Relevance of intra and inter-organisational path dependent mechanisms in the internationalisation process of companies

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Abstract

The following article shows that numerous processes relevant for internationalisation of companies are characterised by self-reinforcing dynamics, which in turn cause path dependent behaviour. These dynamics are a result of collective activities on intra and inter-organisational levels. It is argued that companies find themselves in an area of conflict of path dependent mechanisms of both levels. Hereby different behaviour in choice of international location can be explained. On one hand companies with different histories tend to make different decisions regarding location such that diverse development pathways are possible. On the other hand companies are influenced by activities in the inter-organisational environment rendering certain options more likely for all companies due to path dependent mechanisms. Taking this into account it is possible to analyse under which conditions self-reinforcing mechanisms can lead to inefficient allocations on both company and country level.

Introduction – Literature review

The concept of path dependence is present in several studies as a line of argument to explain the internationalisation of companies. Self-reinforcing mechanisms, which are a result of collective processes, are considered to be the cause of path dependent processes. Eriksson/Majkgård/Sharma (2000) and Barkema/Drogendijk (2007) build their arguments on the findings of the Uppsala model (Johanson/Vahlne 1977, 1990; Johanson/Mattsson 1988). They explicate that learning can be seen as a cause of path dependent internationalisation processes. The basic idea is that knowledge relevant for internationalisation is gained by learning processes, which in turn build on already existing knowledge. The Uppsala model is therefore a dynamic model, which can explain intra-organisational path dependent behaviour in the choosing of international location. Learning processes are also the basic argument for the fact that companies tend to choose market entry strategies already used in the past, as shown in the study by Chang and Rosenzweig (2001, S. 755 f.).

The studies mentioned above refer to the importance of intra-organizational processes. Another strand of research argues that the internationalisation of companies is mainly influenced by processes in the inter-organisational environment. Martin /Swaminathan/Mitchell (1998) and Henisz/Delios (2001) have shown in their empirical studies that the international expansion of the reviewed Japanese suppliers is influenced by previous market entries of other suppliers as well as actual and potential buyers. The argument that the decision about an engagement in a foreign market is influenced by developments in the company's' environment has been present in international management literature for a long time. Aharoni (1966, S. 65 ff.) elucidates that, under certain conditions, imitation effects occur in internationalisation. Knickerbocker (1973, S. 5 ff.) explains that on oligopolistic markets, a company's foreign investment decision is caused by the behaviour of the competing company. Also, Braun argues that direct investments have demonstration effects in generally indicating attractive investment opportunities in a foreign market. These studies suggest that the behaviour of buyers, suppliers and competitors can cause collective processes. These processes can influence companies to orientate themselves according to other companies and adopt their internationalisation strategies.

Thus, seemingly contradictory logics of argumentation exist in the literature. On the one hand it is argued that companies pursue different internationalisation strategies due to different

historical backgrounds. On the other hand it is also said that companies tend to adopt the strategies of other companies. The purpose of this article is to examine these contradictory propositions using path dependence theory as an analytical instrument. Firstly, this procedure is based on the fact that in the studies above, collective processes, either intra- or inter-organisational, play an important role. Secondly, as will be shown in the following sections, these processes cause self-reinforcing mechanisms which influence companies' internationalisation behaviour. Furthermore, this article aims to provide a holistic picture of the relevance of the theory of path dependence in the field of international location choice, by the reason that in this context only subcomponents of the theory have been regarded.

The structure of this paper is as follows. First the concept of path dependence will be presented and requirements will be formulated, which allow the application of this concept to the field of international location selection. Afterwards, self-reinforcing mechanisms will be identified. It will be analysed how these mechanisms influence the internationalisation process of companies and in which ways the companies are influenced by different determinants. Finally, it will be studied to what extend the concept of path dependence is valid in the field of international location selection considering characteristics, which are common for path dependent processes.

Theory of path dependence

Path dependent processes are understood as non-ergotic processes. These processes are characterised by the possibility of multiple equilibria. Beside Non-ergodicity, the second defining criterion is described by the fact, that the chronological sequence of the process determines the path and ultimately the equilibrium (Ackermann 2001, S. 11). The reasons of path dependence are self-reinforcing mechanisms (Pierson 2000, S. 254). In processes which are characterised by self-reinforcing mechanisms, the probability of continuing on a specific path increases with every step taken; an increase (decrease) of a variable leads to another increase (decrease) of the same variable.

The theory of path dependence provides an explanatory approach in several disciplines, both inside and outside business and economic sciences. In economic sciences the concept was elaborated by David (1985, 1997), who adopted this concept on technological phenomena. Subsequently, the concept was implemented in other areas of economic and business research.

Four sources of self-reinforcing mechanisms were identified in the technological arena: scale economies and experience curve effects, direct and indirect network effects as well as learning-by-using by consumers (Arthur 1994, S. 112; Katz/Shapiro 1985, S. 424; Schreyögg/Sydow/Koch 2003, S. 262).

In the following, it will distinguished between two scales of analysis. On one hand, path dependent behaviour, caused by self-reinforcing mechanisms, will be studied on an intra-organisational dimension. Here, the influence of the company's past behaviour on present decisions is examined. The level of analysis is hereby a single company. It is worth noting that international location selection is the result of collective processes inside the company with several actors involved. The second dimension deals on the intra-organisational level. The focus is broadened from the single company to multiple companies. It is assumed that decisions of a single company are influenced by the decisions of other companies. Here, self-reinforcing mechanisms arise between companies. Self-reinforcing mechanisms at both scales will be identified in the following sections and it will analysed how these influence the international location choice of companies.

Self-reinforcing mechanisms – Network effects

Network effects describe the fact that the individual benefit concerning a specific activity increases if other actors also choose this option. As an example, technologies unfold network effects if more people use it (Pierson 2000, S. 254). They can be categorized into direct and indirect network effects. For direct network effects the number of users directly influences the benefit due to the technology's character (Ackermann 2001, S. 62). A popular example is the use of communication technologies. For instance, the more people owning a telephone, the better for each user as this increases the potential communication possibility. Correspondingly, in the case of international location choice, direct network effects develop if the attractiveness of a location is positively correlated with the number of foreign companies. In the communication technology example, the potential communication possibility is assumed to increase the benefit, whereas the real communication was not regarded. In the following, it is of interest how the company's real benefit is influenced by other foreign companies investing in the host market. Furthermore the assumption that every user increases the benefit to the same amount will be rejected. While this assumption is often made for simplification, it is not realistic as will be shown in the following sections.

Indirect network effects develop if the individual benefit is dependent on a connected infrastructure. A higher demand increases the incentive to invest in the relevant infrastructure which in turn increases the incentive for other potential customers to choose this option (Ackermann 2001, S. 62; Pierson 2000, S. 254). Often cited examples are computers. Here the benefit can be increased through complementary goods. Strict complementarity exists if two objects do not make sense without each other (for example the home computer is useless without a monitor). Normally a higher level of specialisation leads by trend to a higher level of complementarity.

Network effects in international management

Network effects can be found in international management literature under the term "Economies of agglomeration", which means that, "the net benefit of a firm being in a location will increase with the number of firms in that location (Decarolis/Deeds 1999, S. 956)". Economies of agglomeration develop through an accumulation of competencies across a range of related industries and across various stages of production (Majocchi/Presutti 2009, S. 78). Therefore factors like knowledge spillover, supplier networks and/or specialised labour markets are crucial (u. a. Fujita/Krugman/Venables 1999, S. 5; Maskell/Malmberg 1999, S. 174; Storper 1997, S. 9 ff.). Companies from different countries aim to profit from these positive characteristics through direct investments which results in a concentration of multinational companies.

Direct network effects

The attractiveness of a spatial concentration is the outcome of the possibility for companies to broaden their knowledge base and therefore to create process and product innovations. The latter are a result of knowledge development within the company as well as acquisition and implementation of external knowledge. Thus, the concentration of companies can be explained by the possibility to learn from other companies. Learning inside a cluster can emerge on a horizontal and vertical level. A horizontal cluster consists of companies with similar competencies, which conduct similar activities. In a vertical cluster, companies are found with different but complementary competencies, which conduct complementary activities.

As part of a network, companies can generate knowledge about their network partners and the partners' resources, needs, capabilities, and strategies. Thus, it is possible to obtain privileged knowledge which otherwise would be withheld. Aside from substantial knowledge exchange, Dyer and Singh (1998, S. 662) see cooperation advantages through investments in relation-specific assets, through a combination of complementary but scarce resources, and through decreased transaction costs. This means that close cooperation can generate competitive advantages. Knowledge can be developed through cooperation with customers satisfying their needs and interacting with them. Vice versa, knowledge can also flow in reverse, as cooperation with suppliers can improve productivity and can help find ways of generating competitive advantages.

As early as 1890, Marshall showed that learning in clusters can also arise outside of intentionally built cooperation. The basic assumption is that on the horizontal level companies assimilate and evaluate knowledge in different ways and consequently come to different findings although these companies focus on the same activities (Casson 1982, S. 13; Cyert/March 1963, S. 83 f.; Shane 2000, S. 449). Maskell (2001, S. 928 ff.) cements this thought and sees companies involved in a learning process and in a process of continuous improvement. This process can be understood as a sequence of variation, monitoring, comparison, selection, and imitation. It is possible for companies in a cluster to monitor and to compare different optional decisions. So, it is not necessary, and indeed also not possible, for companies to replicate the process of parallel experimentation and testing. Rather, this process takes place in groups of independent companies conducting similar activities.

Both on the horizontal level and on the vertical level geographic proximity increases the effect of knowledge generation and application, because knowledge is, at least partly, tacit and localised (McEvily/Marcus 2005, S. 1035 f.). Thus there exist spatially aspects of knowledge, because information flows of specific local knowledge are spatially bounded (Buckley/Ghauri 2004, S. 86; Hedstrom 1994, S. 1161). Geographic distance therefore influences the diffusion of knowledge (Rosenkopf/Almeida 2003, S. 752 f.). Additionally, information flows are stimulated by social interaction, both informal and formal. Interaction between employees of different companies is facilitated in a cluster (for example through membership in a political or religious organisation, through local engagement for art or sports, through the simply habiting in the same neighbourhood, or through industry meetings) (Decarolis/Deeds 1999, S. 956; Saxenian 1990, S. 97). Moreover, managers and other

specialised workers often search for jobs in the same geographical region (Angel 1989, S. 102 ff.). This means that organisational knowledge is moved between companies inside a spatial bounded area through a mobile worker stock. The importance of geographic proximity implicates that it is only possible for companies to profit from the advantages arising in a cluster, if they conduct investments in this region.

Indirect network effects

As already mentioned, indirect network effects develop if the benefit is dependent on the compatibility with complementary goods. Through a settlement in a cluster it is possible for companies to use indirect network effect and thus a resource advantage. The availability of suppliers, workers, and capital can reduce production costs continuously (i. a. Maarten de Vet/Scott 1992, S. 152; Saxenian 1990, S. 91). The more complex the company's products or processes are the more important complementarity is. Complex products or processes have a need for highly specialised employees, suppliers and intermediate goods, which are not easily substitutable.

There exists a positive relationship between specialisation of suppliers and workers and spatial concentration of companies (Majocchi/Presutti 2009, S. 78; Maskell 2001, S. 931). The more the cluster grows in time the more it will develop a division of labour. Some companies will cross over gradually from the horizontal to the vertical dimension. They will concentrate on selected processes for which they already posses or for which they are able to develop competencies (Maskell 2001, S. 931). Similar developments are expected on the labour market. With an increasing demand, in time, adoption processes take place which generate more specialised and better qualified workers (Marshall 1961, S. 271).

Along with development in the host market, a settlement of foreign companies is also of relevance. If there is a vertical network relationship before internationalisation, a foreign investment from a buyer can signal to the supplier that the particular foreign market is attractive. Previously built partner-specific knowledge can diminish uncertainty related to internationalisation. Equally, suppliers follow their buyers if they want to defend their initial comparative advantage against competitors (Martin/Swaminathan/Mitchell 1998, S. 568 ff.). The higher the level of complexity and/or the higher the quality requirement regarding a

particular product, the more likely such a following is, because partner-specific knowledge is especially important.

Factor of success in networks

Above it was mentioned that in path dependence literature it is assumed that all users provide the same marginal utility. Following this argument, from the company's point of view all other companies entering the foreign market would be of equal value. But the success of intentional or unintentional inter-organisational cooperation is influenced by several company-specific characteristics. Knoben and Oerlemans (2006, S. 79 f.) identified the level of organisational and technological proximity between cooperating companies as essential.

Organisational proximity

The importance of organisational proximity results from the insight, that an inter-organisational cooperation induces more efficient and better results, if the organisational context of the partners is similar. This fosters mutual understanding (Knoben/Oerlemans 2006, p. 75). It is assumed that knowledge is generated, combined, and transferred most effectively, if the actors involved in this process identify with a superior collective. A common identity helps the parties involved to pursue a common goal (Kogut/Zander 1996, p. 503). Routines, conventions, norms, values, and language have a supporting role (Maskell 2001, p. 929, Cheung/Myers 2008, p. 594). Organisational proximity is seen as a precondition for dyadic and collective learning. Through a common foundation, capacity is generated to combine fragmented information, tacit knowledge, and non-standardised resources and can combine the knowledge of the interacting partners (Burmeister/Colletis-Wahl 1997, S. 235f).

Variable trust is an elementary part of this dimension. Trust is crucial in the early phases of a relationship when the level of uncertainty is high (Johanson/Vahlne 2009, S. 1418). Trust helps if companies cooperating in a cluster follow diverging targets, to motivate self-interested partners sharing valuable information with others, and if shared information must be validated. Trust is also a crucial factor relating to free-rider problems, which can arise in cooperation involving several companies (Cheung/Myers 2008, S. 585 ff.). If the partners trust each other, the possibility that crucial information are shared is higher and the possibility that one partner acts against the intentions of the other is smaller.

Trust can be developed in different ways. A common cooperation can unify the partners helping to built trust. In addition to an active cooperation, the possibility to observe the partner can develop trust. In this case, a company attempts to predict future behaviour of the interaction partner on the basis of past behaviour. A third route is identification with the potential partner through consistent general characteristics, like nationality, language, or political system (Sako 1992, S. 30 ff.).

Technological proximity

The impact of technological proximity is based on the concept of "absorptive capacity" ("an ability to recognize the value of new, external knowledge, assimilate it and apply it to commercial ends" (Cohen/Levinthal 1990, S. 128). Prior related knowledge should be very closely related to the new knowledge to facilitate assimilation and utilization. But at least a fraction of the new knowledge must be diverse, although still related, to enable effective, creative utilization, and to broaden the knowledge base (Cohen/Levinthal 1990, S. 136).

Boundaries of network effects and "diseconomies of agglomeration"

Companies entering a new market face a finite magnitude of resources, such that above mentioned growth effects are limited. Despite the described positive effects regarding labour market, there is only a limited number of available workers. This also applies to suppliers. Even though it is assumed that companies will increasingly specialise, the number of possible suppliers is limited. Thus, an increased demand makes it more difficult to find suppliers which meet the quality requirements so that the companies face problems of higher costs (Arregle/Beamish/Hébert 2009, S. 86 f.). General speaking, a higher density of companies is accompanied by a higher competition between the companies (Chan/Makino/Isobe 2006).

Another problem is that an increasing number of companies is accompanied by a higher level of homogeneity and duplication, creating less new knowledge (Arregle/Beamish/Hébert 2009, S. 86 f.). Altogether, this means, that positive network effects accrue only to a critical level of companies entering the market. From this critical level on, "diseconomies of agglomeration" prevail, which means, that more incoming companies have a negative effect on future investments.

Hypotheses

Clusters are characterised through a dynamic component, because the local industry structure tends to activate processes, which foster dynamics and flexibility (Majocchi/Presutti 2009, S. 78) as well as learning and innovation in consequence to a higher competition (Driffield/Munday 2000, S. 352). The positive nature of clusters cause a self-reinforcing effect and companies will try to use these effects. Due to the relevance of geographic proximity this process results in a concentration of foreign companies and of industry-specific activities, which develop an environment, which fosters further concentration. But it was also shown that positive effects are limited, so that the following hypothesis is formulated:

Hypothesis 1a: There is an inverted u-shaped relationship between the country's direct investment stock and the magnitude of network effects affecting the company.

It was explicated that a low technological/organisational proximity fosters the company's relationship to the network partners. This results in the following hypothesis:

Hypothesis 1b: There is a stronger inverted u-shaped relationship between the country's direct investment stock invested by companies of low distance (technological/organisational) and the magnitude of network effects affecting the company, in comparison to the total direct investment stock.

Effects of accumulation and allocation

Under specific circumstances, foreign direct investments have a positive influence on the country's development in the long run (Borensztein/de Gregorio/Lee 1998). Like network effects, the intensity of foreign direct investments has got a self-reinforcing effect on other companies. But in this case, foreign direct investments only have supportive character. The development of the relevant country specific variables is influenced by other factors significantly.

Foreign direct investments influence the economic growth of the host countries directly and indirectly. Direct effects emanate from the multinational company itself in form of R&D-activities, introduction of modern management methods or trainings of employees. Indirect

effects concern the company's environment. As an example, these effects emerge from cooperation with upstream and downstream industries or competitors. These effects are known under the term "spillover-effects" (Wagner/Kaiser 1995, S. 219). Spillover-effects spread f. e. through mobile educated workers, demonstration effects, and competition effects (UNCTAD 1992, S. 141). They can result in higher production efficiency, in higher productivity growth, and in improved technological and business competencies (UNCTAD 2001, S. 129). As a preposition, the technological gap and the differences in the educational level between the home and the host country should not be too high (Blomström/Lipsey/Zejan 1994, S. 17; De Mello 1999, S. 148; Borensztein/de Gregorio/Lee 1998, S. 123 f.).

Foreign direct investment can also contribute to the acquisition of new comparative advantages, if the factor endowments of the host country favour a commercial production and if foreign direct investments transfer missing technology and knowledge (Srinivasan/Wallack 2004, S. 152).

Beside these effects of accumulation there exist also effects of allocation. Effects of allocation are related to an efficient utilization of production factors. The allocation of resources is most efficiently if a country specialises in activities having a comparative advantage. In this case, the economy accumulates scarce resources and abundant resources are used where they generate the highest profit. Foreign direct investments serve as an indicator showing the area of the economy where investments are most promising (Panetta 2003, S. 23).

Foreign direct investments influence structural factors of the host country, which in turn influence the level of foreign direct investments (Narula 1996, S. 11). Thus, the relationship between foreign direct investments and the economic development of the host country is self-reinforcing.

Hypothesis 2: There is an s-shaped relationship between the country's direct investment stock and the magnitude of the effects of accumulation and allocation. These effects influence positively the company's foreign direct investments behaviour related to this country.

Learning effects

Learning effects emerge either on the side of the producer or on the side of the consumer. Learning effects of consumers go along with an increasing commitment to a specific alternative. In general, the importance of learning effects grows with an increasing level of complexity. For producers a higher diffusion of products leads to learning effects, which in turn can help to improve quality or which can reduce costs. These effects can lead to an increasing demand, which activates learning effects again (Arrow 1962, S. 156). At first, learning effects on consumer site will be analysed. Learning effects on producer site will be subsumed in the following section under scale effects.

Knowledge/learning in the internationalisation process

International location choice is a decision under uncertainty and incomplete information. At the time of decision, decision makers do not know all existing alternatives and, to an even smaller level, do not know their consequences (Simon 1949, S. 67, S. 83). So, knowledge is seen as a crucial factor in the internationalisation process. Furthermore, internal and external forces characterised by divergent interest and objectives try to influence the decision maker (Aharoni 1966, 49 ff.; Simon 1949, 70 ff.; Cyert/March 1963, S. 83 f.). Thus, foreign investment decisions can be seen as a result of collective decision processes. The factor time is inherent in decision processes, because these processes are shaped by dynamic learning processes. Past decisions provide input for current decisions so that new knowledge flows are related to the existing knowledge base (u.a. Simon 1949, S. 67 f.; Cohen/Levinthal 1990, S. 135 f.; Garvin 1993, S. 81).

As learning is relevant in different positive self-reinforcing mechanisms, it is necessary to differentiate between different kinds of knowledge. Johanson/Vahlne (1977, S. 28) differentiate between knowledge, which can be acquired indirectly without acting on the market ("objective knowledge") and knowledge, which is gained through direct experience in the market ("experiental knowledge"). Furthermore, concerning experiental knowledge, Eriksson et al. (1997, S. 343) differentiate between three interrelated kinds of knowledge. (1) „Internationalization knowledge": This knowledge incorporates competencies and resources necessary for internationalisation, independent of a specific market. (2) „Foreign business knowledge": This knowledge describes the level of knowledge about costumers, competitors,

and market conditions in a specific target market. (3) „Foreign institutional knowledge": This knowledge incorporates knowledge about the country's local government and institutional framework, and about the rules, norms and values characteristic for the country. Thus, (2) and (3) are market specific knowledge („experiental market knowledge"). Learning effects (on customer's site) develop within the company and are related to a specific target market. Thus, learning effects are caused by directly and indirectly gained **market** knowledge.

Intra-organisational learning effects

It is crucial that individual behaviour can lead to collective path dependent processes, if we speak about path dependent processes. Experiential knowledge is primarily generated by company members in the foreign market. This knowledge is initially gained on an individual level and affects the organisational level through the influence on organisational mental models (Kim 1993, S. 43). Besides norms and values, these mental models are part of the organisational memory (Hohenthal 2003, S. 144). Individual activity influences the collective memory whereas the latter limits individual acting (Hohenthal 2003, S. 146). Thus, individual and collective learning have a circular relationship (Schäcke 2005, S. 285). Individual experiences made by employees in the foreign market („experiental market knowlege") is transferred via organisational learning processes to the company and will be stored in the company. This means that future decisions of the company are based on individual experiences. To what extend learning will lead to path dependent behaviour is dependent on how the information gained in the foreign market is transferred to the company and how the information is used. At the beginning, the knowledge is stored in the employees acting on the foreign market. This can lead to an information asymmetry between these employees and the decision makers in the home country. This asymmetric distribution of information can result in a selective communication - the value of the information and of the information processing can be manipulated. This can cause decisions which would not be made in a rational process. The higher the autarky of the foreign unit and the less observable the unit (f. e. through a high geographic distance) the higher is the threat of manipulated information. Power, caused by an asymmetric information distribution, is thereby not a self-reinforcing mechanism, but can increase path dependent learning effects.

Concerning future internationalisation, the first steps of internationalisation are especially important. These steps influence the way knowledge is accumulated by forming assumptions, beliefs, and the company's future "absorptive capacity". „What firms learn in the future,

where they seek information, what information they seek and to what extend are all contingent upon the stock of knowledge and the absorption capacity that they develop in the early years of their internationalization (Erikkson /Majkgård/Sharma 2000, S. 311).“ The first steps in the internationalisation process confine the rate and the direction of knowledge accumulation and are therefore shaping the future path. In his study, Holtbrügge (2006, S. 399) also comes to this result, but draws another conclusion for later internationalisation stages. He concludes that decisions are influenced by former knowledge only at the beginning of the internationalisations process. However, other factors will play a more important role in the further process so that the determining character of former gained knowledge will decrease.

Relationship between investments and learning

In literature, investment effects are sometimes seen as a self-reinforcing mechanism. The logic behind this argument is that investments conducted at the market entry lead to market commitment and are followed by further investments. However, Schreyögg/Sydow/Koch (2003, S. 270) point out that every investment decision leads to some kind of dependence because the company is committed to decisions taken in the past.

Even if investments can not be seen as a self-reinforcing mechanism per se, there is a strong connectivity in the internationalisation process between them and learning effects. Johanson/Vahlne (1977, 1990) have shown that market commitment regarding a target market increases in a self-reinforcing manner depending on the variables “market knowledge”, “commitment decisions” and “current activities”.

Furthermore, international investments are characterised by factors, which can lead to inflexibility. The possibilities to transfer market-specific investments into other countries are often limited, as it necessary to adapt the original investment to country-specific factors. Also, international investments are characterised by a high initial investment and by high fixed costs. As a consequence, decision makers could tend to legitimise actual decisions through decisions taken in the past (Chan/Makino/Isobe 2006, S. 651). Moreover, the risk of an emotional or cognitive miss-processing of information in form of “escalating commitment” increases. Models of behaviour or patterns of action are perpetuated and intensified occasionally, even if these patterns have not had the desired outcome in the past. This behaviour can be explained by a desire of justification by the decision maker. He/she tries to

protect the self-perception, which results in a devaluation of dissonant information and in a stabilisation of decisions taken in the past. Sydow/Schreyögg/Koch (2009, S. 696) point out that "escalating commitment" is not a self-reinforcing mechanism. Self-reinforcing mechanisms in path dependence literature lead to inefficient outcomes in the final stage, whereas "escalating commitment" describes situations which fail from the beginning.

Hypothesis 3a: There is a positive relationship, at a decreasing rate, between the company's direct investment stock in a specific country and the magnitude of the company's learning effects related to this country.

Inter-organisational learning effects

Above explanations examined intra-organisational direct learning, conform to the Uppsala-model. This model disregards indirect learning to a large extent (Forsgren 2002, S. 273). But direct learning of a company and indirect learning of other companies are interrelated. Arthur und Lane (1994, S. 70) argue that in the case of decisions under uncertainty the opinion of actors depends to a high degree on decisions of other actors, even if public information are accessible. So, a feedback loop exists between individual direct learning and the investment decisions of potential investors.

It is presumed, that the higher the organisational, technological, and geographical proximity is, the higher are the learning effects between theses companies, as proximity enables and facilitates learning. Deep and long lasting network connections facilitate the absorption of tacit knowledge. Thus, market specific information can be gained through inter-organisational interaction (Forsgren 2002, S. 264). These information advantages can help to overcome market barriers (Lin/Chaney 2007, S. 569). The own experiential knowledge is substituted by indirect experiential knowledge of other companies (Arenius 2005, S. 125). On the assumption that the higher the level of uncertainty is, the higher is the use of additional knowledge, following hypothesises can be made:

Hypothesis 3b: There is a positive relationship, at a decreasing rate, between the country's direct investment stock and the magnitude of the company's learning effects related to this country.

Hypothesis 3b: There is a stronger positive relationship, at a decreasing rate, between the country's direct investment stock invested by companies with a smaller proximity (technological/organisational/geographic) and the magnitude of the company's learning effects related to this country, in comparison to the total direct investment stock.

Adaptive expectations

The basic assumption of this self-reinforcing mechanism is that "individual preferences are not considered to be fixed; instead, they are assumed to vary in response to the expectations of others (Sydow/Schreyögg/Koch 2009, S. 700)." Here, the subjective valuation of utility is crucial, which depends on the number of other users. Companies adopt practices as they assume that others will do the same because they „may feel a need to pick the right horse" (Pierson 2000, S. 254).

Thus, reflection of past events is not only based on the own behaviour but also on the behaviour of competitors and the perception on the relationships between the company and the actors in its environment in general (Weick 1969, S. 86 ff.). Analogue to the purchase decision of a product, the international location choice is a decision under uncertainty. So, it is conceivable that companies orientate oneself on companies acting already in the foreign market and that they adopt location decisions of other companies (Braun 1988, S. 160 ff.). Adaptive expectations can be seen as a fundament for the fact, that mimetic behaviour of companies can be observed especially at early stages of the internationalisation process. These stages are characterised by a high level of uncertainty due to missing market and internationalisation knowledge. In these situations, companies tend to replace strategic thinking by social behaviour imitating other companies (Aharoni, 1966; Guillèn 2002, S. 511).

Dynamic and static economies of scale

In path dependence literature there is a differentiation between self-reinforcing mechanisms caused by dynamic and static economies of scale. Static economies of scale describe the fact that in the case of high fixed costs unit costs can be reduced by producing a higher output. Dynamic economies of scale in turn refer to learning curve effects. A higher output leads to learning effects (on producer's side), which help companies to improve their products and to

lower their costs (Arthur 1994, S. 112). This in turn makes products for costumers gradually more attractive. The market expands and enables further technological learning so that dynamic economies of scale are self-reinforcing.

Transferred to the case of international location choice, countries are interested in foreign direct investments due to the positive effects mentioned above. Companies can choose between different foreign markets, which lead to a competition between potential host markets.

To attract foreign direct investments host countries have to configurate crucial determinants. Normally, this requires high investments and time. Possible factors for improvement are the country's infrastructure, the educational system, or the development of the financial market. The more foreign direct investments are attracted the more it is worth for the country to accept high fixed costs. Dynamic economies of scale exist if the host country improves the country specific determinants at lower-costs or in a better quality dependent on the level of foreign direct investments. Host countries gain experience in handling foreign investors and these experiences help to anticipate and to fulfil the needs of the foreign investors bettering a better way.

Hypothesis 4: There is a positive relationship, at a decreasing rate, between the country's direct investment stock and the magnitude of the country's economies of scale. These affect positively the company's foreign direct investments in the specific country.

Implications

At a low level of foreign direct investments all self-reinforcing mechanisms have a small effect in all hypotheses. In this case only a limited number of foreign companies act in the host market. That means that the self-reinforcing mechanisms do not reach a high number of other companies. Further, countries with a low stock of foreign direct investment are normally characterised by a poor development of country-specific determinants. A low level of income, an inadequate infrastructure (like transport or communication possibilities), underdeveloped institutions, and poor educated, skilled or motivated workers are representative for these countries (Dunning/Narula 1996, S. 2; Dunning/Lundan 2008, S. 331). This implicates that most foreign companies carry out "basic" activities in theses markets due to low the

technological and educational level in theses countries. Thus, the magnitude of network effects is low as learning in networks is most important in knowledge intensive industries. Growth promoting spillover-effects on local industries are assumed to be small because the technological gap and the differences in the educational level between the home and the host country are high. Governmental investments like improvements of the educational system or the infrastructure are supposed to by rare. Often, these countries are faced with problems like a low political stability, a high level of corruption, missing funds, a focus on the exploitation of natural resources, or a protection of local industries (Dunning/Lundan 2008, S. 331). In addition, the magnitude of learning effects and network effects depends on the quality of the relationship between the companies. In conclusion host country specific information mainly spread in already existing networks.

Self-reinforcing mechanisms are supposed to be higher in countries with an average investment level. Due to an increasing number of companies operating in the country the possibilities are better to establish new network relationships. Also, the specialisation of relevant supporting industries and of the local labour market is more advanced. Market development is supported by (indirect) learning effects from other foreign companies. Especially in these countries additional foreign direct investments have a strong positive effect on all self-reinforcing mechanisms. Only in the case of network effects additional investments can by problematic as competition increases and resources are becoming scarce. Thus, some advantages are temporally limited so that the timing of the market entry is crucial. Conclusively, all self-reinforcing mechanisms are relative high in these countries especially for theses companies, which have a high proximity (technological/organisational) to companies already operating in the host market. At this stage the company's future investment activity concerning this country is substantially determined. On the one hand the probability of increasing investments rises due to self-reinforcing mechanisms. This can lead to inflexibility and to a lock-in concerning this country. On the other hand companies with an information deficit possibly do not invest in this country, what can lead to a lock-out.

In countries with a high level of foreign direct investment crucial determinants are well-developed (Dunning/Lundan 2008, S. 335). Self-reinforcing mechanisms are strong due to a high presence of foreign companies. But the marginal effect of new investments is low or even negative. On the one hand there are opportunities to acquire technological knowledge due to a high educational and technological level in these countries. But on the other hand

resources are increasingly scarce and competition increasingly high. Furthermore, the structure of the clusters and the networks is already well-developed. New investments do not generate substantial market-specific learning effects as uncertainty caused by incomplete information is low. These markets are fully developed. Competition is high due to high market attractiveness. Conclusively, market entry barriers are very high for companies not yet operating in the market. Also, companies, which invested a high amount in this market, are inflexible, because of well-developed network structures and well-established market specific resources.

All this results in an idealistic, s-shaped pathway of the country's foreign direct investment stock. In countries with a medium level of direct investments, self-reinforcing mechanisms affect a broad number of companies and further investments have a strong additional effect. It is crucial that a sufficient number of companies invest in the country at the beginning so that self-reinforcing mechanisms will unfold. Otherwise, the country could remain on a low direct investment level. Furthermore, the composition of the direct investment stock varies between countries. The historical investment behaviour determines assumingly the origin of further investments to a large extend. At a low level of direct investments, self-reinforcing mechanisms affect only a limited number of companies and geographic distance between companies play an especially important role. So, it is assumed that initial investments are concentrated on specific countries/regions, before companies from other regions increase their investments.

Path dependent attributes of international location choice

It was shown that the concept of path dependence can be adopted in the research field of international location choice. Several self-reinforcing mechanisms were identified, which are the cause of path dependent behaviour. But there are important differences in comparison to path dependence in the technological sector for instance. Thus, restrictions have to be made concerning interpretation.

Non-predictability

If several alternatives are available and if it is not determined which alternative will be chosen the process is non-predictable and multiple equilibriums are possible. In path dependent processes a specific alternative can have an initial advantage caused by a critical juncture.

Critical junctures are characterised by Mahoney (2000, S. 513) as follows: “These junctures are critical because once a particular option is selected it becomes progressively more difficult to return to the initial point when multiple alternatives were still available.” Critical junctures can be seemingly inconsiderable apparently conditions (“small historic events”). Self-reinforcing mechanisms increase the probability that the alternative with an initial advantage will be chooses. Thus, a country with an initial advantage can attract foreign direct investments at first. This advantage will reinforce in time. A region with an initial (randomly) lead position could stay ahead. This region was not better necessarily but it had special characteristics, which fostered initial investments (Lagerholm/Malmberg 2009, S. 90).

Also, non-predictability implies that companies with different histories can pass different internationalisation processes. The level of investment, which companies invest in separate countries, is not predetermined. Instead, this level is influenced by the course of the internationalisation process. Especially steps taken at the beginning of the internationalisation process influence the further process significantly and can lead to diverse internationalisation pattern.

Inflexibility

From a particular point of time the range of possible alternatives can be limited respectively only one alternative remains in consequence of self-reinforcing mechanisms (complete inflexibility). In the case of international location choice complete inflexibility is hardly present. Normally, companies operate in several foreign markets; these markets do not, or only partly, substitute each other. A certain degree of substitution exists as the company’s resources are limited so that the company has to choose between different markets. This is relevant for market orientated investments especially. Perfect substitution is only thinkable in the case of efficiency and resource-orientated investments. Here, companies could decide to relocate production or resource exploitation in one country. Even in this case companies are not totally inflexible. In fact, costs of changing the international location are high due to the creation of country-specific capacities and due to foreign network relationships. But in general it is possible to choose other alternatives.

In the long run the marginal effect of self-reinforcing mechanisms tends to decrease (or even becomes negative) with an increasing number of companies investing in a country. This saturation effect prevents the development of a monopolistic position. Diseconomies of

agglomeration occur, the marginal learning effect, the accumulation and the allocation effect decrease with an increase of the country's investment and development level. The incentive to invest is very high during the stage of high self-reinforcing mechanisms and high growth rates. But in saturating markets the growth rates and the marginal self-reinforcing mechanisms will be low (or even negative) so that other markets will become more interesting.

Potential inefficiency

The existence of multiple equilibriums, the fact that it is not predictable, which trend the process will take and which state of equilibrium will be reached, and the circumstance, that this state is at least partially inflexible and therefore of long continuance, implicate, that a potential inefficient allocation is possible, since not all of the equilibriums are efficient. It is important to notice that inefficiency is neither a necessary requirement for path dependence, nor is path dependence a necessary requirement for inefficiency, because other mechanisms can also lead to inefficient results (Ackermann 2001).

Different inefficient allocations are possible. This should be shown with the help of a numerical example based upon the work of Arthur (1989, S. 119 ff.).

Table 1: Payoffs in dependence of market entries

Number of market entries	0	1	2	3
Country A	2	5	9	11
Country B	1	3	11	14

Assume that two countries exist for possible investments. The investing companies have homogeneous preferences. Also, it is assumed that companies make a singular investment of the same amount. The table shows the payoffs for both countries depending on the number of companies that entered the market. The example shows that the first company will decide to invest in country A, since initially the payoffs are higher than in country B. Because of this decision it is more profitable for the following companies to invest in country A due to self-reinforcing mechanisms. The higher the number of companies in the market is the more the payoffs for the company rise.

This leads to a lock-in concerning country A although country B would generate higher payoffs for all companies from the time when the third company is entering. The inefficient alternative prevails (case 1 and 3 in table 3). Assume that the initial payoff of country B is also 2, companies would be indifferent among both alternatives. In this case a critical junctures could influence the choice between both alternatives.

Now, costs of market entry are added to the model (occurring through higher competition, rising prices, scarce qualified labour etc.) under the assumption of incomplete information (table 2). For simplification only one country is regarded. Assumingly company 1 (C 1) enters the market at first (caused f.e. by a critical juncture or information advantage). Self-reinforcing mechanisms raise the benefit of a market entry for other companies, analogue to the first example. Nevertheless costs of a market entry increase. Assumingly C 2 has a better knowledge about the markets conditions and about the payoff function, due to higher proximity to C 1. In consequence C 2 enters the market.

Based on the increased activity in the market the payoff function is also known to C 3. However, the entry of C 2 raised the costs of market entry significantly. C 3 is locked-out from the market (case 4 in table 3).

Chart 2: Payoffs in dependence of market entries considering market entry costs

Number of market entries	0	1	2	3
Payoffs country A	2	5	9	11
C 1	Market entry			
C 2		Market entry		
C 3			Lock-out	
Costs of market entry	-1	-4	-10	-15

In this example learning effects play an important role as incomplete information exist. Learning effects reduce the level of uncertainty, so that the companies know their payoffs.

As shown path dependent behaviour is consistent with rational behaviour. Considering limited rational behaviour (f.e. unconscious miss-processing or miss-assessment of information, conscious miss-transfer of information) an additional case of inefficient allocation is possible. Here, the decision maker's payoff function differs from the real one. This can result in an over-investment of the company (case 2 in table 3). The company invests a high amount despite low market potential.

Table 3: Possibilities of inefficient allocations

		Market potential	
		Low	High
Level of direct investment (Country/Company)	High	Lock-in Case 1 Case 2	
	Low		Lock-out Case 3 Case 4

Discussion

By transferring the concept of path dependence to the research area of international location choice new findings have been achieved. The concept of path dependence connects different partial theories existing in literature. It can function as a theoretical superstructure. Furthermore, both rational and limited rational behaviours can be regarded. Different stages of the internationalisation process and the related decision making processes can be analysed. The concept allows analysing intra and inter-organisational influences as well as those of the external environment. Also, different companies' behaviours can be explained by this concept, as the following discussion should point out.

On the one hand the presence of intra-organisational self-reinforcing mechanisms implicate that current company's decisions are influenced by its history and its past decisions. This implies that companies with different histories can decide in different ways and that diverse paths of international development are possible. On the other hand companies are affected by activities in their inter-organisational environment. Thus, the choice of particular alternatives is becoming more likely for **all** companies due to self-reinforcing mechanisms. This implicates, at least to a certain degree, conformity in the activity of the companies.

So, decision makers are in an area of conflict between intra and inter-organisational self-reinforcing mechanisms. The more autarky a company is the more relevant are intra-organisational mechanisms. The higher the influence of the inter-organisational environment

is (f.e. caused by a high connectivity to other companies) the more relevant are inter-organisational mechanisms. Here, not only the direct network partners are relevant but also their relationship to other companies as „exchange in one relationship is linked to exchange to another“ (Johanson/Vahlne 2009, S. 1414). Thus, there exists a net of interrelated, direct and indirect relationships. Companies are either heteronomous to a certain degree or able to decide conscious and self-determined depending on their pathway of internationalisation and their connectivity to the environment. It is worth noting that in both cases inflexibly in the scope of decision-making can lead to undesired results.

Concerning research on path dependence following conclusions can be made. On the one hand the strength of self-reinforcing mechanisms is crucially dependent on how the users of an alternative are connected to each other. The quality of this relationship is an important characteristic, which determines if, respectively how strong, self-reinforcing mechanisms occur. Furthermore the level and the marginal product of a self-reinforcing mechanism are different in size depending on the stage of development. So, both aspects should be incorporated in future research.

For the research of international location choice the existence of self-reinforcing mechanisms is relevant in several aspects. To receive a more realistic picture of internationalisation it is necessary to incorporate the factor time to a larger extend, due to dynamic, on several levels occurring processes. This means that longitudinal instead of cross section analysis should be used. Furthermore the influence of the internationalisation of other companies should be included, beside country specific variables already regarded.

Finally explain path dependent behaviour in more detail case studies are necessary. They allow analysing the mechanisms affecting single companies and enable to regard the company’s current position in the internationalisation process. Ideally the case study should start before the first market entry of the company. Only this makes it possible to identify why a company has chosen a specific internationalisation strategy and which influence self-reinforcing mechanisms have on the internationalisation process.

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