The 'Casino Model' of Internationalization

An Alternative Uppsala Paradigm

Håkanson, Lars; Kappen, Philip

Document Version
Accepted author manuscript

Published in:
Journal of International Business Studies

DOI:
10.1057/s41267-017-0113-9

Publication date:
2017

The 'Casino Model' of Internationalization: An Alternative Uppsala Paradigm

Lars Håkanson and Philip Kappen

Journal article (Accepted version)

CITE: Håkanson, L., & Kappen, P. (2017). The 'Casino Model' of Internationalization: An Alternative Uppsala Paradigm. Journal of International Business Studies, 48(9), 1103-1113. DOI: 10.1057/s41267-017-0113-9

Counterpoint

The 'Casino Model' of Internationalization: An Alternative Uppsala Paradigm

Abstract

Forty years after the publication of the original Uppsala Model, we revisit the empirical observations that inspired its conceptual development. The empirical evidence, we suggest, invites the formulation of an alternative and complementary model of the internationalization process of the firm, one that we have named the 'Casino Model' of internationalization. The Casino Model uncovers a number of new research issues pertaining to internationalization and to the nature of strategic decision-making under conditions of environmental uncertainty and partial ignorance.

Keywords: Uppsala Model, internationalization process, foreign market entry, managing uncertainty

INTRODUCTION

With more than 11,000 Google scholar citations, Jan Johanson's and Jan-Erik Vahlne's (1977) first outline of the 'Uppsala Model' is clearly one of the most impactful papers in international business. At the time, the field was still dominated by macroeconomic themes, and the paper foreshadowed the later shift in emphasis towards analysis of firms' strategies and performance (Liesch, Håkanson, McGaughey, Middleton and Cretchley, 2011). Placing the article in the context of the dominant literature of its time is helpful in understanding both the thrust of the empirical and theoretical perspectives it adopts, and its significance for the subsequent development of the field.

The Uppsala Model, and the empirical research on which it was based, reflected a general adoption of the 'behavioral paradigm' of the Carnegie School (Cyert and March, 1963; March and Simon, 1958; Simon, 1947). Abandoning the level of abstraction characteristic of inherited economic equilibrium theory, new research questions were formulated, premised on boundedly rational decision-makers with limited knowledge, and acting under conditions of uncertainty and partial ignorance. As Brian Loasby (1971) noted, the behavioral paradigm entailed a change in focus "from destination to origin" – from end-state equilibrium conditions to processes without definable ends. In consequence, "…a firm's history and financial position become elements of the analysis, whereas in micro-equilibrium theory they are quite properly excluded as irrelevant" (Loasby, 1971: 881). In international business, the landmark study was Yahir Aharoni's (1966) inductive research on foreign direct investment decisions.

Against this background, researchers at Uppsala University embarked in 1966 on a major research project with the aim to map the foreign sales and manufacturing activities of Swedish industry. It resulted in a range of publications, including that of Erik Hörnell, Jan-Erik Vahlne and Finn Wiedersheim-Paul (1973), which provided the empirical backdrop for the inductive theoretical arguments of the Uppsala Model.

In this Counterpoint, we outline how the intellectual and empirical heritage sketched in the preceding paragraphs shaped the content of the Uppsala Model. We argue that through a fortuitous combination of timing within the intellectual trajectory of the international business field and the model's inherent characteristics, it has evolved from a model with refutable hypotheses to become a 'paradigm' in the Kuhnian sense. This transformation explains the impact and the resilience of the model, which for 40 years has survived both the onslaught of new theoretical and methodological advances, and the effects of the technological, economic and political changes subsumed under the concept of 'globalization'.

The Uppsala Model, much like the natural-science paradigms analyzed by Kuhn, owed its success to the fact that "…its own beliefs and pre-conceptions, emphasized only some of the too sizable and inchoate pool of information" at the time available to the relevant scientific community (Kuhn, 1970: 17). As a perhaps inevitable consequence, the inductive theoretical arguments presented in Johanson and Wiedersheim-Paul (1975), and Johanson and Vahlne (1977) only very partially reflect the empirical observations on which they were based. In this note, we outline an alternative interpretation of the evidence presented. This evidence, we suggest, invites the formulation of an alternative model of the internationalization process of the firm, one that we refer to as 'casino internationalization'.

THE UPPSALA SCHOOL AS A PARADIGM

Thomas Kuhn's (1970) concept of a scientific paradigm was based on developments in the natural sciences, and he expressed doubt as to "what parts of social science have yet acquired such paradigms at all" (Kuhn, 1970: 15) or remained in the pre-paradigmatic state of competing 'schools'. However, as Loasby (1971) convincingly argued, the concept can meaningfully be applied also to research and theory in economics, which is – like the natural sciences –guided by generally accepted assumptions on the relationships worthy of investigation, and the methods and abstractions deemed legitimate by members of the profession. To qualify as a paradigm, a theory must be both comprehensive and sufficiently open-ended to provide a window on a large variety of problems to be solved, as scholars active in the profession engage in the 'puzzle-solving' activity characteristic of 'normal science' (Kuhn, 1970: 23 ff.). The usefulness and power of a paradigm rest on its ability to generate a large number of hypotheses – including ones that may be mutually exclusive – without suggesting in advance which ones may have validity. “It follows”, Loasby (1971: 867) notes, “that paradigms, unlike the hypotheses to which they give rise, cannot be validated by experimental or statistical methods.”

The paradigmatic nature of the Uppsala School becomes evident when considering its development over the last 40 years, both in terms of the scope of the research that it has inspired and in the various ‘iterations’ of the model that its architects have produced (Johanson and Vahlne, 1990; 2003; 2009; Vahlne and Johanson, 2013; 2017). A striking aspect is the model’s extraordinary capacity to accommodate empirical observations that, at first sight, appear to contradict its most basic assumptions.

One cornerstone of the model is its emphasis on the joint processes of experiential learning and gradual international expansion, resulting in the incremental internationalization pattern summarized in the ‘establishment chain’:

> The establishment chain implied that companies start to internationalize in neighboring markets and subsequently move further away in terms of psychic distance, and also that in each market companies begin by using low-commitment modes, such as a middleman, and subsequently switch to modes that suggest a stronger commitment, such as wholly owned subsidiaries. (Johanson and Vahlne, 2009: 10)

In the literature, this has typically been taken to imply that internationalization is by nature a gradual and time-consuming process. However, as Johanson and Vahlne (2009: 1420) demonstrate, when changing the parameters of the model from those pertaining to ‘firms’ to ones pertaining to ‘individual managers’, there is “nothing in… [the] model that indicates that international expansion cannot be done quickly”. If a firm does “not start from scratch” but its managers enter the firm with already acquired knowledge of foreign markets and networks, “… that is a formality of no major significance”.

Similarly, when firms are observed to enter countries in a different order than that originally predicted, this can be explained by the fact that “…the relationship between market entry order and psychic distance applies to the level of the decision-maker… not at that of the firm” (Johanson and Vahlne, 2009: 11). By the same token, Vahlne and Johanson (2017: ??) remove the link between establishment mode and degree of commitment embedded in the original model, arguing that "… a mode switch does not necessarily mirror a genuine commitment change, whether an increase or decrease of such commitment."

The original Uppsala Model could reasonably be perceived as a set of testable predictions derived from a body of exploratory empirical studies and a few basic theoretical premises. Over time, however**,** it has evolved into a paradigm, immune to empirical refutation[1]. This has entailed a broadening of its areas of application, but it has come at the cost of increasing abstraction. In the original version, the projects studied were related to choices of foreign markets and modes of entry (Johanson and Vahlne, 1977), but thereafter the emphasis shifted to trust building and knowledge creation in 'relationships' and 'business networks' (Johanson and Vahlne, 2003, 2009). In the latest iteration (Vahlne and Johanson, 2017), the model's features are applied to the context of strategic management in the broadest sense. Evolving into a more general approach to strategic decision making, stripped of its original focus on internationalization, and absent both predictive and prescriptive elements, the model has explicitly become 'a way of looking at the world', a prime feature of a paradigm.

The Uppsala paradigm is appealing because of its intuitive logic and its theoretical parsimony. The central issue it addresses is the following: How do firms, under conditions of uncertainty and partial ignorance, decide to commit financial and other resources to individual investment projects, in situations where these resources will be difficult or impossible to recoup, should the project considered turn out to be unprofitable? The model's core elements are the following. Firms will:

(1) limit their exposure to downside outcomes associated with such projects by proceeding in an incremental fashion, while

(2) committing sufficient resources to capture benefits of experiential learning, permitting them

(3) to make subsequent and more far-reaching commitment decisions on the basis of a better understanding of relevant problems and opportunities.

The model's significance derives from its open-endedness; it unlocked and inspired an important and fruitful research agenda enquiring its implications for the prediction and prescription of managerial behavior. Given the subsequent impact of the Uppsala Model, it is intriguing to notice how loosely it was connected to the empirical observations that inspired it. Had the Uppsala scholars chosen to emphasize other aspects of their empirical data, subsequent research on the internationalization processes of firms might have taken a different turn.

In the following, we shall propose an alternative approach to how firms can address uncertainty and partial ignorance. It is based on a reinterpretation of the data that originally inspired the Uppsala Model and therefore focuses on issues related to the firm's internationalization process. However, as is the case with the Uppsala paradigm, its foundational elements have application potential to a much wider area of strategic decision-making in firms.

THE 'CASINO MODEL' OF INTERNATIONALIZATION

The Empirical Evidence

The original Uppsala Model focused on decisions regarding the choice of foreign markets and modes of entry during a firm's international expansion. It was based on the observed pattern of international growth in a number of large Swedish MNCs, as reported by Johanson and Wiedersheim-Paul (1975) and summarized in the form of the incremental 'establishment chain'.[2]

Revisiting the early writings of the Uppsala scholars reminds us how much mainstream scholarly work has evolved in the field of international business over the last four decades. In the early 1970s, there were no user-friendly word processors, graphics programs, and electronic databases. Text was written in long hand and/or on type-writers, and graphs were drawn by hand. The deployment of statistical tools was still in its infancy.[3] These constraints are reflected in Johanson and Wiedersheim-Paul's (1975) creative diagrammatic summaries of the internationalization histories of their four case companies they studied in great depth: Sandvik, Atlas Copco, Facit and Volvo. These are reproduced below (see Figure 1) to illustrate how their observations actually support an alternative narrative as to the consequences of uncertainty and partial ignorance for the internationalization of firms.

INSERT FIGURE 1 ABOUT HERE

The most striking pattern that can be observed is that internationalization appears to proceed in 'waves' – those referring to the establishment of agencies highlighted in Figure 1. As the authors note:

> In all firms there have been periods of agency establishments, sales subsidiary establishments and, in the case of Sandvik and Atlas Copco, of manufacturing establishments. In two of the firms – Sandvik and Volvo – there has followed a period of international joint ventures for special purposes. (Johanson and Wiedersheim-Paul, 1975: 322)

In contrast, the assumed linkage between psychic distance and market selection, whereby firms would internationalize in an incremental fashion, is not strongly supported by the empirical observations. After testing the strength of the relationship by means of bivariate rank correlations, Johanson and Wiedersheim-Paul (1975: 320) conclude that firms "to a certain extent have followed this course" [of entering foreign market according to psychic distance]. Their results regarding the importance of market size –measured rather crudely by the countries' GDP in 1960– are similarly ambiguous.

Revisiting their data, and supplementing these with yearly data on market sizes, we ran a series of event history analyses, to assess whether more powerful statistical techniques would provide stronger evidence. A Cox proportional hazard model was used to explore to what extent the four firms' internationalization patterns displayed any relationships to psychic distance and market size. The events of interest were establishments of agents and sales offices in one of the 20 countries "at risk" as specified by Johanson and Wiedersheim-Paul (1975).

The findings, like those of Johanson and Wiedersheim-Paul (1975), are mixed (see Appendix 1). The likelihood of early market entry through the establishment of an agent diminishes with psychic distance in only two of the firm-level estimates; in one three is no significant relationship, and in the fourth, the coefficient suggests that early establishments were actually *more* likely in psychically distant countries. The estimations of sales office establishments are again ambiguous: the data provide significant support for the importance of psychic distance in two cases (the sales office results were unaffected by the inclusion of a switch variable indicating the prior presence of an agent in the focal foreign market). Tests that include the full set of four firms (models 5 and 10) suggest – contrary to Johanson and Wiedersheim-Paul's conclusions (1975) – that psychic distance is important only for sales office establishments.[4]

Towards an Alternative Logic

Clearly, the wave-like pattern of foreign establishments observed in the four companies studied does not easily fit the incremental logic of the Uppsala paradigm. The observed behavior suggests that faced with uncertainty and partial ignorance about foreign markets, firms limit their exposure to downside outcomes by adhering to the simple, but time-honored principle of 'not putting all eggs in one basket', much in line with the scholarly literature on the rationale for – and benefits of – international diversification.[5] Establishing a number of agencies or – in a later stage – a number of sales subsidiaries almost simultaneously in several countries limits the firm's dependence on any one market. Moreover, especially during the initial stages of internationalization, it also allows the firm it to rapidly explore, discover and act upon opportunities in several markets. Adopting such as strategy is not an expression of the 'risk-seeking behavior', sometimes invoked in the literature on rapidly internationalizing firms (McDougall and Oviatt, 2000), but a rational strategy to limit the potential impact of downside outcomes while simultaneously seeking and pursuing foreign market opportunities– one of the foundational elements underlying the incremental internationalization model.

As is the case at the roulette table, placing more bets leads to a higher probability of a win. But – like in the casino – there are limits to the number of bets one can afford and meaningfully make.[6] A firm's propensity to engage in 'casino internationalization' is clearly contingent on the *quantity* of available financial and other resources at its disposal. In addition, the *quality* of resources matters in international strategy (Rugman & Verbeke, 1992; Verbeke & Yuan, 2013): successful international expansion requires developing or acquiring, and then deploying and exploiting non-location bound capabilities. Capability creation and usage of the non-location bound type, usually involves structural changes in the organizational sphere, so as to manage effectively international activities:

> We assume that the three different phases in the internationalization of the firm are dependent on the development of the activity knowledge and the organizational structure of the firm. During the agent phase the firm builds an export department with the capability and responsibility for the establishment and maintenance of agencies. Establishment of sales subsidiaries means that units for the control of subsidiaries are organized. In the last phase, units for coordination of production and marketing in different countries are developed. (Johanson and Wiedersheim, 1975: 309)

As managerial resources for international expansion are put in place, the marginal costs of establishing further foreign outlets – whether these are independent intermediaries or wholly-owned subsidiaries – decline dramatically. As a rule, the services of these managerial resources – be it in the form of a single export manager or an organizational unit controlling and coordinating foreign operations - will not be fully exploited through the establishment and management of merely one agency or foreign subsidiary. In other words, there is potential for Penrosian ‘economies of growth’ (Penrose, 1959: 99 ff.) as firms strive to optimally utilize available capabilities and resources (Kay, 2005). Since the marginal costs and additional risk associated with one more establishment are typically low, the pursuit of a casino internationalization strategy is encouraged, regardless of the uncertainty and partial ignorance associated with each individual market entry. As a behavioral corollary, export managers will usually not be evaluated on the performance of any single project (foreign establishment), but on the performance of their entire portfolio of projects.

Johanson and Vahlne (2009: 1416) agree with some of the critics of their original model that the development of “general internationalization knowledge… is probably more important” than assumed in the original version. Their emphasis, however, is still on experiential, ‘on-site’ learning in foreign markets. In contrast, in the casino internationalization model advanced here, non-location bound, general internationalization capabilities are the primary force shaping the internationalization process, along with two other elements often overlooked or misconstrued in the extant literature:

First, foreign market entry decisions are not isolated projects. An implicit assumption in the incremental model of internationalization is that market entries are evaluated individually, and that each is assessed on the basis of its own, stand-alone merits. As argued above, the case studies of the four Swedish firms presented by Johanson and Wiedersheim-Paul (1975) invite a different interpretation. They suggest that when strategic decisions have been taken to search for – and engage – sales agents in foreign markets, or to begin serving these markets through wholly-owned sales subsidiaries, international expansion is undertaken on a broad front, with simultaneous entries into several markets. Multiple entries both increase the probability of identifying profitable opportunities in foreign markets, and help diversify risk, in the sense of lowering the possible impact of downside outcomes in any single market, while exploiting economies of scale and scope associated with the internationalization process.

Clearly, the number of foreign market entries that can be handled at any one time will be constrained by available financial and managerial resources, in terms of both their *quantity* and *quality*. Not all entry opportunities can be pursued, forcing managers to rank-order and prioritize. This involves interesting and ill-understood challenges, where the ranking of projects is influenced not only by their own merits in isolation, but also by the mutual dependence among them. Commitment decisions are not only based on variables pertaining to each individual market but also to the portfolio of countries in which the firm is engaged. Thus, internationalization patterns reflect firms' overall resource allocation strategies and cannot be reduced to incremental commitment changes taken in isolation from one another.

Second, evaluating the performance of individual market entries is difficult. In the Uppsala Model, experiential learning is a prerequisite for meaningful interpretation and evaluation of foreign market performance. In the early version of the model, the relevant learning concerned primarily aspects of the foreign market environment. In later ones, the emphasis shifted to learning about – and building trust in – relationships with foreign partners and foreign partner networks. Common to both narratives is their tendency to obscure the interdependence between the general market environment and partner-related elements. For a firm contemplating an initial entry into a foreign market, judging the quality and prospects of a potential agent is often more pressing than assessing general market attractiveness. Given the high costs and likely high level of imprecision associated with making foreign sales forecasts, as compared to the relatively modest costs of engaging a foreign agent, the casino internationalization model suggests that market entries will often not be undertaken on the basis of thorough market analyses but rather in the spirit of trial-and-error, drawing on the information and resources momentarily at hand.

Relationships with sales agents and other middlemen are subject to familiar principal-agent problems and are often fraught with threats of opportunism associated with transaction specific investments and small numbers, in turn exacerbated by the high costs of monitoring activities in foreign countries. However, gauging the overall sales performance of an agent is straightforward and can be accomplished from afar. As long as the performance meets or exceeds expectations, confidence in the competence and reliability of the agent will increase, and the firm will usually have incentives to maintain the relationship, since its own experiential learning about the foreign market is likely to be limited. Conversely, when sales do not meet expectations, firms face the difficult task of determining whether this is due to some flaw in agents' willingness to make good on their commitments, or to some level of technical inability, or whether it reflects market circumstances over which the agents have no control. Lacking direct knowledge of the local market, the firm's decision-making challenge is then similar to the one facing the gambler pondering whether to place a new bet on the same number. Recognition of these difficulties and their behavioral consequences highlights the serendipitous nature of trial-and-error internationalization processes, too often obscured by the survivor-bias characteristic of much international business research.

Three Models of the Internationalization Process

The Casino Model offers a perspective on the internationalization process of the firm that is complementary both to that of the Uppsala School and to that developed in the more recent stream of literature studying rapidly internationalizing firms, referred to as ‘international new ventures’ or ‘born globals’ (e.g. Cavusgil and Knight (2009), Knight and Cavusgil (2004), McDougall and Oviatt (2000), Oviatt and McDougall (1994) – for or a recent review, see Knight and Liesch, 2016). Differences and similarities between the three models are summarized in Table 1.

INSERT TABLE 1 ABOUT HERE

The three models share a theoretical basis in behavioral economics – as distinct from models of internationalization drawing on economic theory, industrial economics or financial theory (Cuervo-Cazurra and Ramos, 2004). In all three, internationalization decisions are taken by boundedly rational decision-makers under conditions of uncertainty and partial ignorance. However, the nature of these outcomes drastically differs, as do the respective assumptions as to the nature and logic of the underlying decision processes.

In the Uppsala Model, firms are assumed to grow and develop their competitive advantages first in the domestic market. The initial impetus for internationalization is to expand sales in order to create and exploit economies of scale. The model emphasizes the role of experiential knowledge as a means to reduce uncertainty about foreign market conditions and business relationships. Obtaining such knowledge takes time, and since managers are reluctant to commit resources in conditions of high uncertainty, internationalization typically proceeds in an incremental fashion. Following a logic of causation, commitment decisions are taken on the basis of evaluations and predictions of market prospects in individual markets (Sarasvathy, 2001).

In firms pursuing an incremental internationalization strategy, foreign activities are initially limited and of only marginal importance. In contrast, firms following the born global model often pursue first-mover advantages in global niche markets, and already at their founding, foreign revenues and resources are often key elements of strategy. Embarking on an internationalization strategy without having a strong domestic revenue base is clearly a risky endeavor, and the literature has emphasized the entrepreneurial, risk-taking nature of such ventures – much in contrast to the uncertainty avoidance guiding the more gradual and cautious international expansion of the Uppsala Model. Rather than relying on cautious planning, international entrepreneurs employ a means-oriented, effectuation approach, and seek to flexibly adapt to foreign market opportunities as they appear (Chetty, Ojala and Leppäaho, 2015).

The Casino Model shares certain characteristics of the other two models but it combines them in a distinctive pattern according to a separate strategic logic. As in the Uppsala Model, firms tend to commence their internationalization only after having established a position in the domestic market, but their international expansion is less restrained by cautious uncertainty avoidance. Once the fixed costs of developing, or acquiring, the managerial capacity and organizational routines necessary to expand internationally, the marginal costs of engaging a new agent or of setting up a new sales subsidiary are no longer significant. The downside risk associated with the exploitation of the economies of growth resulting from the existence of underutilized managerial resource is typically small. In the Casino Model, minimization of downside risk is therefore a secondary concern. Like in born global firms, decisions on international expansion are means-oriented and opportunistic, but like in firms expanding according to the Uppsala Model, the primary aim is to detect existing local market opportunities rather than to create new ones. Market entries, both thorough agents and through foreign direct investment, proceed in a wave-like fashion, in response to the establishment of requisite capabilities to manage the firm's international expansion.

As outlined above, the three models represent archetypes, or 'ideal types' in the Weberian sense. They cannot be expected to correspond one-to-one with real life firms, each with idiosyncratic and changing characteristics. Their usefulness rests on their ability to capture significant aspects of the internationalization processes in different types of firms, operating in unlike environmental conditions, and on their ability to inform empirical research aiming to increase our understanding of these processes. Rather than subsuming all observations under a single perspective – or ensuring through the sampling design that they fit that perspective – we believe that it is fruitful to recognize that the logics and patterns of internationalization processes differ and that recognition of those differences will help increase our understanding of the phenomenon.

CONCLUDING REMARKS

On the occasion of the 40-year anniversary of the publication of the original Uppsala Model (Johanson and Vahlne, 1977), our analysis has ascribed its scholarly influence to the model's transition from what could be considered a set of testable hypotheses, into a paradigm. Its merits, we have argued, cannot therefore be meaningfully judged by its degree of realism, nor by the quality of its predictions, but rather by its capacity to generate new and fruitful research questions.

In this Counterpoint, we revisit the intriguing richness of the empirical observations that first inspired the formulation of the Uppsala Model and its emphasis on experiential learning and incremental decision-making (Hörnell, et al., 1973; Johanson and Wiedersheim-Paul, 1975). We find that the histories of the Swedish multinationals that the Uppsala scholars had studied invite a rather different interpretation of the main elements shaping the internationalization processes of firms than the one suggested by the Uppsala Model. We summarize our reinterpretation in terms of a 'Casino Model of internationalization', offering an alternative perspective on the internationalization process.

As in the Uppsala Model, the cost and difficulty of making meaningful predictions of foreign market prospects represent the first of the model's two key assumptions. However, while acknowledging the importance of experiential learning to reduce ignorance (about foreign market conditions and the trustworthiness of foreign business partners), the Casino Model explicitly recognizes the costs associated with such learning. These include both the direct costs of allocating managerial resources (including managers' salaries), and the opportunity costs – in the form of (potential) foregone sales opportunities – incurred in incremental internationalization while waiting for the learning to materialize. The second key assumption is that once a firm has acquired the requisite, general internationalization capabilities, the exploitation of these is associated with substantial economies of scale and scope. Uncertainty and partial ignorance of foreign market prospects, in combination with economies in exploiting managerial resources (representing the core of internationalization capabilities), explain why firms often enter foreign markets in wave-like patterns, rather than incrementally.

ENDNOTES

[1] Interestingly, Vahlne and Johanson do not seem to appreciate this shift and its implications, emphasizing the primacy of empirical testing to confirm the validity of their model: "If predictions from theory do not materialize as the outcome of empirical tests, it is possible to revisit the assumptions made, and thereby potentially to improve theory… In developing our model, we have tried to outline a set of realistic, foundational assumptions and critical processes, to enable further theorizing and testing" (Vahlne and Johanson, 2017: ??).

[2] In their 2009 revision of the model, Johanson and Vahlne (2009: 1420) emphasize that the establishment chain itself "…was not part of the model, but rather a summary of the empirical observations on which we based our theoretical arguments." However, while not formally a part of the model, it is clear that the histories of the multinational companies studied by the Uppsala researchers were instrumental in forming their views of the internationalization process of firms and the underlying conceptualization of the relationships between bounded rationality, uncertainty, learning and commitment decisions.

[3] It is telling that Hörnell and colleagues (1973) – among the pioneers in Sweden in employing statistical techniques – found it necessary to include in their text an introduction to the principles of OLS regression, on the well-founded assumption that most of their readers would not be familiar with it.

[4] Although more powerful than bivariate correlations between the individual focal variables, these estimations should also be interpreted with caution mainly because the models are under-specified and the risk set arbitrarily limited to include only the countries identified by Johanson and Wiedersheim-Paul (1975), thereby underestimating the number of left-censored observations.

[5] Already at the time of the formulation of the original Uppsala model, Rugman (1975; 1979) had introduced the notion of international diversification as a means of reducing downside risk. Subsequently, the related concepts of real options and strategic flexibility (Pindyck, 1988; Wernerfelt and Karnani,

1987) were applied in international business theory. Exploring the ‘real option’ values associated with obtaining a presence in foreign markets with uncertain or unknown potential, focus here shifts to upside risk and the dynamics of changes in international holdings (see, e. g. Allen and Pantzalis (1996) and Kogut and Kulatilaka (1994)).

[6] While in some ways instructive, the casino analogy is of course slightly misleading: at the roulette table, the probability of any one number coming up is known and well defined – a situation very different from that of uncertainty and partial ignorance facing firms considering investments in foreign countries.

REFERENCES

Aharoni, Y. 1966. *The foreign investment decision process*. Boston, MA: Harvard University Press.

Allen, L., & Pantzalis, C. 1996. Valuation of the operating flexibility of multinational corporations. *Journal of International Business Studies*, 27(4), 633-653.

Bolt, J., & van Zanden, J. L. 2014. The Maddison Project: collaborative research on historical national accounts. *The Economic History Review,* 67 (3): 627–651.

Cavusgil, S. T. & Knight, G. 2009. *Born global firms: A new international enterprise*. New York, NY: Business Expert.

Chetty, S., Ojala, A. & Leppäaho, T. 2015. Effectuation and foreign market entry of entrepreneurial firms. *European Journal of Marketing*, 49(9/10), 1436-1459,

Cuervo-Cazurra, A. & Ramos, M. 2004. Explaining the process of internationalization by building bridges among existing models. In S. W. Floyd, J. Roos, C. D. Jacobs & F. W. Kellermans (eds.) *Innovating strategy process*: 111-122. Oxford: Blackwell.

Cyert, R. M., & March, J. G. 1963. *A behavioral theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.

Hörnell, E., Vahlne, J.-E., & Wiedersheim-Paul, F. 1973. *Export och utlandsetableringar*. Stockholm: Almqvist & Wiksell.

Johanson, J., & Vahlne, J.-E. 1977. The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1): 23-32.

Johanson, J., & Vahlne, J.-E. 1990. The mechanism of internationalisation. *International Marketing Review*, 7(4): 11-24.

Johanson, J., & Vahlne, J.-E. 2003. Business relationship learning and commitment in the internationalization process. *Journal of International Entrepreneurship*, 1(1), 83-101.

Johanson, J., & Vahlne, J.-E. 2009. The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9), 1411-1431.

Johanson, J., & Wiedersheim-Paul, F. 1975. The internationalization of the firm—four Swedish cases. *Journal of Management Studies*, 12(3), 305-323.

Kay, N. M. 2005. Penrose and the growth of multinational firms. *Managerial and Decision Economics,* 26(1), 99-112.

Knight, G. A. & Cavusgil, T. S. 2004. Innovation, organizational capabilities and the born-global firm. *Journal of International Business Studies*, 35(2), 124-141.

Knight, G. A. & Liesch, P. W. 2016. Internationalization: From incremental to born global. *Journal of World Business*, 51(1), 93-102.

Kogut, B., & Kulatilaka, N. 1994. Operating flexibility, global manufacturing, and the option value of a multinational network. *Management Science*, 40(1), 123-139.

Kuhn, T. S. 1970. *The Structure of scientific revolutions.* Enlarged (2nd ed.). Chicago: University of Chicago Press.

Liesch, P. W., Håkanson, L., McGaughey, S. L., Middleton, S., & Cretchley, J. 2011. The evolution of the international business field: A scientometric investigation of articles published in its premier journal. *Scientometrics*, 88(1), 17-42.

Loasby, B. J. 1971. Hypothesis and paradigm in the theory of the firm. *Economic Journal*, 81, 863-885.

March, J.M., & Simon, H. 1958. *Organizations*. New York, NY: John Wiley & Sons.

McDougall, P. P., & Oviatt, B. M. 2000. International entrepreneurship: The intersection of two research paths. *Academy of Management Journal*, 43(5), 902–906.

Oviatt, B. M. & McDougall, P. P. 1994. Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45-64.

The Maddison-Project. 2017. http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version. Accessed 22 July 2017.

Pindyck, R. S. 1986. Irreversible investment, capacity choice, and the value of the firm. *American Economic Review*, 78, 967-985.

Rugman, A. M. 1975. Motives for foreign investment: The market imperfections and risk diversification hypotheses. *Journal of World Trade*, 9(5), 567-573.

Rugman, A. M., & Verbeke, A. 1992. A note on the transnational solution and the transaction cost theory of multinational strategic management. *Journal of International Business Studies*, 23(4), 761-771.

Sarasvathy, S. D. 2001. Causation and effectuation: Towards a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of Management Review, 26(2), 243-288.

Simon, H. A. 1947. *Administrative behavior.* New York: Macmillan.

Vahlne, J.-E., & Johanson, J. 2013. The Uppsala Model on evolution of the multinational business enterprise–from internalization to coordination of networks. *International Marketing Review*, 30(3), 189-210.

Vahlne, J.-E., & Johanson, J. 2017. The internationalization process 1977-2017: The Uppsala Model 40 years later. *Journal of International Business Studies*. [This issue.]

Verbeke, A., & Yuan, W. 2013. The drivers of multinational enterprise subsidiary entrepreneurship in China: A new resource-based view perspective. *Journal of Management Studies*, 50(2), 236-258.

Wernerfelt, B., & Karnani, A. 1987. Competitive strategy under uncertainty. *Strategic Management Journal*, 8(2), 187-194.

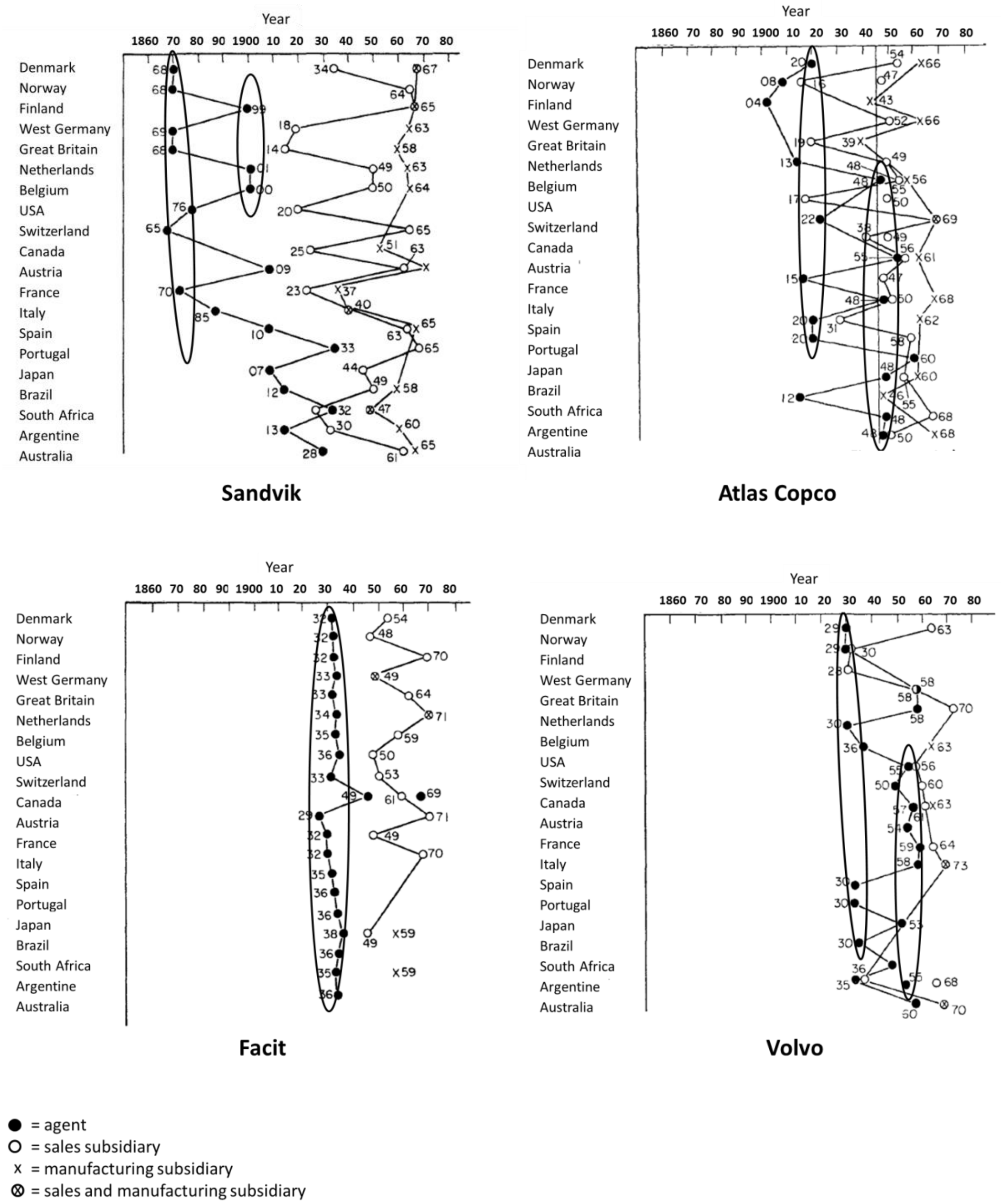

Figure 1 Profiles of establishments with countries ranked according to psychic distance from Sweden (Johanson and Wiedersheim-Paul, 1975). Reprinted by permission.

Model	Uppsala	Born Global	Casino
Behavioral assumption	Risk aversion, uncertainty avoidance	Entrepreneurial, proactive risk taking	Opportunistic
Strategic logic	Economies of scale	Market dominance in global niches	Economies of growth
Key capabilities in international expansion	Experiential knowledge, network position	Flexible, innovative adaptation to foreign market opportunities	Managerial skills and administrative systems to manage foreign activities
Approach to internationalization	Causation, opportunity recognition	Effectuation, opportunity creation	Effectuation, opportunity recognition
Basis for performance evaluation	Individual markets	Overall strategy	International portfolio
Internationalization pattern	Incremental	Rapid initial international expansion	Waves

Table 1 Three models of the internationalization process

Appendix 1

Cox proportional hazard models [a]

Agents	Model 1		Model 2		Model 3		Model 4		Model 5	
	Sandvik		Atlas Copco		Facit		Volvo		All firms	
	β	s. e.	β	s. e.	β	s. e.	β	s. e.	β	s. e.
Main covariates										
Psychic distance rank [b]	-0.172*	0.056	-0.003	0.064	-0.145*	0.060	0.171*	0.052	-0.032	0.023
Market size [c]	-0.264	0.217	-1.616*	0.317	-0.279	0.255	-0.149	0.216	-0.211*	0.087
Diagnostics										
Number of annual observations	765		1337		274		405		2781	
Number of events	19		14		19		18		70	
x^2 (d.f) [d]	11.806 (2)		32.276 (2)		6.593 (2)		12.339 (2)		5.911 (2)	

Sales Offices	Model 6		Model 7		Model 8		Model 9		Model 10	
	Sandvik		Atlas Copco		Facit		Volvo		All firms	
	β	s. e.	β	s. e.	β	s. e.	β	s. e.	β	s. e.
Main covariates										
Psychic distance rank	-0.052	0.057	-0.058	0.046	-0.236*	0.063	-0.157*	0.064	-0.083*	0.025
Market size	1.554*	0.396	0.243	0.251	0.350	0.271	-0.116	0.311	0.765*	0.115
Diagnostics										
Number of annual observations	1649		1560		831		726		4766	
Number of events	19		16		14		12		61	
x^2 (d.f)	17.442 (2)		1.788 (2)		18.655 (2)		7.158 (2)		47.925 (2)	

[a] Standard errors in parentheses. [b] Psychic distance rank is measured as a ranking variable ranging from 1 (closest to Sweden) to 20 (furthest to Sweden) following Johanson and Wiedersheim-Paul (1975). [c] Market size values are derived from Bolt and van Zanden (2014) and the Maddison Project (2013) and are entered as the natural logarithm of 1990 International Geary-Khamis dollars. The market size variable enter the estimations as a time-varying covariate. [d] The chi-square test is a test of the included covariates with d.f. being the degrees of freedom. Estimates considered significantly distinct from zero at the 0.5 level are indicated with * (two-tailed).