FORMS OF COMPLEMENTARITY: A BASIC FRAMEWORK

Abstract

This paper seeks to build a basic framework of complementarity to enhance our understanding how different kinds of complementarities influence the transfer and adaptation of HR practices within multinational companies (MNCs). The paper argues that while the International Human Resource Management (IHRM) and International Business (IB) literature has contributed to our understanding about a wide range of enabling and constraining conditions of transfer and adaptation, it has so far failed to take a fine grained look at the role of different types of complementarities at different analytical levels. Drawing on and combining comparative capitalism (CC) literature and path dependence theory (PD), this paper argues that there are two basic types of complementarity that can play out within and between two fundamental levels. Specifically, reviewing and synergizing the literature of CC, complementarities can be constituting or reinforcing in kind. Moreover, drawing on CC and PD, complementarities can be found at the macro-level between different institutions (institutional complementarities) within a nation, at the micro-level between the different structures, forms and practices within an organization (strategic complementarities) and at macro-micro level between institutions and organizations (institutional–strategic complementarity). (185 words)

1. Introduction

This paper seeks to build a basic framework of complementarity to enhance our understanding how different kinds of complementarities influence the transfer and adaptation of HR practices within multinational companies (MNCs). The paper argues that while the International Human Resource Management (IHRM) and International Business (IB) literature has contributed to our understanding about a wide range of enabling and constraining conditions of transfer and adaptation, it has so far failed to take a fine grained look at the role of different types of complementarities at different analytical levels (see Table 1). Drawing on and combining comparative capitalism (CC) literature and path dependence theory (PD), this paper argues that there are two basic types of complementarity that can play out within and between two fundamental levels. Specifically, reviewing and synergizing the literature of CC, complementarities can be constituting or reinforcing in kind. Moreover, drawing on CC and PD, complementarities can be found at the macro-level between different institutions within the national context (institutional complementarities), at the micro-level between the different structures, forms and practices within an organization (strategic complementarities) and at macro-micro level between institutions and organizations (institutional–strategic complementarity).

Literature strength	**Conceptualisation of complementarity**	**Main contributions**
IHRM perspectives	Very limited	
International Business perspectives (IB)	No	
Comparative Capitalisms Literature	Yes (institutional complementarities)	Hall & Soskice (2001); Hall & Gingerich (2009); Whitley (2005, 2007); Deeg (2005, 2007); Crouch (2005; 2010)
Path dependence perspectives	Yes (strategic and institutional complementarities)	David (1994); North (1990); Pierson (2000); Sydow et al. (2009)

Table 1: The conceptualisation of complementarity by different literature perspectives

The paper is structured as follows. In section 2, the paper gives a short review of the IHRM and IB literature showing that the two main streams in this research have largely neglected to take a closer look at the role of different types of complementarities within the context of transfer and adaptation of HR practices. In section 3, the paper reviews the CC and PD respectively and discusses their contributions to understanding the role of different types of complementarities. In the last section, section 4, a framework is presented that draws on and combines core insights from both CC and PD to better understand the role of different types of complementarities within the context of transfer and adaptation of HR practices.

2. The role of complementarities in the IHRM and IB literature on transfer and adaptation

The natural starting point to explore the question of transfer and adaptation of HR practices is the International Human Resource Management (IHRM) literature. Two main streams of literature can be identified in the IHRM literature based on the core theoretical paradigm they rest on. While the first stream mainly rests on the contingency approach, the second has its roots in European institutionalism or comparative capitalism.

The contingency stream of IHRM has mainly theorized contextual conditions and outcomes of transfer and adaptation from a strategic perspective (De Cieri & Dowling, 1999; Schuler, Dowling, & De Cieri, 1993; Taylor, Beechler, & Napier, 1996). For example, Taylor et al. (1996) developed an integrative conceptual framework of Strategic International Human Resource Management that mainly focussed on strategic and environmental contingencies to understand different transfer modes or intents of headquarters vis-à-vis their subsidiaries. Specifically they argue that whether the transfer orientation is exportive, adaptive or integrative depends on endogenous factors such as the parent's international strategy, top managers' beliefs and national origins, subsidiaries strategic role, method of establishment, parent-subsidiary cultural and legal distance (Taylor et al., 1996). In a similar vein, Schuler, Dowling and De Cieri (1993) emphasize exogenous factors such as industry characteristics, country-regional characteristics, interorganisational networks; and endogenous factors such as MNC strategy and structure. Although, the contingency perspective does consider factors other than strategic and task environment, such as cultural and legal distance, there is no intimate concern with the impact of substantive cultural and institutional differences between sending and receiving context on the transfer and adaptation of HR practices in MNC, let alone with the role different complementarities play in this context.

This is a shortcoming, the contingency perspective on IHRM shares with the more general International Business literature (see for example Gupta & Govindarajan, 1991; 2000; Szulanski, 1996, 2000) on transfer and adaptation (Jackson & Deeg, 2008).

In contrast to the contingency perspective, the Comparative Capitalism stream of IHRM has recognized the importance of substantive differences of institutional contexts between sending and receiving context of HR practices in MNC. Cases in point are the contributions by Almond, Ferner, Edwards and colleagues who strongly draw on the comparative capitalism literature such as the work of Hall and Soskice or Whitley (e.g. Almond, Edwards, & Clark, 2003; Almond et al., 2005; Edwards & Ferner, 2002; Edwards & Kuruvilla, 2005; Ferner, Almond, & Colling, 2005). Instead of a narrow categorization of transfer outcomes they provide rich descriptions of transfer outcomes or "transmutations" (Edwards & Ferner, 2000: 10) as they call them. Regarding the conditions that give rise to such "transmutations" within the context of HR practice transfer in MNCs, they take a close look at home- and host-county institutional conditions (Almond et al., 2005; Edwards & Ferner, 2002). Specifically, in this perspective the transferability of HR practices varies due to the embeddedness of the HR practices. "Practices originate and become established in a given legal, institutional, political and cultural context. To some extent, they are dependent on this context and cannot operate in a different environment (Edwards & Rees, 2006: 92)". In other words, when HQs intent to transfer HR practices to their subsidiaries, it is to host country institutions – institutional rules, regulations, dominant values and norms, widely held beliefs relating to the practice – that the subsidiaries refer and are guided by in their decisions as to whether, to what extent and how these practices are implemented. Accordingly, it is the nature of institutions relating to the area of HR practice in question, which are important (Tempel, Walgenbach, Edwards, & Ferner, 2010). To summarize, depending on the institutional dependence of the particular HR practice, the 'diffusability' of one practice may be higher than of another. What is more, while these authors strongly focus on conceptualization of national effects, they also take into considerations strategic contingencies such as internal division of labour within MNCs (Edwards & Kuruvilla, 2005;

Edwards & Rees, 2006) and even the conditions of internal organizational politics. Now, the comparative capitalism stream of IHRM clearly recognizes, albeit implicitly, that there are strong complementarities between HR practices and institutional and even strategic contexts. However, while this is a clear strength of this literature and a fertile starting point to draw on, this literature misses to conceptualize systematically how different types and analytical levels of complementarities impact the transfer and adaptation of HR practices in MNC.

3. Different types of complementarities in the CC and PD

Comparative capitalism (CC) literature and path dependency (PD) theory are probably the two strands of literature that have been most explicitly conceptualized different kinds of complementarity and have been most intimately concerned with different levels of complementarity between national institutions and between those institutions and organizational forms and practices.

Comparative capitalism literature

At its very core the CC literature analyses how institutions across numerous economic domains interrelate to form distinct national constellations (Amable, 2003; Crouch & Streeck, 1997; Hall & Soskice, 2001; Jackson & Deeg, 2008; Whitley, 1999). Thereby, the CC literature explains the persistence or divergence of particular structural and cultural legacies across national boundaries (e.g. Hall & Soskice, 2001; Whitley, 1997). This body of literature shares a common understanding of the importance of national institutional settings and logics and posit that these contexts are crucial for the contextual constitution of organizations. At the same time, there is substantial conceptual variety within this literature. For instance, the 'societal effect' approach (Maurice, Sorge, & Warner, 1980; Sorge, 1991), the 'industrial order' approach (Lane, 1994), the 'social systems of production' approach (Hollingsworth & Boyer, 1997), the Varieties of Capitalisms approach (Hall & Soskice, 2001) and the 'national business' or 'business system' approach (e.g. Whitley, 1992, 1999), - differ widely in focus and terminology.

The most prominent approaches that takes complementarities into account are the Varieties of Capitalism (VoC) approach by Hall and Soskice (2001) who distinguish between Liberal Market Economies (LMEs) and Coordinated Market Economies (CMEs), and the National business system approach by Whitley (1992, 1999, 2005, 2007), who distinguishes between collaborative and arm's length business systems[1]. For their conceptualisation of different market economies institutional complementarities play a paramount role in because their presence constitutes and reinforces the ongoing differences between liberal and coordinated market economies (Hall & Soskice, 2001: 17-18). Starting from the seminal work of Hall and Soskice, a wider community of CC scholars has discussed the concept of institutional complementarity. Crouch (2005; 2010), Deeg (2005, 2007), Höpner (2005), Streek (Crouch et al., 2005), Jackson (Crouch et al., 2005), Hall (Crouch et al., 2005) and others elaborately examine meanings, types of institutional complementarities as well as its effect on institutional change. The following discussion mainly focuses on those approaches that have strongly used and conceptualized institutional complementarities (see Table 2).

Study	**Definition of complementarity**	**Types/meanings of complementarity**
Hall & Soskice (2001)	"[T]wo institutions can be said to be complementary if the presence (or efficiency) of one increases the returns from (or efficiency of) the other" (Hall & Soskice, 2001: 17-18).	1. complementarities in the economicst's sense (e.g. bread and butter) (Hall & Soskice, 2001: 17-18) 2. Complementarity as similarity *Analytical level:* 1. Institutional complementarity ⇒ political economy 2. Organizational complementarity ⇒ firm
Crouch (2005)	- no definition -	1. Complementarity as similarity 2. Complementarity as components compensating for each other's deficiencies 3. Complementarity in the economicst's sense (partial)
Whitley (2005)	"As Deeg [(2005)] suggests, […] complementarity implies a logic of synergy whereby the influence of institutions in one domain of action is strengthened by institutional arrangements in another one" (Whitley, 2005: 192).	Complementarity in the form of synergy
Crouch in Crouch et al. (2005)	- no definition -	1. Complementarity as components compensating for each other's deficiencies (strict) 2. Complementarity in the economicst's sense

[1] The amount of types of states and associated business systems depends on the study of Whitley. For instance he distinguishes arm's length, dominant developmental, business corporatist and inclusive corporatist business systems (Whitley, 2005; 2007).

		(strict) 3. Complementarity as similarity
Boyer in Crouch et al. (2005)	"[C]omplementarity of institutional forms describes a configuration in which the viability of an institutional form is strongly or entirely conditioned by the existence of several other institutional forms, such that their conjunction offers greater resilience and better performance compared with aternative configurations" (Crouch et al., 2005: 367).	*Analytical level:* 1. Institutional complementarity 2. Organizational complementarity 3. Technological complementarity
Hall in Crouch et al. (2005)	"[O]ne (or more) institution(s) may enhance the effects of another institution (or of several others)" (Crouch et al., 2005: 373).	1. Complementarities that enhance aggregate economic performance (level of growth, employment, productivity, etc.) 2. Complementarities that deliver benefits primarily to a few spefic groups
Höpner (2005)	"Institutional complementarity means that the functional performance of an institution A is conditioned by the presence of another institution B and vice versa" (Höpner, 2005: 383).	
Whitley (2007)	"As Deeg (2005) suggests, complementarity implies a logic of synergy whereby the influence of institutions in one domain of action is strengthened by institutional arrangements in another one" (Whitley, 2007: 36).	Complementarity in the form of synergy
Deeg (2007)	"The core idea of complementarity is that the co-existence (within a given system) of two or more institutions mutually enhances the performance contribution of each individual institution – in esseve, that the whole is more the sum of its parts" (Deeg, 2007: 611). "Institutional complementarity exists when the performance of an actor (e.g. a firm or national economy) is enhanced by the co-existence or conjunction of two (or more) specific institutions" (Deeg, 2007: 613).	1. Complementarity in the form of supplementarity: one institution makes up for the deficiencies of the other 2. Complementarity in the form of synergy: mutually reinforcing effects of compatible incentive structures in different economic subsystems are embodied.
Hall & Gingerich (2009)	"One set of institutions is said to be complementary to another when its presence raises the returns availible from the other" (Hall & Gingerich, 2009: 450).	
Crouch (2010)	"institutions 'belong' together to form a Gestalt (Crouch, 2010: 117)"	1. Complementarity as components compensating for each other's deficiencies 2. Complementarity as similarity 3. Complementarity in the economicst's sense of two goods, a fall in the price of one of which lead to a rise in the demand for the other

Table 2: Selected studies on institutional complementarities

Conceptualization of institutional complementarities

According to Hall and Soskice (2001: 17-18) "two institutions can be said to be complementary if the presence (or efficiency) of one increases the returns from (or efficiency of) the other." They argue further, that for example "the returns from a stock market trading in corporate securities […] may be increased by regulations mandating a fuller exchange of information about companies." Moreover, complementarities can exist between different spheres of the political economy. For example in CME financial systems, which provide capital on terms that are not sensitive to current profitability, long-term employment is more feasible. Conversely, in LME financial systems, which provide capital on terms that are sensitive to current profitability and which transfer resources readily among organisations, sustaining employment is ensured through fluid labour markets (Aoki & Dore, 1994; Hall & Soskice, 2001). Many more examples of complementarities across the sub-spheres of LMEs and CMEs are detected by Hall and Soskice as well as other authors. Hall and Soskice (2001) particularly point to complementarities between institutions on the societal level. The complementarities between the internal structure of companies and their external institutional environment are of special interest, too. Moreover the authors state, that complementarities also exist among the operations of a company on the organisational level, although this is not their main analytical focus.

Different types of complementarities

1. *Complementarity in the economist's sense of two goods.* This type of complementarity implies that a fall in the price of one good will lead to a rise in the demand for the other (Crouch, 2010; Crouch et al., 2005). A typical example of such complementarity would be the hypothesis that if the price of bread falls, there will be a rise in demand for butter, because bread and butter – with some other ingredients – being complementary parts of a sandwich. Interest enough these two products are purely linked empirically by chance. This complementarity depends on certain strong ceteris paribus clauses. If the taste changes – for example to having bread without butter for dietary reasons or having cereals instead of sandwiches – the relationship could be destroyed (Crouch et al., 2005).

2. *Complementarity as components compensating for each other's deficiencies* (Crouch, 2010; Crouch et al., 2005) is another type of complementarity. Crouch argues, that this type of complementarity is the strictest as "it defines two phenomena (in our case institutions) as complementary when they have opposed characteristics, such that a whole comprises the two parts" (Crouch et al., 2005: 360). Crouch gives the following example: X = y + z, where X = the whole and y, z the component parts. "[I]f we know what X is, and already have y, then we would seek to complete our institution by finding a component that had the characteristics of X-y = z (Crouch, 2010: 120)" Deeg's argumentation about complementarity in the form of supplementarity (2007) goes in the same direction

3. *Complementarity as similarity* (Crouch, 2005; Crouch, 2010; Crouch et al., 2005) may constitute cases of "Wahlverwandschaften" (Crouch et al., 2005: 362) or elective affinity (Crouch, 2010), where parts of a system – for instance institutions of a society – find some kind of fit together. In contrast to the complementarity in form of supplementarity, studies that stress the idea of similarity and – explicitly or implicitly – reject the idea of difference and contradiction (Crouch et al., 2005). However, Crouch's discussion of complementarity as similarity in his 2005 contribution (Crouch et al., 2005) is weak and unclear. On the one hand he does not explicitly mention the reinforcing effect. On the other it seems that what he means about similarity is closer to what others understand as coherence. Interestingly, by referring to Amable and Whitley in his later paper (Crouch, 2010) he refers more explicitly to what Deeg (2007: 613) labels 'complementarity in the form of synergy: mutually reinforcing effects of compatible incentive structures in different subsystems of an economy'. Amable (2000) highlights here the overall internal congruence of national systems to in order to prevent contradictory signals to agents.

> *This complementary character is fundamental for defining the coherence as well as the pattern of evolution of an economic system. The 'coherence' of a given system – a 'national' model for instance, defined as the set of interrelated national institutions – is then the expression of the complementarity between specific institutional arrangements and the outcome in terms of economic performance (growth, employment and so on) (Amable, 2000: 657).*

Whitley's (2005) argumentation goes in the same direction but even a step further, when he defines complementarity as the degree to which social institutions encourage similar kinds of economic actors to behave in similar ways and reinforce each other's effects.

> *[T]he national specificity and distinctiveness of business systems depends on the extent to which characteristics of states and related institutions are complementary in their implications for firms and markets, as well as the active structuring and coordination of interest groups and their interrelationships by state agencies. (Whitley, 2005: 224)*

Complementarity as similarity refers here "to situations where the existence of one institution provokes that of another, which in turn strengthens the first, and so on (Crouch, 2010: 122)".

Summarizing reflection on different types of complementarity

Crouch (2005) admits that it is confusing giving a concept two contradictory meanings – complementarity as components compensating for each other's deficiencies versus complementarity as similarity. Nevertheless, referring to the advantages of mongrel and pedigree animals, Crouch argues that there may be ensembles of institutions, which are based on balanced complementarities, that adept at certain activities. At the same time, there may be other ensembles of institutions, which are based on similarity, that adept at other activities (Crouch et al., 2005). Interestingly Hall and Gingerich (2004) argue that systems mixing institutions of different fundamental types – or in Crouch's association mongrel animals – will underperform pure types – or pedigree animals. Höpner (2005) in turn, tries to solve the problem differently by crossing complementarity (functional feature of institutions: x/..) and coherence of governance modes (structural feature of institutions: ../y) to distinguish four cases (1/1: coherent institutions, productive interplay; 1/0: productive interplay of elements in an incoherent configuration; 0/1: lack of counterbalancing institution; 0/0: dysfunctional tensions). Based on this crossing he comes to the conclusion, that "[t]he concept does not tell us whether complementarity derives from similarity or from heterogeneity, as empirical examples exist for both 1/1 and 0/1 complementarity (Höpner, 2005: 387)".

The discussion on different types of complementarities also unveils (see Table 2) that while there are substantially different definitions of complementarity depending on the author, there is more or less convergence on the existence of at least two fundamental types of complementarity.

In addition, the discussion makes clear, that complementarity is a very inimitable form of institutional linkages (cf. Deeg, 2007). Forms of institutional linkages like coherence, compatibility and institutional clustering (Boyer, 2005) are conceptual distinct forms (cf. Höpner, 2005). Furthermore, Amable stresses that “[c]omplementarity is by no means synonymous with institutional isomorphism, i.e. the presence of identical principles in different institutional areas” (Crouch et al., 2005: 372).

Path dependence theory

Like in the CC literature, the concept of complementarity plays a key role in the path dependence theory. However, unlike the CC literature this body of literature is less concerned with identifying different types of complementarity. Instead this literature shows its theoretical strength in emphasizing the complementarity across (and within) different analytical levels.
PD literature (Arthur, 1989, 1994; David, 1985, 1994; Pierson, 2000), with its focus on paths at different analytical levels (institutional, technological, organisational), is commonly used to refer to organisational rigidities, inertia, persistence or inflexibility. Next to other effects (learning, coordination and adaptive expectation effects), complementarities are understood as key self-reinforcing mechanisms that contribute to the development of organisational path dependence (Arthur, 1989; Beyer, 2005; Sydow et al., 2009). One of the most prominent examples of PD’s work on the role of complementarity is Sydow, Schreyögg and Koch’s (2009) recent work on organizational path dependence. Adopting mainly a synergetic understanding they explicate complementarities as follows:

> *“[C]omplementarities mean synergy resulting from the interaction of two or more separate but interrelated resources, rules, or practices (Pierson, 2000; Stieglitz & Heine, 2007). In the case of complementarities, the advantages of repeatedly combining interrelated activities do not simply add up; they produce an additional surplus:* $K(x + y) > K(x) + K(Y)$*”.*
>
> *Take for instance, marketing skills and R&D capabilities, which may add up to a “core competence” (Prahalad & Hamel, 1990) of a company or a division. David (David, 1994) calls such combinations “institutional clusters.”*

In complementary settings self reinforcing processes occur when routines and/or practices are interconnected in such a way that it becomes ever more attractive to exploit the synergies or – when referring to the reverse side – to save misfit costs caused by solutions deviating from the established cluster/organisational capability. As a result, distinct sets of activity patterns become progressively dominant (Leonard-Barton, 1995) and, additionally, deeply embedded in an organization ("deep structure") – that is, they become organizationally path dependent. (Sydow et al., 2009)

In contrast to the CC literature with its focus on institutional complementarities on the societal level, PD literature stresses the relevance of strategic complementarities on the organisational level, too (cf.David, 1994). In other words, PD theory has not only taken up the idea that there are strong complementarities between organizations and their institutional environment but also within organizational systems (Sydow et al., 2009).

Study	**Definition of complementarity**	**Types/meanings of complementarity**
David (1994)	"The analogy that has just been drawn between the complementary components of a technological system and the interrelated rule-structures of a complex human organization may be extended still further and applied to the manner in which distinct institutional arrangements fit together and so form still more elaborate 'institutional clusters' that are self-reinforcing, as a structure of interindustry input-output relationships can be self-reinforcing'" (David, 1994: 214).	1. Complementarity in the form of synergy *Analytical level:* 1. Institutional complementarity 2. Organizational complementarity 3. Technological complementarity
Pierson (2000)	The author refers to Milgrom and Robert's (1990) definition of complementarities: 'doing more of one thing increases the returns to doing more of another'	Analytical level: "Path dependent processes will often be most powerful not at the level of individual organizations or institutions but at a more macro level that involves complementary configurations of organisations and institutions (Hall & Soskice, 2001; Katznelson, 1997)" (Pierson, 2000: 255).
Sydow et al. (2009)	"[C]omplementarities mean synergy resulting from the interaction of two or more separate but interrelated resources, rules, or practices (Pierson, 2000; Stieglitz & Heine, 2007)". In the case of complementarities, the advantages of repeatedly combining interrelated activities do not simply add up; they produce an additional surplus: K(x + y) > K(x) + K (Y)". ((Sydow et al., 2009)	1. Complementarity in the form of synergy *Analytical level:* 1. Institutional complementarity 2. Organizational complementarity

Table 3: Selected Path dependence studies on complementarities

4. Towards a basic framework of different complementarities (and their influence on transfer and adaptation)

In this last section a basic framework is developed that allows capturing different types of complementarity while keeping in mind that these can unfold within and across different analytical levels. I will first draw on the CC literature and develop a refined framework of different complementarity types. In a second step I will draw on PD and suggest that there are two main analytical levels of complementarity that can be captured as strategic and institutional.

Different types

CC literature provides a deep insight into different types of complementarity. At the same time the discussion of different types of complementarity lacks some specification with regard to the nature of the relationship of the complementary components. Two issues seem particularly important here with the view of transfer and adaptation of HR practices in MNCs. The first is the question about the underlying effect of the complementarity. For example, does an HR practice rely on another organizational practice or institution to be functional (constitutional effect) or is an HR practice "only" strengthened by another organizational practice or institution so as to function more effectively (reinforcing effect). The second question involves the direction of the complementarity. That is, is the reliance or reinforcement of an HR practice unidirectional or is it rather based on mutuality with other organizational practices or institutions. Adding these two specifications, the relationship of complementarity can be formalized as follows:

(1) Constituting unidirectional: In that case A depends on B, but B does not rely on A or in another case B relies on A, but A does not rely on B. Complementarity exists here in the form of supplementarity: one institution makes up for the deficiencies of the other. Strong familial social support networks – for instance – offset the inconsistency of a highly liberalized labour market. Thus, while the society is able to gain the advantages of a liberal labour market, at the same time this labour market will be more socially and politically acceptable (Deeg, 2007).

(2) Constituting mutual: In that case A and B rely on each other to exist or to form a whole (e.g. C). Crouch describes this as follows: X = y + z, where X = the whole and y, z the component parts. "[I]f we know what X is, and already have y, then we would seek to complete our institution by finding a component that had the characteristics of X-y = z (Crouch, 2010: 120)". Complementarity implies here that components compensate for each other's deficiencies (Crouch, 2010; Crouch et al., 2005). Crouch argues, that this type of complementarity is the strictest as "it defines two phenomena (in our case institutions) as complementary when they have opposed characteristics, such that a whole comprises the two parts" (Crouch et al., 2005: 360). An example for such complementarity would be the transferable skill qualifications in Germany that offset the tendency of many other German labour market institutions towards the low mobility of the workforce. Moreover, democracy and liberty might be understood as complementary. Democracy deals with the rights of the many whereas liberty with the rights of the individual (Crouch, 2010).

(3) Reinforcing unidirectional: In that case A strengthens B, but B does not strengthen A or in another case B strengthens A, but A does not strengthen B. Here the literature – to my knowledge - doesn't provide an example. Theoretically this case is possible.

(4) Reinforcing mutual: In that case A and B mutually reinforce each other. Complementarity in the form of synergy: Mutually reinforcing effects of compatible incentive structures in different economic subsystems are embodied (Deeg, 2007). Deeg (2007) refers – for example – to an individual actor like a company, who operates in many subsystems of the economy. "[I]f the incentive structures across these subsystems reinforce particular strategies by that actor, they complement by a logic of synergy" (Deeg, 2007: 613; cf. Whitley, 2005).

Hence drawing on the established literature of main types of complementarity and refining them with respect to the underlying effect and direction of their relationship we can develop the following basic framework of different complementarity types (see Table 4).

Effect Direction	Constituting	Reinforcing
Unidirectional effect	A (yes)🡐 B (no) A (no) 🡒 B (yes) Supplementarity type	A+ 🡐 B A 🡒 B+ Supporting type
Mutual effect	A (yes) 🡐🡒 B (yes) Compensating type or Interdependent type	A+ 🡐🡒 B+ Synergetic type

Table 4: Basic complementarity framework

Different levels

The CC literature provides us with a strong understanding of complementarities at the Macro-level. We can basically label these as institutional complementarities. *Institutional Complementarities* can be found on the institutional level. While the CC literature provides us with a rather refined framework of different complementarity types at the institutional level, it has paid only scant attention to inner-organizational complementarities, that is, complementarities between different structures, forms and practices within organizations. Path dependence theory, in contrast, has not only taken up the idea that there are strong complementarities between organizations and their institutional environment but also within organizational systems (cf. Milgrom & Roberts, 1995; Sydow et al., 2009). I understand these micro-level complementarities at the organizational level as *strategic complementarities within a firm*. For example, complementarities may exist between marketing skills and R&D capabilities, which may add up to a “core competence” (Prahalad & Hamel, 1990) of a company or a division. In the context of HR transfer and adaptation the notion of strategic complementarities is important for our understanding of the constraints that are related to the links between different HR practices at the organizational level. Thus, strategic complementarities refer to a situation where two or more HR practices constitute or reinforce each other (in a unidirectional or mutual way). That latter may be for example training complemented by incentives (Horgan & Mühlau, 2006; Laursen & Foss, 2003).

Finally, within the context of transfer and adaptation of HR practices it is not so much the isolated conditions of institutional or strategic complementarities that help us to understand its enabling and constraining conditions but most of all the interaction between macro- and micro-level complementarities. This has been strongly recognized by comparative capitalism IHRM scholars. These scholars have shown that complementarities between HR practices and institutions on the societal level are crucial to understand transfer and adaptation processes (e.g. Edwards, 2004; Ferner, Almond, Colling, & Edwards, 2005). Hence, the question is, whether HR practices are complimentary in different ways with institutional contexts.

Short summary and outlook

To summarize, the transfer and adaptation of HR practices may be associated with different types of complementarities (constituting and reinforcing) and between different analytical levels (institutional and strategic). Referring to Whitley's (2005) comparison of isolated versus cooperative hierarchy types of firms, one could probably argue that the micro-macro complementarity of HR practices is more of a reinforcing kind in LME firms and more constituting in CME firms. At the same time, the micro-level or strategic complementarity may be more of a constituting kind in LME firms and more reinforcing in CME firms. Clearly, this is a very preliminary working proposition, which needs to be further explored before it can inform the research design.

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