between fluid and crystallized intelligence, and analyze panel data from 364 MNEs in Japan, the country with the world's oldest population. We find two adaptive mechanisms whereby cognitive decline may lead aging MNE CEOs to selectively adjust the internationalization portfolio in a way that reduces the cognitive demands of managing culturally distant host countries. Concurrently, they may be more likely to engage with a portfolio involving host countries with weak institutions, which require experience and intuition—traits that tend to grow with age. These findings challenge the unidimensional conceptualization of CEO aging prevalent in international business research, provide a more nuanced theoretical account of MNE CEO aging, and underscore the managerial aspect of internationalization.

## 1. Introduction

*Old age is a shipwreck.* – Charles de Gaulle

*Have you heard of an old man who forgot where he hid his treasure?* – Cicero

The global population is aging rapidly, and it is projected that one in six people in the world will be over the age of sixty by 2030 (WHO, 2022). This seismic demographic shift in the world's population will result in a large number of multinational enterprises (MNEs) being helmed by aging executives. As CEOs age, cognitive decline (i.e., a decrease in fluid intelligence) may constrain their ability to make complex decisions for their companies (Mata et al., 2011). Such decisions are especially critical in the context of internationalization, a core element of MNE strategy (Aharoni et al., 2011; Matta & Beamish, 2008), which enables firms to access new markets, resources, and value chain efficiencies (Maitland & Sammartino, 2015). Fluid intelligence refers to the “reasoning ability, and the ability to generate, transform, and manipulate different types of novel information in real time” (Zaval et al., 2015: 151). It is considered as more malleable and typically peaks in early adulthood. Cognitive decline can lead to insulation and narrowing of the perspective of CEOs, consequently reducing aging CEOs' inclination to engage in new and entrepreneurial initiatives. Therefore,

“at first glance, aging and success seem to represent a contradiction: Aging conjures a picture of loss, decline, and approaching death” (Baltes & Baltes, 1990: 4).

Paradoxically, as aging CEOs face age-related cognitive decline, they also gain more experience—often conceived as “crystallized intelligence” (Cattell, 1943) in cognitive psychology—accumulated over their career span (Mata et al., 2011). The cumulative experience is acquired through interactions within physical, ecological, and social contexts (Zaval et al., 2015), and it enables aging CEOs to be more reflective, intuitive, savvy, holistic, and inclusive (Birkinshaw et al., 2019; Ng & Law, 2014). Aging CEOs can also draw on their accumulated experience to effectively manage the processes of elaborative encoding and guide retrieval, consequently facilitating new learning (Baltes & Baltes, 1990; Beier, 2022). Charles de Gaulle, in his memoirs, famously claimed that old age is a shipwreck. However, old people are more aware of the rocks and how to navigate toward safer waters. The crystallized intelligence associated with aging contrasts squarely with the above-mentioned fluid intelligence, offering a complementary explanation for MNE internationalization. Specifically, these two forms of intelligence are not equally activated across all strategic tasks. Different internationalization contexts may impose distinct cognitive demands, such that some contexts primarily tax fluid intelligence, while others allow CEOs to draw

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more heavily on crystallized intelligence.

Against this backdrop and to more fully explain the managerial aspect of CEO aging on MNE internationalization with theoretical clarity (Beugelsdijk et al., 2018), a more nuanced framework is needed to address the behavioral complexity of aging CEOs in international business (IB). As noted by Ambos et al. (2020: 210), “our understanding of how managers take international location decisions is still scarce.” Therefore, we pose a timely and critical question: *How do aging CEOs manage the portfolio of MNE internationalization?*

To address this question, we ground this study in cognitive aging theory, which distinguishes between fluid and crystallized intelligence and considers how they evolve differently over an individual’s life span (for a review, see Beier et al., 2022; see also Lindenberger, 2014). This theory provides a framework for understanding the nuanced effects of aging, which can shape how people learn and make decisions. Building on these two forms of age-related intelligence, we theorize how aging CEOs may strategically adapt to different cognitive tasks in learning and decision-making in the context of MNE internationalization. We use a dataset of MNEs from Japan that have a substantial presence across the globe and a large proportion of aging CEOs (Romel, 2015). MNEs from Japan—a country that has one of the highest proportions of older citizens in the world—often adopt a seniority-based governance structure in which CEOs tend to assume their positions at a relatively old age (only after their predecessors have retired) (Vogel, 1975). This makes MNEs from Japan a suitable context for our study.

As highlighted by Xu and Shenkar (2002), simultaneously focusing on both culture and institutions provides a robust framework for comprehensively assessing internationalization contexts. These two dimensions, however, impose fundamentally different cognitive demands. To capture this distinction and explore the nuanced internationalization portfolio of MNEs, we first focus on the relevant country’s national culture—a critical dimension of decision-making with regard to international management (Hofstede, 2001). Culture comprises unspoken, nebulous, ambiguous, and sub-conscious social norms, cognitions, and values that are taken for granted and require tacit cultural decoding (Beugelsdijk et al., 2018). Navigating such environments places heavy demands on fluid intelligence.

We then consider a country’s institutional strength, reflecting the conceptual essence of explicit formal institutions such as laws and regulations, which are generally easily accessible, transparent, quantifiable, and thus easier to define and navigate (Kostova et al., 2020). Focusing on institutional strength allows us to capture a dimension of internationalization that interacts directly with CEO experience and accumulated knowledge, as navigating formal institutions relies more on experience-based expertise and retrieval of the prior solutions, which is closely associated with crystallized intelligence. Even when institutions are weak, the underlying rules are formally specified and communicated. Thus, the primary challenge lies in understanding how these rules are applied in practice rather than in decoding implicit meanings.

Drawing from a large-scale longitudinal dataset of 364 Japanese MNEs between 2004 and 2020, we reveal two adaptive mechanisms used by aging CEOs to address age-related issues. First, the cognitive decline associated with aging CEOs may prompt them to selectively adjust their internationalization portfolio to reduce the cognitive load of managing operations in culturally distant host countries. Meanwhile, however, they may be more likely to engage with a portfolio of host countries with weak institutions, which require experience and intuition—qualities that tend to improve with age. As such, our study offers a more comprehensive conceptualization of CEO aging, which is sensitive to the complex contextual specificities of MNEs (Roth & Kostova, 2003). By more fully employing cognitive aging theory, we challenge the unidimensional conceptualization of CEO aging prevalent in IB research, and demonstrate that aging CEOs have the agency to adaptively address age-related issues, influence the internationalization portfolio of their MNEs in nuanced ways (Coviello et al., 2017; Vahlne & Johanson,

2020), and consequently navigating diverse host country contexts (Beugelsdijk & Mudambi, 2013; Goerzen & Beamish, 2003). Our framework adds to the managerial aspect of MNE internationalization (Maitland & Sammartino, 2015; Meyer et al., 2020), sheds light on the endogenous factors that drive MNE international growth (Tan et al., 2020), and advances the societal agenda on aging at work in the context of MNEs (Ng & Law, 2014).

## 2. Theoretical background

CEOs play a pivotal role in shaping and driving firm internationalization decisions (Ambos et al., 2024; Chittoor et al., 2019; Matta & Beamish, 2008). They often act based on their cognitive frames to filter and interpret information (Hambrick & Mason, 1984). Because an organization is “a reflection of its top managers” (Hambrick & Mason, 1984: 193), our knowledge about the attributes and backgrounds of CEOs, can assist with predicting and explaining MNE behaviours (Georgakakis et al., 2023). Among various demographic characteristics, the aging of CEOs, as a critical scholarly topic, carries meaningful theoretical implications. It is a foundational construct in the tenets of upper echelons theory (Hambrick & Mason, 1984) and continues to serve as a key demographic attribute through which scholars infer cognitive tendencies and strategic orientations (for a review, see Popli et al., 2022). Although the notion of aging has given rise to conflicting public perceptions (Lupin & Wang, 2004; Zaval et al., 2015), prior IB literature often adopts a stereotypical view of aging (with exceptions, e.g., Birkinshaw et al., 2019; Ortiz-de-Mandojana et al., 2019). It problematizes CEO aging and often adopts the so-called “unidimensional decline models of aging” (Charles & Carstensen, 2010).

### 2.1. Cognitive decline with age

As individuals age, productivity may decline (Chand & Tung, 2014), partly because of a (nonpathological) cognitive decline, as held by cognitive aging theory (Salthouse, 2012). This cognitive decline affects working memory, processing speed, and executive function (e.g., reasoning, planning, and problem-solving) (Lindenberger, 2014), which can be further exacerbated by factors such as lifestyle decisions (e.g., smoking, diabetes, high cholesterol) and social isolation.<sup>2</sup> Indeed, while some cognitive abilities, such as vocabulary, may remain stable or even improve with age, tasks that require rapid processing and multitasking often demonstrate noticeable declines (Salthouse, 2010, 2019). Consequently, such aging-induced losses in brain function may constrain “fluid intelligence” (Charles & Carstensen, 2010)—that is, CEOs’ ability to make complex decisions, handle the pace of contemporary global business environments, and respond rapidly to dynamic market changes for their MNEs (Mata et al., 2011; Ng & Law, 2014). As previously noted, it may also lead to the insulation and narrowing of their perspective (Bantel & Jackson, 1989), consequently reducing their inclination to engage in new and entrepreneurial initiatives.

Some studies particularly focus on the career horizon issue of aging CEOs. In this sub-stream of research, aging CEOs are said to have a growing aversion to risks, which not only signals potential cognitive decline but also reflects a desire for “legacy conservation” owing to their shorter career horizon (Kang, 2016; Matta & Beamish, 2008). Thus, career horizon affects managerial decision-making through several mechanisms. In this respect, a shorter career horizon for aging CEOs may lead to inter-temporal trade-offs for reaping short-term benefits (Lee et al., 2018). The theoretical foundation for the career horizon issue of aging executives can be traced back to Hambrick and Mason (1984), who argue that aging executives prioritize security (i.e., financial and career). Building on this risk aversion assumption, prior research has

<sup>2</sup> <https://www.webmd.com/healthy-aging/what-to-know-about-cognitive-decline-in-older-adults>

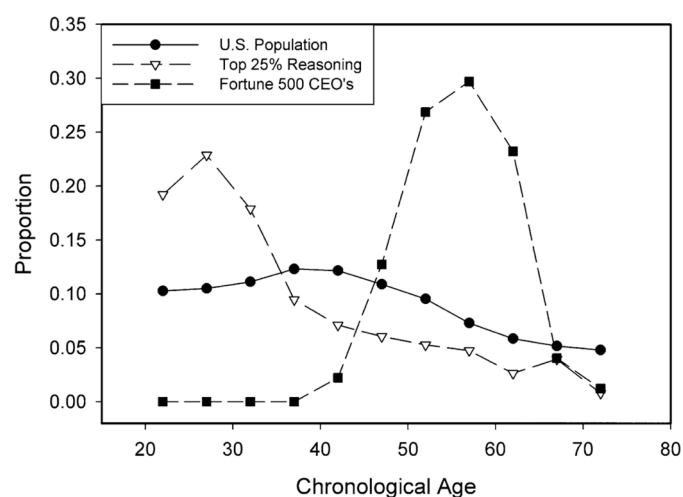
shown a variety of organizational outcomes on which aging executives have an impact (for a summary, see Table 1 of [Strike et al., 2015](#)), such as international acquisitions ([Matta & Beamish, 2008](#)), subsidiary equity ownership ([Hou et al., 2013](#)), and extent and boldness of international footprint ([Békés et al., 2021](#)).

In the quest to reduce MNEs' risk exposure, the career horizon issue may produce a myopic effect such that aging CEOs may pursue a more conservative posture because international investments are costly, complex, and uncertain, thus producing returns that would be riskier and longer term in nature. As summarized in a chronological review by [Strike et al. \(2015: 560\)](#): "extensive evidence confirms that near-retirement CEOs are cautious about taking on long-term projects with uncertain short-term outcomes, such as international acquisitions."

## 2.2. Positive view of aging

Despite the dual challenge of rapid population aging ([Chand & Tung, 2014](#)) and a turbulent global economy ([Meyer & Li, 2022](#)), we nevertheless did not observe a discernible decline in internationalization contrary to what stereotypical assumptions about aging CEO in IB literature might suggest. Consider Japanese MNEs; Japanese outward foreign direct investment increased from USD 41 billion in 2004 to USD 172 billion in 2020, despite an increasing number of aging CEOs in Japanese MNEs. [Fig. 1](#), adapted from [Salthouse \(2012\)](#), also illustrates that age-related cognitive decline in the U.S. population may not, by itself: 1) be the primary factor for selection in key decision-making positions, and 2) result in significant consequences for functioning in society. There is also empirical evidence which suggests that aging CEOs are not inherently risk-sensitive ([Ambos et al., 2020](#)).

Such a critical science–practice gap suggests that a simplistic understanding of CEO aging from the perspective of cognitive decline is not justified. To develop a more balanced view of CEO aging, our study more fully utilizes the foundational insights into cognitive aging that have been developed over the past few decades ([Anderson & Craik, 2017](#)). Specifically, we advocate for a more nuanced approach and call for theoretical extensions by incorporating a second key facet of cognitive aging theory into IB research: crystallized intelligence ([Cattell, 1943](#)). This age-related intelligence is acquired through interactions within physical, ecological, and social contexts ([Zaval et al., 2015](#)), which enables aging CEOs to be more reflective, intuitive, savvy, holistic, and inclusive ([Birkinshaw et al., 2019](#); [Ng & Law, 2014](#)). They may also develop better coping mechanisms, allowing them to navigate



**Fig. 1.** Distributions at each age between 20 and 75 from the U.S. population (2000 Census), the top 25 % of the scores on the reasoning composite from the Wechsler Adult Intelligence scale-Fourth Edition, and CEOs of Fortune 500 companies as of December 2009.

challenges more effectively. This duality has garnered significant attention outside IB (e.g., in gerontology and psychology), because comprehending both facets of cognitive aging are crucial for designing effective interventions and support systems for the aging population.

Going beyond the extant aging stereotype in IB is also in line with a call by [Beier et al. \(2022: 782\)](#), who assert that we need to consider the effect of aging "in the context of the whole person... and the work and life context in which they operate." Indeed, some aging CEOs do make long-term investment decisions (e.g., [Ortiz-de-Mandojana et al., 2019](#)) and can manage a more complex portfolio of international operations ([Békés et al., 2021](#)). In this respect, aging CEOs have "a richer model of the world that enables deployment of established behavioral repertoires" ([Lindenberger, 2014: 575](#)). Despite the cognitive decline with age, older individuals have the cognitive reserves to acquire new forms of knowledge ([Lupin & Wang, 2004](#)), especially when such new forms of knowledge are related to what they already know ([Beier, 2022](#)).

Building on the foregoing two key facets of cognitive aging theory, our study proposes that individuals have agency to proactively deal with aging-related issues ([Baltes & Baltes, 1990](#); [Ng & Law, 2014](#)). Older individuals, who become increasingly aware of age-related gains and losses ([Charles & Carstensen, 2010](#)), may selectively allocate limited resources to various goals, thus engaging in selection actions. They may also change or refine the use of resources to achieve better functioning in selected goals, that is, perform optimization actions ([Moghimi et al., 2017](#)) to develop an integrative framing of CEO aging in the context of MNE internationalization. Specifically, in addition to discussing how age-related cognitive decline among CEOs influences the way they adjust the portfolio of MNE internationalization, we also theorize how aging CEOs leverage accumulated resources such as intuition, experience, and stock knowledge, which increase with age ([Salthouse, 2012](#)). This framework provides a more nuanced understanding of aging within the context of MNE internationalization. In the next section, we turn to the cognitive decline facet of cognitive aging theory to develop our first hypothesis regarding cultural distance.

## 3. Hypothesis development

### 3.1. CEO cognitive decline and host country cultural distance

Research tradition in IB suggests locational differences significantly influence strategic action ([Berry et al., 2010](#)), making international management essentially about the "management of distance" ([Zaheer et al., 2012: 19](#)). In this tradition, one of the most established research streams is the role of cultural distance in MNE internationalization (for a review, see [Beugelsdijk et al., 2018](#)). Culture here refers to a socially shared set of norms, beliefs, and values, which are often unspoken, nebulous, ambiguous, sub-conscious, and taken for granted ([Andrews et al., 2022](#)), and yet it plays a central role in shaping individual and organizational behaviors ([Hofstede, 2001](#)).

For CEOs, cultural distance constitutes a critical dimension of decision-making with regards to international management. Dealing with cultural distance involves a great deal of tacit knowledge. However, the systematic codification of culture-specific tacit knowledge is challenging. Consequently, the outputs of previous internationalization decisions related to cultural distance may not heuristically become the inputs of future internationalization decisions ([Surdu et al., 2021](#)). In short, learning a new culture can present a *novel* challenge that cannot be resolved simply "by retrieval of the prior solutions" ([Salthouse, 2012](#)). A portfolio of culturally distant host countries may thus result in substantial learning costs for CEOs ([Beugelsdijk et al., 2018](#)) such as misunderstandings and miscommunications owing to the implicit nature of host countries' cultures.

Specifically, cultural distance can significantly impact cognitive processing by elevating informational ambiguity, thus impeding the understandability of complex situations for CEOs faced with a multitude of attentional demands. Such high levels of cognitive demand require

correspondingly high levels of fluid intelligence (Zacher, 2015). Therefore, for aging CEOs with declining cognitive capabilities related to fluid intelligence, including memory, reasoning, processing speed, and novel problem solving (Zaval et al., 2015), a lower degree of comprehension and clarity regarding culture can be an exacerbating issue. An aging CEO may then become less able to make sense of the environment in culturally distant countries in order to systematically capture, interpret, organize, and integrate culture-related information, which is often implicit and demands more embedded and face-to-face relationships. Thus, aging CEOs may selectively place less attention on exploring opportunities in culturally distant countries so as to avoid “situations that may tax new learning” (Nyberg & Pudas, 2019: 228). More formally, we propose the following hypothesis:

Hypothesis (H1). With increases in CEO age within an MNE, there is a lower likelihood of the MNE developing an internationalization portfolio that is culturally distant.

### 3.2. CEO cumulative experience and host country formal institutions

Despite cognitive declines, aging CEOs are likely to have accumulated more experience-based expertise than younger CEOs (Mata et al., 2011), and similarly are more likely to make decisions based on experience (Miller, 1991). This crystallized intelligence, accumulated from both past successes and failures, is often referred to as wisdom (Zaval et al., 2015) and can enhance CEOs' competence (Birkinshaw et al., 2019). As a result, it may lead to the development of capabilities and knowledge profiles useful for internationalization. We expect that this core facet associated with aging CEOs may be even stronger in Japanese MNEs because the seniority-based governance structure of Japanese MNEs (*nenko joretsu*) suggests that CEOs in Japanese MNEs often have a long tenure (Keeley, 2001). They may, thereby, leverage their cumulative firm-specific experience more often, as they have a psychological commitment to the organizational status quo (Belenzon et al., 2019) and are committed to their well-grounded paradigm (Hambrick & Fukutomi, 1991).

Meanwhile, as CEOs age, they not only remain as attentive to threatening stimuli as younger CEOs (Charles & Carstensen, 2010), but also are more likely to consider a wider set of factors such as threats and opportunities in the decision-making process (Ortiz-de-Mandojana et al., 2019). Using Birkinshaw et al.'s (2019) term, there is a “premium” on aging CEOs which is also consistent with Maitland and Sammartino's (2015) findings. While these authors do not explicitly address the aging issue, they find that experienced MNE executives demonstrate a richer and more connected mental model than their less experienced colleagues.

Grounded in the crystallized intelligence facet of cognitive aging (Cattell, 1943), we next investigate host countries' formal institutions—another key contextual determinant of MNEs' internationalization decisions (Xu & Shenkar, 2002). Formal institutions refer to formal rules, statutory laws, and constitutions that govern economic activities (North, 1990). They can clearly reveal important information regarding the stability of the host country's regulatory governance structure, industry standards, entry barriers, and market structure (Perkins, 2014). Fundamentally different from national culture, formal institutions are often explicitly codified/written and communicated through official channels (Andrews & Htun, 2018). As noted by Minbaeva et al. (2023), formal institutions are generally easily accessible, transparent, and quantifiable and are, therefore, relatively easier to define and navigate (as compared to culture). Given these characteristics, engaging with formal institutions may create a task environment that can promote elaborative encoding and guide retrieval, and consequently facilitate new learning. This is a process that aging CEOs with age-related experience can effectively manage (Baltes & Baltes, 1990; Beier, 2022).

Specifically, as Kostova et al. (2020) argue that the institutional strength of host countries is more consistent with the conceptual essence

of North's (1990) formal institutions, we theorize on how aging CEOs manage their MNEs' internationalization by adjusting the portfolio of host countries with different levels of institutional strength. Institutional strength is characterized by the host country's explicit rule of law, degree of corruption, and political institutions, reflecting the robustness of formal institutions.

Fundamentally different from cultural distance, weaker formal institutions do not generate the same form of ambiguity. This is because cultural distance obscures meaning through differences in shared norms, communication styles, and implicit understandings, all of which can impede cross-border communication and coordination (Kostova, 1999; Shenkar, 2001). By contrast, weaker institutions tend to be explicit and structural, although they may lead to codified yet inconsistently enforced rules (Khanna & Palepu, 2010; North, 1990). As a result, the cognitive challenges posed by cultural ambiguity versus institutional weakness are qualitatively different. Cultural ambiguity strains fluid intelligence, creating high cognitive load that aging CEOs may prefer to avoid. Weak institutions, while challenging, are navigable through crystallized intelligence, as they require experience-based expertise to manage procedural and operational risks.

Specifically, the inconsistently enforced rules in weak institutions may create some risks, but these risks are more procedural, operational, and consequently more predictable by nature. Stated differently, MNEs operating in weak institutions are more likely to face observable and analyzable challenges rather than tacit ones (Henisz, 2000; Meyer et al., 2009). Because institutional strength is more identifiable (even when selectively applied) owing to the very nature of formal institutions, aging CEOs can design adaptive responses by leveraging crystallized intelligence. This is feasible, as operating in institutionally weak environments depends less on tacit cultural decoding and more on the development of experience-based expertise (Luo, 2001; Peng et al., 2008). For example, over time aging CEOs may cultivate institutional capabilities that blend political ties, administrative know-how, and codified managerial practices to develop and maintain legitimacy in host countries and exploit opportunities (Hillman & Hitt, 1999; Oliver & Holzinger, 2008). This is essentially a process of institutional sense-making: i.e., deciphering how rules actually operate in practice versus how they appear in principle (Meyer & Peng, 2016), in which accumulated experience is a distinct advantage (Sandberg & Tsoukas, 2015; Schwandt, 2005) and enables aging CEOs to implement strategies within partial institutions.

Furthermore, although it may seem intuitive that stronger institutions enhance MNE performance (Romero-Martínez et al., 2019), this assumption is not yet supported by robust and consistent empirical evidence (for a review, see Bai et al., 2018). Grounded in institutional economics, Farah et al. (2021) find the opposite—that is, in a host country with stronger institutions, MNE subsidiaries exhibit a lower survival likelihood. They argue that stronger institutions lead to higher costs of production, intensified intra-firm competition, and limited governance improvement-related benefits in the host country. Despite the risks of corruption, agency problems, and transaction costs that arise from weaker institutions, the benefits of operating in host countries with weaker institutions, such as economic advantages and potential growth opportunities, can still outweigh the costs. Hence, selectively adjusting the internationalization portfolio to include host countries with weaker institutions, which may seem risky, can represent a calculated internationalization strategy. Likewise, Desai (2024) highlights the appeal of weaker institutions, emphasizing some attractive qualities such as institutional and competitive flexibility.

Building on the crystallized intelligence reasoning, we expect that engaging with a portfolio of host countries with weaker institutions may be especially likely for aging CEOs. This is because accumulating greater institutional knowledge and experience improves MNE executives' ability to deal with challenges related to political uncertainty in the host country (Delios & Henisz, 2003). Aging CEOs can draw on their deep experience and knowledge to efficiently comprehend formal

institutional demands, while also drawing from prior experiences—e.g., leveraging reputation (Gao et al., 2017), staffing (Yao et al., 2025), equity ownership (Chan & Makino, 2007), or supervisory structure (Zhou, 2015)—to respond to such explicit demands. Indeed, as noted by Contractor et al. (2019: 11), “measures of country risk may not reflect how managers treat the prospect of entering into a particular country market.” Experienced decision-makers may perceive navigable risks where inexperienced managers see more uncertainty. Therefore, we do not argue that weak institutions are easy, but that they are navigable through accumulated experience, making them a theoretically appropriate context where aging CEOs can strategically leverage their crystallized intelligence. Thus, we propose the following hypothesis:

Hypothesis (H2). With increases in CEO age within an MNE, there is a higher likelihood of the MNE developing an internationalization portfolio that is institutionally weak.

## 4. Methods

### 4.1. Sample and data

To test our hypotheses, we construct a longitudinal dataset using three databases. First, we collect Japanese MNE board composition data from the BoardEx database. The BoardEx database contains more than 20 years of historical data collected from credible and published sources, such as regulatory filings, corporate websites, and press releases, and contains information on both boards of directors (BODs) and CEOs. We then obtain financial and operating information on the MNEs from the Nikkei Economic Electronic Databank System (NEEDS). NEEDS offers over fifty years of financial and operating information on Japanese MNEs, allowing us to control for parent company variables. Finally, we use Toyo Keizai’s overseas Japanese company database to gather information on MNE internationalization trajectories.

To maintain consistency across the three databases, we include only foreign subsidiaries with only one Japanese parent (who has not changed) throughout their development. Consistent with the Financial Accounting Standards Board guidelines (FASB, 2008), MNEs must have at least a twenty percent ownership stake in foreign subsidiaries to partial out passive investments. We exclude subsidiaries that never reported more than nine employees to ensure that our sample does not include small representative offices or agencies, consistent with the established practice of using the Toyo Keizai database (e.g., Chakravarty et al., 2017). The final sample includes 364 Japanese MNEs with 2254 observations from 2004 to 2020.

### 4.2. Model

Given that our hypotheses formulation is based on a “within-theorization” approach (Certo et al., 2017), we use a fixed-effects regression model (Allison, 2009) to partial out the unobserved MNE heterogeneity. The results of the Hausman test also strongly support our choice of the fixed-effects models ( $p < 0.001$ ):

$$y_{it} = \mu_t + X_{it}\beta + \alpha_i + \varepsilon_{it}$$

Here,  $i$  refers to a Japanese MNE,  $t$  is time,  $y_{it}$  is the average value of the cultural distance or the institutional strength of the host countries into which the focal Japanese MNE expanded at each observation,  $\mu_t$  is a time-variant intercept,  $X_{it}$  is the vector of independent variables and control variables, and  $\beta$  represents the coefficients associated with these variables. We assume the errors  $\varepsilon_{it}$  to be exogenous to  $X_{it}$ , whereas  $\alpha_i$  is the time-invariant unobserved firm-specific heterogeneity that is assumed to be correlated to the independent variables. By using a fixed-effects regression model, we can partial out the unobservable firm-specific variances.

### 4.3. Variables

**Dependent variable.** As MNE decision-makers do not manage their foreign operations as if they operate independently (Beamish & Lupton, 2016; Meyer et al., 2011), we use an MNE portfolio approach (Lee, 2022) to code the variables. More specifically, to derive our first dependent variable, *Cultural Distance Portfolio*, we first follow Kogut and Singh (1988) and use Hofstede’s cultural dimensions to calculate the difference between Japan and each unique host country in which the MNE has at least one foreign subsidiary. Hofstede’s cultural dimensions are foundational to provide a systematic approach to describing and understanding cross-cultural differences (Hofstede, 2001). We create a Euclidean distance measure (i.e., the square root of the sum of the squared country differences in cultural value dimensions) for each unique host country and aggregate the measure to calculate the average cultural distance of the portfolio of host countries. We expect that the higher the value, the more culturally distant the portfolio of the host countries is for the focal MNE as a whole.

For the second dependent variable, *Institutional Strength Portfolio*, we adopt Farah et al.’s (2021) approach and use a composite measure that incorporates six World Bank Governance Indicators: government effectiveness, regulatory quality, rule of law, voice, accountability, and control of corruption. We first calculate the average value of each unique host country’s institutional strength and then calculate the average value of institutional strength for the portfolio of host countries in which the MNE has at least one subsidiary. We expect that the lower the value, the weaker the institutions of the portfolio of host countries for the focal MNE as a whole.

**Independent variables.** The BoardEx dataset provides information about the age of an MNE CEO on a selected Annual Report Date. Drawing from these data, our primary independent variable, *Aging CEO*, is measured as the age of the CEO in one observation year.

**Control variables.** We control for *CEO Tenure* (Darouichi et al., 2021), a positive count variable that refers to the number of years the CEO has been working in the MNE. Longer-tenured CEOs may have had more opportunities to appoint board members. This suggests that more board members demonstrate loyalty, yielding a boardroom environment that may further foster groupthink. With a longer tenure, CEOs may become more likely to ignore environmental heterogeneity and have a strong attachment to the status quo (Shen & Cannella, 2002), thus influencing their internationalization decisions. We also control for *CEO Education* (Elia et al., 2021), which is the number of undergraduate and higher qualifications. Higher educational attainment may equip CEOs with a deeper understanding of macro-environmental factors, making them better informed. It can foster greater innovation, knowledge acquisition, and openness to change. Furthermore, managers’ international experience (Herrmann & Datta, 2006) have been found to be positively associated with the education level of these managers. To better address the impact of CEO experience, we also control for *CEO Time in Role*, measured as the number of years the CEO has served as the top decision-maker in the MNE. Given that all firms in our sample are MNEs, we expect that the longer the CEO has been in the role, the more experience they will have in navigating foreign markets.

In addition, we collect data on *CEO International Experience*. Direct measures of Japanese MNE CEOs’ international experience were not available in BoardEx or other databases we accessed. Thus, we manually compile information on each CEO’s foreign education background, international work experience, and employment in non-Japanese companies by consulting multiple sources, including company websites, LinkedIn, MarketScreener, and Wikipedia in both English and Japanese. We create a binary variable: *CEO International Experience*, coded as 1 if the CEO had any form of international exposure (have foreign education background, or international work experience, or employment in non-Japanese companies) and 0 otherwise.

We also control for CEO generational cohort (North, 2019),

distinguishing between *Boomers* and *Generation X*. This generational distinction is critical in the Japanese context. Japanese Boomers, or the *Dankai Generation*, came of age during the country's postwar economic boom, fostering expectations of sustained growth and stability. In contrast, *Generation X* matured during Japan's "Lost Decade" of economic stagnation in the 1990s. Such formative experience may influence CEOs' attitude toward risk. Indeed, as noted by Malmendier and Nagel (2011), individuals' economic experiences can meaningfully shape their risk tolerance.

Similarly, at the board level, we control for the average *BOD Tenure*, calculated as the mean value of the board members' tenure in a given observation year. We then consider the issue of board member aging (Spadafora et al., 2023). Specifically, *Board Age* is constructed to measure the average age of board members at one point in time. We further control for *BOD Size*, as MNEs can increase their board size to enhance their information-processing capabilities (Sanders & Carpenter, 1998). However, this is not empirically supported in the context of Japanese MNEs (Bonn et al., 2004), suggesting a contingency effect of context specificity. We then control for the proportion of *Outside Directors*, constructed as a variable between 0 and 1. We use the role name information provided by BoardEx to identify whether a board member has been selected from outside the MNE, expecting outside directors to exercise effective independent control over management, contribute novel perspectives, and improve decision-making efficacy regarding MNE internationalization (Finkelstein et al., 2009).

We use two control variables to account for the effect of board diversity on MNE decision-making. There exists a great variety of managerial heuristics, biases, and cognitions of board members that can provide causal explanations for MNE level actions and outcomes (for a review, see Hodgkinson et al., 2023); among these, the diversity effect on information processing and decision-making quality may be particularly acute and influential in Japanese MNEs because Japanese organizations are more homogenous, rendering variation in teams more noticeable (Wiersema & Bird, 1993). First, *Board Age Diversity* is measured as the standard deviation of board members' ages per observation year. We use this variable from the BoardEx dataset to measure board age dispersion. We expect that the higher the value of this variable, the more age diverse the MNE board. Second, *Education Diversity* is the standard deviation of the number of education qualifications at the undergraduate level and above for all board members in one observation year. We use this variable to measure board education dispersion. The higher the value of this variable, the more education diverse the board becomes.

At the MNE level, we control for *MNE Size*, as it can be associated with the level of resources and slack of the MNE (Peng & Beamish, 2014), which may influence internationalization decisions. This is calculated as the number of employees in the parent firm (Matta & Beamish, 2008). Similarly, we control for *MNE Revenue* because this may render the CEO more confident in internationalization. We take the logs of these two variables to address the right skewness issue. To account for the MNE's internationalization experience, we control for *Internationalization Breadth*, which is a composite index reflecting the intensity of the MNE's foreign operations (see Marshall et al., 2020: 1134–1146 for review). This measure combines two key dimensions: (1) the total count of foreign subsidiaries the MNE maintains annually and (2) the geographic scope represented by the number of distinct host countries where the MNE has at least one subsidiary. We then normalize each dimension by dividing it by its respective maximum value in the sample. This composite measure represents the arithmetic mean of these two normalized components, resulting in a score that ranges from 0 (no international presence) to 1 (highest level of international activity). This approach provides a holistic assessment of firms' international footprint (Lu & Beamish, 2004). By the same token, we also control for *Internationalization depth*, which is the group mean of the subsidiary age to measure the MNE's duration of operations in foreign markets (Lee, 2022).

To account for the influence of other macro-level factors on MNE internationalization, we control for the average value of *GDP Growth* of the portfolio of host countries in which the focal MNE has at least one subsidiary. We obtain this data from World Bank National Accounts to consider the host country's market dynamics and potential (Henisz & Delios, 2001). Furthermore, when the host country environment is subject to dynamic change, the benefit of cognitive diversity in the boardroom is more likely to outweigh the cost that may accrue through interpersonal conflicts and social categorization (Miller et al., 2022).

Finally, we control for the observation year, which refers to the time fixed effects, and which, together with the MNE fixed effects, can result in the so-called two-way fixed effects estimator. We code this variable into a series of binary variables (i.e., *Year Dummies*) to account for the influence of aggregate time trends that may bias our estimators. Table 1 summarizes the characteristics of the variables. The average variance inflation factor (VIF) is 1.99, and the largest VIF is 4.87, indicating no serious multicollinearity risk.

## 5. Results and robustness check

To test Hypothesis 1, in which the dependent variable is *Cultural Distance Portfolio*, we run four separate models by adding the key independent variable in a hierarchical manner. Table 2 shows the results of the panel data analyses.

Model 1 includes only the control variables. In Model 2, the coefficient of the *Aging CEO* variable is  $-0.028$  and highly significant, with a  $p$ -value of 0.013. This finding supports Hypothesis 1: as the MNE CEO ages, it will be less likely for the MNE's internationalization portfolio of host countries to be culturally distant from the MNE's home country. In Model 3, we follow the suggestion of Cuervo-Cazurra et al. (2016) to run the regression without the control variables. In this separate analysis, which includes only two-way fixed effects (i.e., MNE and time fixed effects), we find that the coefficient of the *Aging CEO* variable is  $-0.019$  and highly significant, with a  $p$ -value of 0.001 suggesting that Hypothesis 1 is supported.

To test Hypothesis 2, in which the dependent variable is *Institutional Strength Portfolio*, we run three separate models by adding the key independent variable in a hierarchical manner. Table 3 summarizes the regression results.

Model 4 includes only the control variables. In Model 5, the coefficient of the *Aging CEO* variable is  $-0.005$  and significant ( $p = 0.024$ ), lending strong support to Hypothesis 2: as the MNE CEO ages, it will be more likely for the MNE's internationalization portfolio to be institutionally weak. To test the robustness of the results, we exclude the control variables in Model 6. In this separate analysis, in which we include only two-way fixed effects, the coefficient of the *Aging CEO* variable is  $-0.003$  and significant ( $p = 0.054$ ), again supporting Hypothesis 2.

### 5.1. Robustness check

When CEOs reach a more advanced age, arguably there might be a conflation of two mechanisms: (a) that aging will lead to the decrease in fluid intelligence and increase in crystallized intelligence, that is, the aging effect; and (b) that CEOs nearing their retirement might be more likely to behave in a risk-averse manner and retreat from internationalization, that is, the career horizon effect (Kang, 2016; Matta & Beamish, 2008). To parse out the intertwined career horizon effect (and the resulting legacy conservation) on MNE internationalization portfolio to test the robustness of the result for Hypothesis 1, we create three subsamples by excluding the observations where the CEO is within three years of retirement, two years of retirement, and one year of retirement, respectively. This approach allows us to exclude observations where CEOs may face greater expectations to retire. Table 4 shows the results of the subsample analyses.

In Model 7, we exclude the observations where the CEO is within

**Table 1**  
Descriptive statistics.

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Cultural Distance Portfolio	12.18	2.26	1.00												
2. Institutional Strength Portfolio	0.58	0.47	0.09*	1.00											
3. Aging CEO	68.37	6.63	0.03	-0.01	1.00										
4. CEO Tenure	28.90	14.73	0.04	0.06*	0.39*	1.00									
5. CEO International Experience	0.46	0.50	-0.03	0.05*	-0.10*	-0.12*	1.00								
6. Outside Director	0.27	0.16	0.02	0.05*	-0.14*	-0.13*	0.16*	1.00							
7. BOD Size	10.56	3.64	0.13*	-0.03	0.26*	0.18*	-0.03	-0.37*	1.00						
8. BOD Tenure	19.14	8.89	0.02	0.09*	0.21*	0.65*	-0.12*	-0.47*	0.29*	1.00					
9. BOD Age	66.46	3.60	0.03	0.11*	0.49*	0.30*	-0.07	-0.05*	0.15*	0.34*	1.00				
10. MNE Revenue	13.46	1.40	0.05*	-0.02	0.12*	0.22*	0.10*	-0.09*	0.36*	0.23*	0.29*	1.00			
11. MNE Size	9.68	1.36	0.08*	-0.03	0.11*	0.23*	0.10*	-0.05*	0.33*	0.22*	0.25*	0.87*	1.00		
12. GDP Growth	2.84	2.73	0.06*	-0.26*	-0.01	0.00	-0.05*	-0.19*	0.06*	0.08*	-0.12*	-0.05*	-0.05*	1.00	
13. CEO Education	0.63	0.79	-0.07*	0.07*	-0.07*	-0.10*	0.28*	0.13*	0.06*	-0.11*	-0.02	0.22*	0.22*	0.03	1.00
14. Boomer	0.61	0.49	0.02	-0.03	-0.52*	-0.22*	0.06*	0.23*	-0.21*	-0.16*	-0.07*	-0.06*	-0.06*	-0.12*	0.00
15. Generation X	0.02	0.13	-0.03	-0.09*	-0.37*	-0.16*	-0.02	0.04	-0.11*	-0.16*	-0.44*	-0.19*	-0.18*	-0.02	0.00
16. CEO Time in Role	4.97	5.82	-0.06*	0.01	0.28*	0.18*	-0.05*	-0.08*	0.00	0.05*	0.00	-0.21*	-0.18*	0.01	-0.02
17. BOD Education Diversity	0.66	0.36	-0.03	0.06*	0.00	-0.04*	0.22*	0.35*	-0.04*	-0.21*	-0.05*	0.17*	0.15*	-0.07*	0.33*
18. BOD Age Diversity	5.80	2.23	-0.01	0.07*	0.10*	-0.04	0.05*	0.17*	0.00	-0.14*	-0.01	-0.26*	-0.20*	-0.03	0.06*
19. Internationalization Breadth	0.11	0.11	-0.14*	-0.07*	0.11*	0.24*	0.12*	-0.08*	0.18*	0.26*	0.16*	0.48*	0.45*	-0.04	0.06*
20. Internationalization Depth	22.07	9.19	-0.10*	0.21*	0.05*	0.18*	0.02	0.09*	0.01	0.16*	0.23*	0.18*	0.21*	-0.24*	0.05*
			14	15	16	17	18	19	20						
14. Boomer		1.00													
15. Generation X		-0.16*		1.00											
16. CEO Time in Role		-0.20*		0.03	1.00										
17. BOD Education Diversity		0.02		-0.02	-0.01	1.00									
18. BOD Age Diversity		-0.11*		0.05*	0.23*	0.10*	1.00								
19. Internationalization Breadth		-0.10*		-0.07*	-0.10*	0.05*	-0.10*	1.00							
20. Internationalization Depth		0.15*		-0.14*	-0.08*	0.10*	-0.03	0.12*	1.00						

Note: \* $p < 0.05$ ; The time fixed effect Year Dummies is not included in Table 1.

**Table 2**  
Empirical results for H1.

	Model 1		Model 2		Model 3	
<i>DV: Cultural Distance Portfolio</i>						
<i>Regressors:</i>						
<u>Control Variables</u>						
CEO Tenure	-0.002	(0.625)	0.001	(0.789)		
CEO International Experience	0.142	(0.046)	0.120	(0.105)		
Outside Director	0.737	(0.077)	0.749	(0.062)		
BOD Size	0.011	(0.349)	0.010	(0.410)		
BOD Tenure	0.009	(0.324)	0.007	(0.428)		
BOD Age	-0.024	(0.218)	-0.016	(0.412)		
MNE Revenue	-0.059	(0.713)	-0.014	(0.926)		
MNE Size	0.032	(0.912)	-0.009	(0.973)		
GDP Growth	-0.001	(0.995)	-0.014	(0.886)		
CEO Education	-0.046	(0.412)	-0.022	(0.677)		
Boomer	0.118	(0.174)	-0.045	(0.709)		
Generation X	0.063	(0.796)	-0.489	(0.142)		
CEO Time in Role	0.002	(0.785)	0.006	(0.299)		
BOD Education Diversity	-0.096	(0.483)	-0.144	(0.300)		
BOD Age Diversity	0.023	(0.253)	0.027	(0.194)		
Internationalization Breadth	-2.090	(0.181)	-2.436	(0.128)		
Internationalization Depth	0.003	(0.877)	0.002	(0.895)		
<u>Key Predictor</u>						
Aging CEO			-0.028	(0.013)	-0.019	(0.001)
Year Dummies	Yes		Yes		Yes	
Observations	1894		1862		2249	
Number of MNEs	332		331		364	
R-Squared	0.059		0.068		0.042	

Notes: *P*-values in parentheses; Robust standard errors; Log-transformation of the *Aging CEO* variable will not influence the significance of the findings; We conducted an additional robustness check, where we adjusted the weighting of host countries based on the number of subsidiaries the focal MNE operates in each location. Specifically, we recalculated the dependent variables by computing the group mean of cultural distance, thereby weighting the values according to the number of subsidiaries in each host country. This alternative operationalization allowed us to better capture the strategic salience of host countries. Hypothesis 1 remained supported under this specification.

**Table 3**  
Empirical results for H2.

	Model 4		Model 5		Model 6	
<i>DV: Institutional Strength Portfolio</i>						
<i>Regressors:</i>						
<u>Control Variables</u>						
CEO Tenure	0.000	(0.769)	0.001	(0.497)		
CEO International Experience	0.009	(0.578)	0.010	(0.551)		
Outside Director	0.119	(0.132)	0.111	(0.143)		
BOD Size	0.004	(0.074)	0.004	(0.076)		
BOD Tenure	0.002	(0.328)	0.001	(0.395)		
BOD Age	-0.002	(0.476)	-0.004	(0.250)		
MNE Revenue	0.027	(0.402)	0.021	(0.520)		
MNE Size	-0.010	(0.859)	-0.018	(0.741)		
GDP Growth	-0.090	(0.000)	-0.087	(0.000)		
CEO Education	-0.019	(0.093)	-0.021	(0.041)		
Boomer	0.012	(0.541)	-0.024	(0.320)		
Generation X	0.109	(0.306)	0.007	(0.952)		
CEO Time in Role	0.001	(0.597)	0.001	(0.318)		
BOD Education Diversity	-0.048	(0.051)	-0.043	(0.072)		
BOD Age Diversity	0.003	(0.477)	0.003	(0.383)		
Internationalization Breadth	-0.199	(0.396)	-0.185	(0.431)		
Internationalization Depth	0.012	(0.001)	0.012	(0.001)		
<u>Key Predictor</u>						
Aging CEO			-0.005	(0.024)	-0.003	(0.054)
Year Dummies	Yes		Yes		Yes	
Observations	1898		1866		2254	
Number of MNEs	333		332		364	
R-Squared	0.245		0.238		0.017	

Notes: *P*-values in parentheses; Robust standard errors; Log-transformation of the *Aging CEO* variable will not influence the significance of the findings. We conducted an additional robustness check, where we adjusted the weighting of host countries based on the number of subsidiaries the focal MNE operates in each location. Specifically, we recalculated the dependent variables by computing the group mean of institutional strength, thereby weighting the values according to the number of subsidiaries in each host country. This alternative operationalization allowed us to better capture the strategic salience of host countries. Hypothesis 2 remained supported under this specification.

**Table 4**  
Robustness check for H1.

	Model 7		Model 8		Model 9	
<i>DV: Cultural Distance Portfolio</i>						
<i>Regressors:</i>						
<u>Control Variables</u>						
CEO Tenure	0.033	(0.014)	0.010	(0.399)	0.004	(0.672)
CEO International Experience	0.220	(0.296)	0.160	(0.255)	0.113	(0.275)
Outside Director	0.644	(0.298)	0.952	(0.046)	0.673	(0.136)
BOD Size	-0.015	(0.317)	0.004	(0.798)	0.004	(0.746)
BOD Tenure	-0.014	(0.201)	0.007	(0.493)	0.004	(0.638)
BOD Age	-0.030	(0.416)	-0.039	(0.102)	-0.020	(0.342)
MNE Revenue	0.035	(0.877)	-0.069	(0.699)	-0.083	(0.618)
MNE Size	-0.278	(0.428)	-0.051	(0.871)	0.009	(0.975)
GDP Growth	-0.234	(0.250)	-0.076	(0.586)	-0.024	(0.817)
CEO Education	-0.772	(0.019)	-0.295	(0.038)	-0.058	(0.466)
Boomer	-0.322	(0.453)	-0.187	(0.440)	0.015	(0.923)
Generation X	0.000	(.)	-0.899	(0.223)	-0.524	(0.190)
CEO Time in Role	0.024	(0.209)	0.007	(0.456)	0.006	(0.394)
BOD Education Diversity	-0.276	(0.159)	-0.278	(0.079)	-0.197	(0.159)
BOD Age Diversity	0.062	(0.047)	0.054	(0.039)	0.034	(0.139)
Internationalization Breadth	-6.317	(0.096)	-4.189	(0.100)	-2.059	(0.231)
Internationalization Depth	-0.035	(0.373)	-0.003	(0.913)	0.006	(0.762)
<u>Key Predictor</u>						
Aging CEO	-0.119	(0.026)	-0.067	(0.020)	-0.036	(0.036)
Year Dummies	Yes		Yes		Yes	
Observations	712		1078		1542	
Number of MNEs	238		281		311	
R-Squared	0.225		0.140		0.087	

Notes: *P*-values in parentheses; Robust standard errors; Log-transformation of the *Aging CEO* variable will not influence the significance of the findings.

three years of retirement. The coefficient of the *Aging CEO* variable is -0.119 and highly significant, with a *p*-value of 0.026. In Model 8, we exclude the observations where the CEO is within two years of retirement. The coefficient of the *Aging CEO* variable is -0.067 and again highly significant (*p* = 0.020). In Model 9, we exclude the observations where the MNE CEO is within one year of retirement. The coefficient of the *Aging CEO* variable is -0.036 and highly significant, with a *p*-value

of 0.036. Hypothesis 1 remains supported throughout our subsample analyses.

We then use the foregoing three subsamples to test the robustness of the result for Hypothesis 2. Table 5 shows the results of the subsample analyses.

In Model 10, we exclude the observations where the CEO is within three years of retirement. The coefficient of the *Aging CEO* variable is

**Table 5**  
Robustness check for H2.

	Model 10		Model 11		Model 12	
<i>DV: Institutional Strength Portfolio</i>						
<i>Regressors:</i>						
<u>Control Variables</u>						
CEO Tenure	0.007	(0.058)	0.002	(0.375)	0.001	(0.449)
CEO International Experience	-0.022	(0.570)	-0.019	(0.400)	0.004	(0.846)
Outside Director	0.094	(0.390)	0.190	(0.062)	0.113	(0.196)
BOD Size	0.000	(0.990)	0.002	(0.546)	0.003	(0.186)
BOD Tenure	-0.003	(0.241)	0.001	(0.537)	0.001	(0.490)
BOD Age	-0.001	(0.835)	-0.007	(0.082)	-0.005	(0.151)
MNE Revenue	0.073	(0.102)	0.034	(0.361)	0.018	(0.618)
MNE Size	-0.067	(0.261)	0.003	(0.964)	-0.004	(0.948)
GDP Growth	-0.092	(0.001)	-0.106	(0.000)	-0.098	(0.000)
CEO Education	-0.023	(0.658)	-0.019	(0.491)	-0.027	(0.060)
Boomer	-0.006	(0.941)	-0.049	(0.300)	-0.026	(0.426)
Generation X	0.000	(.)	-0.303	(0.011)	-0.059	(0.575)
CEO Time in Role	0.001	(0.683)	0.000	(0.796)	0.001	(0.397)
BOD Education Diversity	-0.037	(0.218)	-0.040	(0.134)	-0.033	(0.182)
BOD Age Diversity	-0.001	(0.807)	0.001	(0.824)	0.004	(0.361)
Internationalization Breadth	-0.104	(0.811)	-0.109	(0.712)	-0.255	(0.310)
Internationalization Depth	0.010	(0.119)	0.012	(0.005)	0.011	(0.003)
<u>Key Predictor</u>						
Aging CEO	-0.019	(0.007)	-0.012	(0.005)	-0.007	(0.014)
Year Dummies	Yes		Yes		Yes	
Observations	714		1081		1546	
Number of MNEs	248		290		321	
R-Squared	0.296		0.289		0.247	

Notes: *P*-values in parentheses; Robust standard errors; Log-transformation of the *Aging CEO* variable will not influence the significance of the findings.

–0.019 and highly significant, with a  $p$ -value of 0.007. In Model 11, we exclude the observations where the CEO is within two years of retirement. The coefficient of the *Aging CEO* variable is –0.012 and highly significant ( $p = 0.005$ ). In Model 12, we exclude the observations where the CEO is within one year of retirement. The coefficient of the *Aging CEO* variable is –0.007 and again significant, with a  $p$ -value of 0.014. These subsample analyses provide strong support for Hypothesis 2.

In a separate analysis, we use another commonly employed measure of institutional distance, *Administrative Distance* (Berry et al., 2010; Kostova et al., 2020), to further assess the validity of our theoretical argument. This measure provides a complementary lens on institutional complexity, as it reflects explicit, codified, and structurally embedded differences across countries. Similar to institutionally weak countries, operating in administratively distant countries can provide unique opportunities for Japanese MNEs. While administrative distance (reflecting differences in bureaucratic patterns due to colonial ties, language, religion, and the legal system) may increase coordination costs as weak institutions do, it also exposes MNEs to diverse institutional environments that may foster strategic flexibility and institutional arbitrage opportunities. We expect that Japanese MNEs, constrained by a highly formalized domestic institutional environment, can particularly leverage such diversity to build competencies in host countries. In this context, aging CEOs, who possess greater crystallized intelligence, are well equipped to navigate administratively distant environments. Their accumulated experience enables them to better comprehend explicit administrative differences. It also enables them to accordingly develop adaptive responses that exploit the opportunities that arise from administratively distant environments. In line with this view, we find that the coefficient of the *Aging CEO* variable is 0.142 and significant with a  $p$ -value of 0.066. Therefore, with increases in CEO age within an MNE, there is a higher likelihood of the MNE developing an internationalization portfolio that is institutionally distant. We further assess the validity of our theoretical argument through a series of additional *post hoc* analyses (see Online Appendix).

## 6. Discussion and conclusion

Grounded in cognitive aging theory, this study explores how aging CEOs manage MNE internationalization portfolio and critiques the unidimensional conceptualization of CEO aging. Specifically, we unpack the inherent behavioral complexity of aging by demonstrating that age-related cognitive decline may lead aging CEOs to selectively adjust the internationalization portfolio to reduce the cognitive demands of managing culturally distant host countries. Concurrently, they may be better suited to coping with a portfolio of host countries with weak institutions, as this may rely on experience and intuition, which tend to grow with age. Together, these findings bring to light the adaptive mechanisms aging CEOs adopt in the course of MNE internationalization.

The IB research tradition highlights that the most neglected and differentiating internationalization factor is the critical role of managers (Aharoni et al., 2011; Maitland & Sarmartino, 2015). For instance, Desai (2024) theorizes that some MNE executives may be drawn to opportunities presented by weak institutional environments. However, not all MNEs are able to shift their focus from institutional challenges to the competitive advantages such host country contexts may offer. Our research provides a theoretical explanation by delineating the intricate role of CEO aging in shaping internationalization strategies (Coviello et al., 2017; Vahlne & Johanson, 2020). Our study also addresses the call by Tan et al. (2020: 520) to focus on “the endogenous factors that drive international growth, as well as endogenizing some of the seemingly exogenous growth determinants.” Penrose’s (1959) growth theory suggests that external host country conditions are not serious barriers to growth. Instead, insufficient managerial capabilities are the main barrier. In line with this view, our study provides interdisciplinary insights into how aging CEOs strategically leverage managerial capabilities and alleviate managerial constraints to engage with internationalization. We

highlight that contrary to being quasi-fixed or simply declining with age, managerial capabilities in internationalization are dynamic and intricately influenced by the aging process of CEOs in complex ways.

Given that MNE research is often characterized by interesting tensions (Eden & Nielsen, 2020), we use this context as “a natural testing ground for cognitive research” (Maitland & Sarmartino, 2015: 734). Through explicit theorizing simultaneously on both the national culture (Beugelsdijk et al., 2018) and formal institutions (Kostova et al., 2020) of host countries, our study illustrates the differential effects of CEO aging. Our findings not only add to a more definitive understanding of how various aspects of the host country context differentially and jointly influence MNE decisions (Beugelsdijk et al., 2018), but also refine the boundary conditions of the risk-oriented conceptualization of CEO aging often invoked by prior IB research. In particular, our findings on the decision-making of aging CEOs along the dimension of weak institutions and our *post hoc* analysis regarding the insignificant relationship between CEO aging and internationalization intensity highlight the limitations of previous risk-aversion arguments underpinning CEO aging (c. f., Matta & Beamish, 2008).

Overall, our study accounts for both the behavioral complexity of aging managers in MNE hierarchies and the complexities of country variation. Correspondingly, it brings theorizing closer to the realities of managerial work inside contemporary MNEs. It also contributes to a more nuanced understanding of MNE internationalization through a micro-foundational approach that links IB with the behavioral factors emanating from aging CEOs (Desai, 2024; Farah et al., 2021; Meyer et al., 2020). The cognition and preferences of CEOs are key to understanding real-world strategic decision-making within MNEs.

Finally, using an MNE portfolio approach, we simultaneously account for the entire set of HQ–subsidiary relationships, which is a vital, yet under-studied, source of variation in subsidiary management (Lee, 2022). As previously mentioned, the underlying premise of our study is that MNE decision-makers do not manage their foreign subsidiaries as if they operate independently. Based on this premise, our empirical strategy provides an integrative approach to explain managerial behavior with respect to internationalization.

### 6.1. Managerial and policy implications

The results of this study have several practical implications. First, for aging CEOs, their levels of fluid intelligence may decrease, negatively influencing their ability to make cognitively demanding decisions. But they often appear more reflective, intuitive, savvy, holistic, and inclusive. The experience effect, accumulated from both past successes and failures, enables aging CEOs to optimize their goal pursuit and enhance their competence. Therefore, MNEs may benefit from governance and support structures that align task demands with cognitive strengths of aging CEOs. Developing a balanced understanding of aging is also advantageous for aging CEOs themselves, as exposure solely to negative stereotypes of aging can impair their memory performance, self-efficacy, and judgment, thereby preventing successful aging (Lupin & Wang, 2004). In contrast, older individuals with positive expectations about aging may have better cognitive health (Hill et al., 2024).

Although our primary focus is on aging CEOs, the insights from this study may also inform practices relevant to managers across different organizational levels. For example, mid-level managers working with aging CEOs can benefit from a better understanding of how age-related shifts in decision-making may shape strategic direction, particularly in the context of MNE internationalization. This awareness can facilitate more effective cross-level communication and, therefore, better strategic alignment. Since aging is a broader organizational reality, MNEs may consider equipping managers at all levels, such as mid-level and line managers, with tools to adapt and perform effectively. Training programs that focus on goal prioritization, experience-based decision-making, and adaptive strategies may help sustain managerial effectiveness over time. Finally, fostering a more positive and inclusive

narrative around aging across all levels of the organization may help reduce the stereotype of aging and consequently more fully capitalize on the strengths of an experienced workforce.

Our study also has important implications for policymakers who aim to achieve the societal agenda of successful aging at work in the face of a demographic shift. In an aging society in which business leaders have significant influence over economy and society, policymakers should consider the nuanced effects of manager aging and how organizational design can foster optimal decision-making to help mitigate the issue of cognitive decline. Accordingly, policymakers may make better-informed decisions regarding related legislation and regulations such as extending the career opportunities for aging professionals.

## 6.2. Limitations and future research

This study inevitably has some limitations. First, our study is based on a large-sample panel data analysis, without probing into the actual decision-making process reflecting the cognitions, heuristics, and biases of MNE CEOs. The demographic-cognitive connection is estimated based on guidance from extant literature rather than being directly measured (Miller et al., 2022). We suggest that future work use more refined qualitative research methods, such as interviews and survey experiments, to add meaningful nuances to our theory. For example, future research could shed light on how aging CEOs thoroughly collect, exchange, interpret, and integrate heterogeneous information regarding internationalization decisions (Krause et al., 2024).

We also recommend that future studies explore how other organizational factors (e.g., organizational culture and routines) as well as CEO task experience and psychological factors (e.g., regulatory focus, stewardship, and equity wealth) (e.g., Benischke et al., 2022), along with our conceptualized mechanisms, influence MNE internationalization. For example, truly generative CEOs—those genuinely committed to nurturing and guiding the next generation (Joshi et al., 2021)—may proactively collaborate with their capable successors to compensate for their cognitive decline, while hypo-generative or anti-generative CEOs might be less likely to adopt this strategy. As another example, CEOs who score high on neuroticism (Charles & Carstensen, 2010) might not reap the age-related benefits as the crystallized intelligence perspective would predict. It is also important to recognize the influence of environmental context. In settings characterized by high volatility, for example, where improvisation and rapid adaptation are critical, reliance on past schemas may result in rigidity or maladaptation (e.g., schema entrenchment, motivated conservatism). These factors can limit an aging CEO's capacity to generate novel solutions in the context of MNE internationalization.

Second, older CEOs may acquire other means to maintain functioning in selected goals (Ng & Law, 2014). Future studies may thus extend our framework by enriching the role of compensation in addressing CEO age-related issues in the context of MNE internationalization. We expect that such an integrative approach may help further improve individuals' work ability and career success (Abele & Wiese, 2008). For example, the social and emotional functioning of older adults is found to be equal or even superior to that of younger adults (Charles & Carstensen, 2010), thus may offer an additional avenue for compensation strategies in decision-making.

Finally, our focus is on the universal cognitive mechanisms of aging and their impact on MNE internationalization rather than cross-cultural differences. While the Japanese context offers valuable insights owing to its advanced stage of population aging, we acknowledge that Japanese MNEs represent a more consensus-style of decision-making. The long-term nature of employment that elicits employee loyalty (inducing groupthink) may be unique to the Japanese context (Keeley, 2001). As such, the impact of aging CEOs on MNE internationalization might be more pronounced in other home countries where CEOs have more autonomy in shaping their MNEs' international portfolios. However, the effect of CEO aging can also be more complex in Japan owing to

Confucian ideals of seniority in the country, where seniority is often valued and managers with more years of experiences are often given greater authority and respect. Furthermore, recent research shows that the collectivistic context like Japan may render aging CEOs less likely to suffer age-related penalties (Tomova Shakur et al., 2024). We thus recommend replicating our findings using MNEs from other home countries for theory building.

## CRedit authorship contribution statement

**Liang Arthur Li:** Writing – review & editing, Writing – original draft, Visualization, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Eddy Ng:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Anthony Goerzen:** Writing – review & editing, Writing – original draft, Conceptualization. **Elie Chrysostome:** Writing – review & editing, Resources, Conceptualization.

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jwb.2026.101730.

## Data availability

The authors do not have permission to share data.

## References

- Abele, A. E., & Wiese, B. S. (2008). The nomological network of self-management strategies and career success. *Journal of Occupational and Organizational Psychology*, 81(4), 733–749.
- Aharoni, Y., Tihanyi, L., & Connelly, B. L. (2011). Managerial decision-making in international business: A forty-five-year retrospective. *Journal of World Business*, 46(2), 135–142.
- Allison, P. D. (2009). *Fixed effects regression models*. Los Angeles: Sage Publications.
- Ambos, T. C., Cesinger, B., Eggers, F., & Kraus, S. (2020). How does de-globalization affect location decisions? A study of managerial perceptions of risk and return. *Global Strategy Journal*, 10(1), 210–236.
- Ambos, T. C., Andersson, U., Drogendijk, R., Lunnan, R., Scott, P. S., et al. (2024). Revealing the promise of microfoundations for international business research: A modular approach. *Journal of World Business*, 60(2), Article 101610.
- Anderson, N. D., & Craik, F. I. M. (2017). 50 years of cognitive aging theory. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, 72(1), 1–6.
- Andrews, T. G., & Htun, K. T. (2018). Economic inequality, cultural orientation and base-of-pyramid employee performance at the MNC subsidiary: A multi-case investigation. *Management International Review*, 58(2), 337–357.
- Andrews, T. G., Nimanandh, K., Htun, K. T., & Santidhirakul, O. (2022). MNC response to superstitious practice in Myanmar JVs: Understanding contested legitimacy, formal-informal legitimacy thresholds, and institutional disguise. *Journal of International Business Studies*, 53(6), 1178–1201.
- Békés, G., Benito, G. R. G., Castellani, D., & Muraközy, B. (2021). Into the unknown: The extent and boldness of firms' international footprint. *Global Strategy Journal*, 11(3), 468–493.
- Bai, T., Du, J., & Solarino, A. M. (2018). Performance of foreign subsidiaries “in” and “from” Asia: A review, synthesis and research agenda. *Asia Pacific Journal of Management*, 35(3), 607–638.
- Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes, & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences*. New York: Cambridge University Press.
- Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal*, 10(S1), 107–124.
- Beamish, P. W., & Lupton, N. C. (2016). Cooperative strategies in international business and management: Reflections on the past 50 years and future directions. *Journal of World Business*, 51(1), 163–175.
- Beier, M. E., Kanfer, R., Kooij, D. T. A. M., & Truxillo, D. M. (2022). What's age got to do with it? A primer and review of the workplace aging literature. *Personnel Psychology*, 75(4), 779–804.
- Beier, M. E. (2022). Life-span learning and development and its implications for workplace training. *Current Directions in Psychological Science*, 31(1), 56–61.
- Belenzon, S., Shamsur, A., & Zarutskie, R. (2019). CEO's age and the performance of closely held firms. *Strategic Management Journal*, 40(6), 917–944.
- Benischke, M. H., Guldiken, O., Doh, J. P., Martin, G., & Zhang, Y. (2022). Towards a behavioral theory of MNC response to political risk and uncertainty: The role of CEO wealth at risk. *Journal of World Business*, 57, Article 101265.

- Berry, H., Guillén, M. F., & Zhou, N. (2010). An institutional approach to cross-national distance. *Journal of International Business Studies*, 41(9), 1460–1480.
- Beugelsdijk, S., & Mudambi, R. (2013). MNEs as border-crossing multi-location enterprises: The role of discontinuities in geographic space. *Journal of International Business Studies*, 44(5), 413–426.
- Beugelsdijk, S., Kostova, T., Kunst, V. E., Spadafora, E., & van Essen, M. (2018). Cultural distance and firm internationalization: A meta-analytical review and theoretical implications. *Journal of Management*, 44(1), 89–130.
- Birkinshaw, J., Manktelow, J., D'amato, V., Tosca, E., & Macchi, F. (2019). Older and wiser? How management style varies with age. *MIT Sloan Management Review*, 60(4), 75–81.
- Bonn, I., Yoshikawa, T., & Phan, P. H. (2004). Effects of board structure on firm performance: A comparison between Japan and Australia. *Asian Business and Management*, 3(1), 105–125.
- Cattell, R. B. (1943). The measurement of adult intelligence. *Psychological Bulletin*, 40(3), 153–193.
- Certo, S. T., Withers, M. C., & Semadeni, M. (2017). A tale of two effects: Using longitudinal data to compare within- and between-firm effects. *Strategic Management Journal*, 38(7), 1536–1556.
- Chakravarty, D., Hsieh, Y. Y., Schotter, A., & Beamish, P. W. (2017). Multinational enterprise regional management centres: Characteristics and performance. *Journal of World Business*, 52(2), 296–311.
- Chan, C. M., & Makino, S. (2007). Legitimacy and multi-level institutional environments: Implications for foreign subsidiary ownership structure. *Journal of International Business Studies*, 38(4), 621–638.
- Chand, M., & Tung, R. L. (2014). The aging of the world's population and its effects on global business. *Academy of Management Perspectives*, 28(4), 409–429.
- Charles, S., & Carstensen, L. (2010). Social and emotion aging. *Annual Review of Psychology*, 61, 383–409.
- Chittoor, R., Aulakh, P. S., & Ray, S. (2019). Microfoundations of firm internationalization: The owner CEO effect. *Global Strategy Journal*, 9(1), 42–65.
- Contractor, F., Foss, N. J., Kundu, S., & Lahiri, S. (2019). Viewing global strategy through a microfoundations lens. *Global Strategy Journal*, 9(1), 3–18.
- Coviello, N., Kano, L., & Liesch, P. W. (2017). Adapting the Uppsala model to a modern world: Macro-context and microfoundations. *Journal of International Business Studies*, 48(9), 1151–1164.
- Cuervo-Cazurra, A., Andersson, U., Brannen, M. Y., Nielsen, B. B., & Reuber, A. R. (2016). From the editors: Can I trust your findings? Ruling out alternative explanations in international business research. *Journal of International Business Studies*, 47(8), 881–897.
- Darouichi, A., Kunisch, S., Menz, M., & Cannella, A. A., Jr. (2021). CEO tenure: An integrative review and pathways for future research. *Corporate Governance: An International Review*, 29(6), 661–683.
- Delios, A., & Henisz, W. J. (2003). Political hazards, experience, and sequential entry strategies: The international expansion of Japanese firms, 1980–1998. *Strategic Management Journal*, 24(11), 1153–1164.
- Desai, V. M. (2024). Entering dangerous territory: Why corporate investment is sometimes attracted to institutional voids. *International Business Review*, 34(2), Article 102384.
- Eden, L., & Nielsen, B. B. (2020). Research methods in international business: The challenge of complexity. *Journal of International Business Studies*, 51(9), 1609–1620.
- Elia, S., Greve, P., Vallone, T., & Castellani, D. (2021). The micro-foundations of industrial diversification through foreign acquisitions: The multifaceted role of CEO experience. *Long Range Planning*, 54(6), Article 102104.
- Farah, B., Chakravarty, D., Dau, L., & Beamish, P. W. (2021). Multinational enterprise parent-subsidiary governance and survival. *Journal of World Business*, Article 101271.
- FASB. 2008. Summary of interpretation No.35. <https://www.fasb.org/summary/finsum35.shtml>.
- Finkelstein, S., Hambrick, D. C., & Cannella, A. A. (2009). *Strategic leadership: Theory and research on executives, top management teams, and boards*. Oxford, UK: Oxford University Press.
- Gao, C., Zuzul, T., Jones, G., & Khanna, T. (2017). Overcoming institutional voids: A reputation-based view of long-run survival. *Strategic Management Journal*, 38(11), 2147–2167.
- Georgakakis, D., Wedell-Wedellsborg, M. E., Vallone, T., & Greve, P. (2023). Strategic leaders in multinational enterprises: A role-specific micro-foundational view and research agenda. *Journal of International Business Studies*, 54(3), 514–537.
- Goerzen, A., & Beamish, P. W. (2003). Geographic scope and multinational enterprise performance. *Strategic Management Journal*, 24(13), 1289–1306.
- Hambrick, D. C., & Fukutomi, G. D. S. (1991). The seasons of a CEO's tenure. *Academy of Management Review*, 16(4), 719–742.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193–206.
- Henisz, W. J., & Delios, A. (2001). Uncertainty, imitation, and plant location: Japanese multinational corporations, 1990–1996. *Administrative Science Quarterly*, 46(3), 443–475.
- Henisz, W. J. (2000). The institutional environment for multinational investment. *Journal of Law, Economics, & Organization*, 16(2), 334–364.
- Herrmann, P., & Datta, D. K. (2006). CEO experiences: Effects on the choice of FDI entry mode. *Journal of Management Studies*, 43(4), 755–778.
- Hill, N. L., Bhargava, S., Do, J., Bratlee-Whitaker, E., Brown, M. J., et al. (2024). Just as expected? Older adults' aging expectations are associated with subjective cognition. *Aging & Mental Health*, 29(3), 444–451.
- Hillman, A. J., & Hitt, M. A. (1999). Corporate political strategy formulation: A model of approach, participation, and strategy decisions. *Academy of Management Review*, 24(4), 825–842.
- Hodgkinson, G. P., Burkhard, B., Foss, N. J., Grichnik, D., Sarala, R. M., et al. (2023). The heuristics and biases of top managers: Past, present, and future. *Journal of Management Studies*, 60(5), 1033–1063.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Hou, W., Li, S., & Priem, R. L. (2013). How do CEOs matter? The moderating effects of CEO compensation and tenure on equity ownership in international joint ventures. *Journal of International Management*, 19(2), 138–151.
- Joshi, A., Hambrick, D. C., & Kang, J. (2021). The generativity mindsets of chief executive officers: A new perspective on succession outcomes. *Academy of Management Review*, 46(2), 385–405.
- Kang, J. (2016). Labor market evaluation versus legacy conservation: What factors determine retiring CEOs' decisions about long-term investment? *Strategic Management Journal*, 37(2), 389–405.
- Keeley, T. D. (2001). *International Human Resource Management In Japanese Firms: Their Greatest Challenge*. New York: Palgrave.
- Khanna, T., & Palepu, K. G. (2010). *Winning in emerging markets: A road map for strategy and execution*. Harvard Business Press.
- Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19(3), 411–432.
- Kostova, T., Beugelsdijk, S., Scott, W. R., Kunst, V. E., Chua, C. H., et al. (2020). The construct of institutional distance through the lens of different institutional perspectives: Review, analysis, and recommendations. *Journal of International Business Studies*, 51(4), 467–497.
- Kostova, T. (1999). Transnational transfer of strategic organizational practices: A contextual perspective. *Academy of Management Review*, 24(2), 308–324.
- Krause, R., Withers, M. C., & Waller, M. M. J. (2024). Reducing bias through board decision-making: An information-processing model of board decision synergy. *Academy of Management Journal*, 1–23.
- Kunisch, S., Menz, M., & Cannella, A. A. (2019). The CEO as a key microfoundation of global strategy: Task demands, CEO origin, and the CEO's international background. *Global Strategy Journal*, 9(1), 19–41.
- Lee, J. M., Chul, J., & Timothy, P. (2018). CEO career horizon, corporate governance, and real options: The role of economic short-termism. *Strategic Management Journal*, 39(10), 2703–2725.
- Lee, J. M. (2022). MNCs as dispersed structures of power: Performance and management implications of power distribution in the subsidiary portfolio. *Journal of International Business Studies*, 53(1), 126–155.
- Lindenberger, U. (2014). Human cognitive aging. *Science*, 346(6209), 572–578.
- Lu, J. W., & Beamish, P. W. (2004). International diversification and firm performance: The S-curve hypothesis. *Academy of Management Journal*, 47(4), 598–609.
- Luo, Y. (2001). Toward a cooperative view of MNC-host government relations: Building blocks and performance implications. *Journal of International Business Studies*, 32(3), 401–419.
- Lupin, S. J., & Wang, N. (2004). Successful ageing: From cell to self. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1449), 1413–1426.
- Maitland, E., & Sammartino, A. (2015). Managerial cognition and internationalization. *Journal of International Business Studies*, 46(7), 733–760.
- Malmendier, U., & Nagel, S. (2011). Depression babies: Do macroeconomic experiences affect risk taking? *Quarterly Journal of Economics*, 126(1), 373–416.
- Marshall, V. B., Brouthers, L. E., & Keig, D. L. (2020). RIMS: A new approach to measuring firm internationalization. *Journal of International Business Studies*, 51(7), 1133–1141.
- Mata, R., Schooler, L. J., & Rieskamp, J. (2011). The aging decision maker: Cognitive aging and the adaptive selection of decision strategies. In G. Gigerenzer, R. Hertwig, & T. Pachur (Eds.), *Heuristics: The foundations of adaptive behavior* (pp. 455–473). Oxford University Press.
- Matta, E., & Beamish, P. W. (2008). The accentuated CEO career horizon problem: Evidence from international acquisitions. *Strategic Management Journal*, 29(7), 683–700.
- Meyer, K. E., & Li, C. (2022). The MNE and its subsidiaries at times of global disruptions: An international relations perspective. *Global Strategy Journal*, 12(3), 555–577.
- Meyer, K. E., & Peng, M. W. (2016). Theoretical foundations of emerging economy business research. *Journal of International Business Studies*, 47(1), 3–22.
- Meyer, K. E., Estrin, S., Bhaumik, S. K., & Peng, M. W. (2009). Institutions, resources, and entry strategies in emerging economies. *Strategic Management Journal*, 30(1), 61–80.
- Meyer, K. E., Mudambi, R., & Narula, R. (2011). Multinational enterprises and local contexts: The opportunities and challenges of multiple embeddedness. *Journal of Management Studies*, 48(2), 235–252.
- Meyer, K. E., Li, C., & Schotter, A. P. J. (2020). Managing the MNE subsidiary: Advancing a multi-level and dynamic research agenda. *Journal of International Business Studies*, 51(4), 538–576.
- Miller, C. C., Chiu, S., Wesley, C. L., II, Vera, D., & Avery, D. R. (2022). Cognitive diversity at the strategic apex: Assessing evidence on the value of different perspectives and ideas among senior leaders. *Academy of Management Annals*, 16(2), 806–852.
- Miller, D. (1991). Stale in the saddle: CEO tenure and the match between organization and environment. *Management Science*, 37(1), 34–52.
- Minbaeva, D., Ledeneva, A., Muratbekova-Touron, M., & Horak, S. (2023). Explaining the persistence of informal institutions: The role of informal networks. *Academy of Management Review*, 48(3), 556–574.
- Moghimi, D., Zacher, H., Scheibe, S., & Van Yperen, N. W. (2017). The selection, optimization, and compensation model in the work context: A systematic review and

- meta-analysis of two decades of research. *Journal of Organizational Behavior*, 38(2), 247–275.
- Ng, E. S., & Law, A. (2014). Keeping up! Older workers' adaptation in the workplace after age 55. *Canadian Journal on Aging/La revue canadienne du vieillissement*, 33(1), 1–14.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- North, M. S. (2019). A gate to understanding “older” workers: Generation, age, tenure, experience. *Academy of Management Annals*, 13(2), 414–443.
- Nyberg, L., & Pudas, S. (2019). Successful memory aging. *Annual Review of Psychology*, 70, 219–243.
- Oliver, C., & Holzinger, I. (2008). The effectiveness of strategic political management: A dynamic capabilities framework. *Academy of Management Review*, 33(2), 496–520.
- Ortiz-de-Mandojana, N., Bansal, P., & Aragón-Correa, J. A. (2019). Older and wiser: How CEOs' time perspective influences long-term investments in environmentally responsible technologies. *British Journal of Management*, 30(1), 134–150.
- Peng, G. Z., & Beamish, P. W. (2014). MNC subsidiary size and expatriate control: Resource-dependence and learning perspectives. *Journal of World Business*, 49(1), 51–62.
- Peng, M. W., Wang, D. Y. L., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39, 920–936.
- Penrose, E. T. (1959). *The theory of the growth of the firm*. Oxford, UK: Oxford University Press.
- Perkins, S. E. (2014). When does prior experience pay? Institutional experience and the multinational corporation. *Administrative Science Quarterly*, 59(1), 145–181.
- Popli, M., Ahsan, F. M., & Mukherjee, D. (2022). Upper echelons and firm internationalization: A critical review and future directions. *Journal of Business Research*, 152, 505–521.
- Romel, V. 2015. Half of the global CEOs are in their 50s. *Financial Times*. <https://www.ft.com/content/226fbb53-1c36-32f0-ba15-414d8a807761>.
- Romero-Martínez, A. M., García-Muñina, F. E., Chidlow, A., & Larimo, J. (2019). Formal and informal institutional differences between home and host country and location choice: Evidence from the Spanish hotel industry. *Management International Review*, 59(1), 41–65.
- Roth, K., & Kostova, T. (2003). The use of the multinational corporation as a research context. *Journal of Management*, 29(6), 883–902.
- Salthouse, T. A. (2010). Selective review of cognitive aging. *Journal of the International Neuropsychological Society*, 16(5), 754–760.
- Salthouse, T. A. (2012). Consequences of age-related cognitive declines. *Annual Review of Psychology*, 63, 201–226.
- Salthouse, T. A. (2019). Trajectories of normal cognitive aging. *Psychology and Aging*, 34(1), 17–24.
- Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior*, 36(S1), S6–S32.
- Sanders, W. G., & Carpenter, M. A. (1998). Internationalization and firm governance: The roles of CEO compensation, top team composition, and board structure. *Academy of Management Journal*, 41(2), 158–178.
- Schwandt, D. R. (2005). When managers become philosophers: Integrating learning with sensemaking. *Academy of Management Learning & Education*, 4(2), 176–192.
- Shen, W., & Cannella, A. A. (2002). Revisiting the performance consequences of CEO succession: The impacts of successor type, postsuccession senior executive turnover, and departing CEO tenure. *Academy of Management Journal*, 45(4), 717–733.
- Shenkar, O. (2001). Cultural distance revisited: Towards a more rigorous conceptualization and measurement of cultural differences. *Journal of International Business Studies*, 32(3), 519–535.
- Spadafora, E., Giachetti, C., Kumodzie-Dussey, M. K., & Elango, B. (2023). International experience and imitation of location choices: The role of experience interpretation and assessment and its board-level microfoundations. *Global Strategy Journal*, 13(1), 111–146.
- Strike, V. M., Berrone, P., Sapp, S. G., & Congiu, L. (2015). A socioemotional wealth approach to CEO career horizons in family firms. *Journal of Management Studies*, 52(4), 555–583.
- Surdu, I., Greve, H. R., & Benito, G. R. G. (2021). Back to basics: Behavioral theory and internationalization. *Journal of International Business Studies*, 52(6), 1047–1068.
- Tan, D., Su, W., Mahoney, J. T., & Kor, Y. (2020). A review of research on the growth of multinational enterprises: A Penrosean lens. *Journal of International Business Studies*, 51(4), 498–537.
- Tomova Shakur, T. K., North, M. S., Berson, Y., & Oreg, S. (2024). The age of leadership: Meta-analytic findings on the relationship between leader age and perceived leadership style and the moderating role of culture and industry type. *Personnel Psychology*, 77(4), 1403–1440.
- Vahlne, J., & Johanson, J. (2020). The Uppsala model: Networks and micro-foundations. *Journal of International Business Studies*, 51(1), 4–10.
- Vogel, E. F. (1975). *Modern Japanese organization and decision-making*. Berkeley, CA: University of California Press.
- WHO. 2022. Ageing and health. <https://www.who.int/news-room/fact-sheets/detail/a-ageing-and-health>.
- Wiersema, M. F., & Bird, A. (1993). Organizational demography in Japanese firms: Group heterogeneity, individual dissimilarity, and top management team turnover. *Academy of Management Journal*, 36(5), 996–1025.
- Xu, D., & Shenkar, O. (2002). Institutional distance and the multinational enterprise. *Academy of Management Review*, 27(4), 608–618.
- Yao, F. K., Yang, J. Y., Chang, S., & Lu, J. W. (2025). Not all threats are equal: Symbolic and realistic threats and the deployment of parent-country nationals. *Journal of International Business Studies*, 56(2), 174–193.
- Zacher, H. (2015). Successful aging at work. *Work, Aging and Retirement*, 1(1), 4–25.
- Zaheer, S., Schomaker, M. S., & Nachum, L. (2012). Distance without direction: Restoring credibility to a much-loved construct. *Journal of International Business Studies*, 43(1), 18–27.
- Zaval, L., Li, Y., Johnson, E. J., & Weber, E. U. (2015). Complementary contributions of fluid and crystallized intelligence to decision making across the life span. In T. M. Hess, J. Strough, & C. Löckenhof (Eds.), *Aging and decision making: Empirical and applied perspectives*. New York: Academic Press.
- Zhou, Y. M. (2015). Supervising across borders: The case of multinational hierarchies. *Organization Science*, 26(1), 277–292.