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Abstract

The emergence of firms from the Asian Newly Industrialized Economies (NIEs) in the global economy during the past two decades has been phenomenal. Many pundits have attributed the competitive success of these Asian NIE firms and their home economies to the relentless efforts of the so-called developmental states. They argue that state initiatives such as active industrial policy and financial support have enabled these "national champions" to venture into and compete successfully in the global economy. This statist approach to the globalization of Asian firms and their home economies, however, has unfortunately ignored the complex and dynamic evolutionary nature of firm-state relations within the changing context of economic globalization. Drawing upon an institutional and evolutionary theory of change and adjustments, I aim to explain how the global emergence of Asian firms cannot be simply read off from and explained by their embeddedness in the developmental state. Since the 1990s, these Asian firms have strategically disembedded from state apparatus and successfully reembedded themselves in dynamic global production networks. This shift of strategic partnership of Asian firms from firm-state to firm-firm networks has profound implications for our understanding of the present and future trajectories of regional economies in Asia. It presages the demise of the developmental state as the primary driver of economic change and growth in Asian economies. In developing my conceptualization of changing firm-state relations, this paper draws upon several emerging and interrelated research frontiers in economic geography that call for more theoretical attention to trans-local actors and processes, evolutionary dynamics of change, and institutional contexts.

Keywords: Firm-state relations; evolutionary dynamics; globalization; selection environment; global production networks

JEL codes: L50; O19; P16;

Introduction

The emergence of highly competitive business firms from the three Asian Newly Industrialized Economies (NIEs) of Singapore, South Korea, and Taiwan in the global economy during the last three decades has been nothing short of phenomenal. From their often-humble origin of small-scale and low-tech establishments, these Asian NIE firms have grown strategically as major market leaders today in respective industries and sectors. In 2009, over 70% of world's 100 million annual shipment of computer notebooks were produced by four Taiwanese firms (Quanta being the largest); two of the world's largest semiconductor foundry manufacturers are Taiwanese (TSMC and UMC); two of the top ten largest electronics manufacturing service (EMS) providers come from Taiwan and Singapore (Hon Hai and Venture); two-thirds of the world's US$20 billion offshore oil rigs order are held in the books of two Singaporean marine engineering firms (Keppel Corp and SembCorp Industries); and Acer from Taiwan, Singapore Airlines, and Samsung and Hyundai from South Korea have become household brand names in the new millennium. By the end of 2007, these multi-billion dollar companies dwarfed their siblings in the Global South. Samsung Electronics had sales of US$104 billion and assets of US$99 billion. Hyundai Motors was about two-third of Samsung Electronics in sales and total assets. Taiwan's largest EMS provider, Hon Hai Precision, had sales of US$52 billion and assets of US$39 billion, whereas Quanta, Acer, and TSMC achieved respectively sales of US$24 billion, US$14 billion, and US$10 billion. Singapore's world-leading offshore oil-rig builders, Keppel and Sembcorp, had sales of US$7.6 billion and US$6 billion and assets about half of their sales. Compared to their modest origins, these leading Asian NIE firms have succeeded not because of their enormous size measured in sales or assets *domestically*. More importantly, they have become world leaders in their respective market segments and industries that are highly *globalized* today (see UNCTAD, 2006; 2009).

While much social science literature has been written on globalization and its impacts in the Asia–Pacific region, we know relatively little about how business firms from developing and/or newly industrialized economies in Asia are articulated into global production networks and become major players in their respective industries at the *global* scale (cf. Schütte, 1994; Mathews, 2002; De Meyer et al., 2005; Yeung, 2007a; 2009a). This relative lack of understanding of the evolutionary dynamics and emergence of Asian NIE firms reflects the general underestimation of the critical importance of firms as *key drivers* of globalization processes, particularly in the mainstream debates on the role of state and market in East Asian development during the past three decades. While the rise of these Asian NIE firms during the past two decades has been extraordinary, many pundits have attributed the competitive success of these firms and their home economies to the relentless efforts of the so-called developmental states. They argue that state initiatives such as active industrial policy and financial support have enabled these "national champions" to venture into and compete successfully in the global economy. Although this contemporary thought on the central role of the state in economic development has a very long intellectual pedigree dating back to the mercantilist period at the dawn of modern capitalism, Radice (2008: 1153-1154) notes that "the *locus classicus* of the modern DS [developmental state] concept was undoubtedly East Asia… At the heart of the DS thesis is the relationship between the state and the business sector, especially with regard to the direction and funding of industrial investment". This *statist approach* to the globalization of Asian firms and their home economies, however, has unfortunately ignored the complex and dynamic evolutionary nature of firm-state relations within the changing context of economic globalization.

Drawing upon an institutional and evolutionary theory of change and adjustments, I aim to explain how the global emergence of Asian NIE firms cannot be simply read off from and explained by their embeddedness in the developmental state. Since the 1990s, I argue, these Asian firms have strategically disembedded from state apparatus and successfully reembedded themselves in dynamic *global production networks*. This shift of strategic partnership of Asian NIE firms from firm-state to firm-firm networks has profound implications for our understanding of the present and future trajectories of regional economies in Asia. It presages the demise of the developmental state as the primary driver of economic change and growth in Asian economies. To understand how Asian NIE firms venture into and compete successfully in the global economy and, in doing so, become the key driver of the globalization of their domestic economies, I argue that we need to go beyond the domestic- and state-centric view in the developmental state theory by developing a theoretical perspective that accounts for the complex and changing firm-state relations in Asia. In her recent book, Amsden (2007: 153) seems to have recognized the importance of these Asian national firms in the global economy, although she did not recast her developmental state ideas to accommodate this new phenomenon:

> National firms in Asia grew brick by brick, machinery supplier by machinery supplier, subsidy by subsidy, entrepreneurial decision by entrepreneurial decision. The creation of professionally managed, family-owned firms, with an entrepreneurial dynamo on top, was probably the hardest step to make in modern economic development, and became the joint effort between business and government. Only with nationally owned firms was globalization possible in the form of outward foreign investment. Thus were born fresh competitors for the multinational Cadillacs of this world.

My analytical approach draws upon two emerging and interrelated research frontiers that call for more theoretical attention to trans-local actors and processes, evolutionary dynamics of change, and institutional contexts. The first strand of conceptual work refers to the global production networks perspective (Dicken et al., 2001; Henderson et al., 2002; Coe et al., 2004; 2008a; Hess and Yeung, 2006a; Yeung, 2005a; 2009a). This body of theoretical work showcases the critical importance of unpacking the *strategic coupling* processes of actors in East Asian regional and national economies and their counterparts in dynamic global production networks. These embedded, disembedded, and reembedded processes, however, cannot be fully understood without paying simultaneous attention to their evolutionary dynamics and institutional contexts. This in turn calls for the second strand of emerging theoretical literature that deals with issues of path dependence, lock-in effects, and dynamics of change in evolutionary economic geography (Boschma and Frenken, 2006; Martin and Sunley, 2006; 2007; Boschma and Martin, 2007; Rafiqui, 2009; cf. MacKinnon et al., 2009). These evolutionary trajectories are particularly relevant for analyzing the changing dynamics of firm-state relations in East Asia.

More specifically in the Asian context, the ways in which the developmental state drove economic development and firm growth have already been well documented in the developmental state literature. There is, however, a curious neglect of the theoretical and empirical possibility that these Asian firms can grow out of and beyond the developmental state. This evolutionary change in firm-state relations from one of structural dependence in the early phase of industrialization and economic development to increasing autonomy and independence in recent decades arises primarily through the growing participation of these Asian NIE firms in globalization and their active enrolment into global production networks. Here, I see globalization as a set of tendencies providing "external shocks" in the selection environment that compels states and firms to reposition themselves not just internally within their domestic economies, but more importantly also externally in a much more open and competitive global economy of the 21st century. In their reassessment of the developmental state theory, Underhill and Zhang (2005: 53) link the rise of Asian NIE firms to this changing selection environment in an era of globalization:

> The 1980s and 1990s witnessed dramatic changes in the state-market ensemble of industrial governance in East Asia. The sustained process of economic transformation increased the weight of private business in aggregate economic activity. In parallel with their increased structural power, private-sector actors were able to enhance their

organizational resources and effectively employ these resources for economic and political purposes. The increasing integration of the national economy with the international financial and trade systems only served to reinforce the position of private industrialists as crucial economic agents and deepened the dependence of the state upon them for national development in an era of globalization.

This strategic embedding of Asian NIE firms in different global production networks should be seen as a form of competitive adaptation in charting a new path of growth and development. This dynamic shift of strategic partnership of Asian NIE firms from firm-state to firm-firm networks therefore has profound implications for our understanding of the present and future trajectories of regional economies in East Asia. While this phenomenon of globalizing Asian NIE firms is not "tantamount to watering one's own garden in a world where the plants can relocate", to use Weiss' (2003a: 296) metaphorical depiction of the perceived futility of industrial policy on national champions, it does call into question the continual role of the developmental state as the *primary* driver of economic change and growth in Asian economies today.

Three caveats should be in place before I proceed further. First, my argument about the above dynamic shift in firm-state relations does not denounce the value of the developmental state theory in explaining many other facets of East Asian societies such as political change and social welfare programmes. Indeed, Stubbs (2009: 17) recently concludes his critical review that "the concept of the DS [developmental state] still has currency although its existence and value continue to be hotly contested. Much depends on how the DS is defined. The narrower the definition the easier it is to pronounce the death of the DS. The broader the definition the more aspects of the original construction can be located in contemporary societies around East Asia". Second, even in the economic realm, the developmental state continues to function effectively in certain areas such as promoting new industries (e.g. biomedical and environmental technologies sectors) and steering restructuring of the domestic economies (e.g. the 2008 global financial crisis). Third, this paper is not about economic growth *per se*, but the key actor(s) implicated in this growth dynamics – leading national firms – and their global articulations that go well beyond their domestic operations.

The next section revisits the developmental state debate in order to situate historically East Asian development within the changing dynamics of economic globalization. This brief critical review points to the historical specificity in which the embeddedness of Asian firms in their home states should be understood. In other words, the embedded firm-state relations in Asia should be viewed as a historical construct rather than a permanent fixture; it is therefore subject to change and adjustments in an era of accelerated globalization. The penultimate section proceeds with a theoretically informed analysis of the changing dynamics of globalization through which Asian NIE firms have emerged to become key drivers of their regional economies. Beginning with a critical deconstruction of Evans' (1995) concept of "embedded autonomy", this section draws upon important insights from the above two strands of theoretical literature in order to analyze the strategic disembedding and reembedding processes of Asian NIE firms.

The developmental state revisited

In many ways, the meteoric rise of many Asian NIE firms described at the beginning of this paper would not have happened without the developmental state; some of them such as TSMC, Keppel and Sembcorp were indeed former state-owned enterprises that were the cornerstone of the developmental state's industrialization programme. Revisiting the developmental state literature therefore enables a more historically grounded understanding of the rise of these firms. It also prevents us from suffering from the kind of "presentism of social science accounts and the prescriptive, future-oriented nature of policy studies… [that] tended to peak when Japan and other East Asian economies did well, and then to fall when they were perceived to have slid into the doldrums – as in the early 1990s or in the aftermath of the 'financial crisis' of 1997-98. In other words, a nasty case of attention deficit disorder has plagued a coherent account that would link past with present, yielding a lamentable misunderstanding of what the whole enterprise of the 'developmental state' was about" (Woo-Cumings, 1999a: 2-3).[1]

Based on the successful experience of the state in guiding economic development in Japan and, later, South Korea, Taiwan, and Singapore, leading proponents of the developmental state such as Johnson (1982; 1995), Deyo (1987), White (1988), Amsden (1989; 2001), Haggard (1990), Wade (1990), Woo (1991), Evans (1995), and Woo-Cumings (1999b) have consistently argued that deliberate state interventions via active industrial policy and selective financial support have enabled "national champions" to overcome their latecomer disadvantages and to achieve economies of scale in domestic and international competition. Instead of pursuing market-based price mechanism, the developmental state has intentionally distorted the market by, as Amsden (1989: 13-14; 2007: 87) famously termed, "getting the prices wrong" through its highly selective industrial and financial policies. With hindsight, this statist approach has provided very important insights into the unique pathways to industrialization and economic growth in the Asian NIEs; it explains well the institutional legacies of the origins of some of the above leading Asian NIE firms. This intellectual achievement is particularly notable in light of the dominance of neoclassical and dependency schools of economic development prior to the onset of the developmental state theory in the early 1980s (see a recent review in Stubbs, 2009).

Given these well known and highly regarded characteristics of the developmental state in Japan and the three Asian NIEs, how then did the developmental state go about steering economic development and "governing the market"? Figure 1 provides a summary of this one-directional causal link between the developmental state, its policy interventions, and domestic firms. One of the most powerful policy instruments of the developmental state must be its highly active and yet controversial *industrial policy* – the deliberate choice of developing specific industries initially via import-substitution programmes and later through export-promotion. This blunt policy instrument was widely practiced in Japan and all three Asian NIEs against the then prevailing economic orthodoxy of market liberalization and price mechanism. If anything, the developmental state deliberately "got the prices wrong" by offering cheap credits and other subsidies and incentives in order to induce private entrepreneurs to participate in this state-driven industrialization programme. In return, these entrepreneurs were subject to very stringent performance and standards monitoring by state agencies. Amsden (1989: 94; also 2001) thus argues strongly that "[w]hat lay behind

successful postwar industrialization was a monitored system of controls on subsidies. Neither import substitution nor export-led growth was a free-for-all. In many cases, especially that of Korea and Taiwan, exporting was made a condition for domestic protection". If these entrepreneurs were not forthcoming or capable enough, the state took on the role of entrepreneurs and readily stepped in with the establishment of state-owned enterprises that subsequently socialized the market or the industry in the hands of the public sector.
"The DBS [developmental bureaucratic state] was designed to help domestic firms catch up and challenge foreign competitors in particular product markets. As practiced in Japan and South Korea, it worked by government planners providing a series of economic incentives and subsidies to established firms to compete in markets that they would otherwise have considered too risky to enter" (Block, 2008: 171).

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Now that we know a great deal more about the central role of the developmental state in governing the market and industrialization in the three Asian NIEs during much of the 1950s-1970s period, does the developmental state theory inform us much about the increasingly complex articulation of these NIEs into the global economy since the 1980s when globalization began to take shape in Asia? The answer to this question is an important one because there are two interrelated issues at stake here – one concerning an epistemology of state-centrism and another relating to the empirics of changing firm-state relations. First, the primacy of state as *the* analytical lens in the developmental state theory has compelled most scholars in this genre to focus almost exclusively on the *domestic* nature of firm-state relations. In this theory, private and public firms are analytically important only insofar as they matter to the state's grand strategy of industrialization and economic growth; the former has therefore become the latter's "objects of desire", very much akin to the pawns in the hands of skillful grandmasters vying for world chess championships.[2] As argued by Boyd and Ngo (2005: 9), this state-centric approach to industrialization in the Asian NIEs has put too much weight in the state as an independent variable explaining economic growth, the dependent variable. The firm has mostly dropped out of the analytical theorem of the developmental state. Reflecting on his 1990 *Governing the Market* book, Wade (2003: xvii) wrote in the Paperback edition that "Missing, though, is analysis of the external economies of human capital that are a major source of increasing returns to production in Taiwan and other East Asian countries – microanalysis of firm capabilities and corporate governance, and mesoanalysis of interfirm input-output networks, factor markets, and tacit knowledge". In fact, this auto-critique can be found in his earlier work with White (1988).

> What none of the chapters on Taiwan and South Korea say much about is the basis of state power, the way it is organised, or the micro principles with which officials make allocation decisions. Still less do they talk about the organisational arrangements that coordinate activities within business firms, and those that link them to government. These are exceedingly important questions (White and Wade, 1988: 12).

I argue that it is precisely these missing *micro*- and *meso*-elements of firms and their networks that are increasingly coming to the forefront of evolutionary change in development trajectories in the Asian NIEs since the 1990s that requires a revision and a reorientation of the developmental state approach – revision of its claim of strong state influence on firms and reorientation of its analytical focus away from state policies and capacities to its "objects of desire" (firms and other non-state institutions) – known in Amsden's (1989: 8-9; emphasis omitted) work as "the agent of expansion in all late-industrializing countries" *below* the level of the state. To Berger and Lester (2005: xviii), this (re)focus on firms as capitalist actors in the study of the Asian NIEs is important:

> … if we start from firms understood as actors with legacies built up out of previous experiences and strongly shaped by the particular societies in which they were born, if we conceive these legacies as resources or lenses – resources for developing new strategies and implementations, lenses for identifying familiar and new aspects of problems and seeing novel options – then we are likely to discover a far greater diversity in the behaviors of firms than any that we might have deduced from their contexts.

Second, if capitalist national firms are indeed important enough now and should be *more* important in the study of the changing position of these Asian NIEs in the global economy today (see Yeung, 2007b; 2009b), we are immediately confronted with a thorny empirical issue of who exactly is the key driver in the globalization of these Asian NIEs and how does it work? Is it still the developmental state or the national firm from these NIEs? By "national firm", I mean private or state-linked firms that originate and are owned and controlled by nationals from these NIEs. Before I attempt to unpack this changing dynamic of firm-state relations, let me briefly probe further into the analysis of firms in the developmental state theory. While Johnson's (1982) original contribution focuses primarily on a particular state institution in Japan, the Ministry of International Trade and Industry (MITI), the firm does get some attention in the subsequent protagonists of the theory. Highly cognizant of the shop-floor level operationalization of state industrialization policies, Amsden (1989: 112; original italics) notes that "The translation of high growth rates of output into high growth rates of productivity depends on what happens *inside the unit of production*. Closing the loop between growth and productivity, therefore, involves an analytical shift, a change in the center of gravity from the state to the other key institution of industrialization, the firm". However, even if the firm is sometimes counted and analyzed in the developmental state literature, it tends to be read off from the state's policy regimes. Amsden (2001: 193: original italics) thus describes the essence of leading firms in the Global South, including those from the Asian NIEs, as by-products of the developmental state:

> National leaders in 'the rest', private or public, all shared one characteristic: they tended to be a product of government promotion ('targeting'). In the case of the private leader, it tended to be either an affiliate of a *diversified business group* with a history of government patronage, or a '*state spin-off*'.

To sum up, the developmental state theory can no longer fully account for the dynamic articulation of the Asian NIEs into the global economy. Its excessive focus on state initiatives and capacities in early industrialization has rendered itself "locked-into" a conceptual path dependency premised on seeing through the state the economy and its key agents such as firms. Its ability to provide insights into the rise of Asian NIE firms in the global economy becomes handicapped by its analytical baggage of statism. To Jayasuriya (2005: 386), this statist view of East Asian development "now shows all the hallmarks of a degenerating research programme that is no longer capable of setting out an interesting or relevant agenda". His view is echoed by Beeson (2006: 451) who argues that "the relative long-term decline of the state may be inevitable and not a bad thing". Similarly, O'Riain (2004: 27) argues for understanding the constitutive role of globalization in state-driven development because "under the globalization project, transnational firms, networks and flows of money, information, and resources have deeply penetrated the most successful localities and nations – the global is no longer a context for developmental strategies but rather a constitutive element of them".

Reconceptualizing firm-state relations: from embedded autonomy to strategic disembedding and reembedding

In his comparative institutional analysis of industrial transformation in Brazil, India, and South Korea, Evans (1995) argues that "embedded autonomy" is a necessary condition for the efficacy of the developmental state to carry out its developmental roles as either "midwife" or "husbandry" of domestic industries. To him, the state must enjoy some independence and autonomy from the domestic élites, particularly those in business and industries, in order for it to avoid rent-seeking behaviour by these élites and to exercise its capacity for promoting economic development. This insulation of the state from economic actors and other interest groups, however, needs to be grounded in an embedded relationship between the autonomous state and domestic business élite because the former plans its industrial policies in consultation with the latter and implements such policies with the cooperation of the intended recipients. The success of industrial transformation is therefore a question of both autonomy and capacity of state institutions:

> Only when embeddedness and autonomy are joined together can a state be called developmental. This apparently contradictory combination of corporate coherence and connectedness, which I call 'embedded autonomy,' provides the underlying structural basis for successful state involvement in industrial transformation (Evans, 1995: 12).

He further argues that the developmental state secures internal coherence through developing effective and rule-following bureaucracy (see also Weiss, 1998; 2003b): "Unless loyalty to the rest of the state apparatus takes some kind of precedence over ties with other social groups, the state will not function. The kind of coherent, cohesive bureaucracy that is postulated in the Weberian hypothesis must have a certain degree of autonomy vis-à-vis society" (Evans, 1995: 41). As noted earlier, this Weberian-inspired "embedded autonomy" conception of the developmental state can be quite problematical, as it does not really explain the dynamics of bureaucratic rationality and consider the evolutionary relationships between the developmental state and business firms.

What will happen to state-firm relations if economic actors in these Asian NIEs "grow up" over time and become much less dependent on their developmental state "parents"? Do they eventually grow out of the plan, to use Naughton's (1995) book title, and strike for a new life on their own in the global economy? What does this evolutionary change leave us with when it comes to understanding the international political economy of Asian NIEs? With the exception of Evans (1995), the first wave studies of the developmental state have not dealt with these questions because they were focusing mostly on the nurturing or even directive role of the developmental state. To Evans (1995: 205-206),

> The new internationalization clearly complicates the politics of state involvement. Once enmeshed in alliances with transnational firms, local entrepreneurs no longer comprise a political constituency as they did under the old greenhouses. Their interests are much less clearly bound up with the growth of local demand and the enhancement of local productive capacity. Getting some share of the proprietary rents generated by their partner's global technological and marketing assets is increasingly important. Consequently, embeddedness is more problematic. At the same time, the political vacuum that allowed early 'guerrilla' initiatives from inside the state has been filled. Once local firms have established themselves, the sector is no longer an empty space politically. The kind of autonomous action that propelled the initial development of the sector is no longer possible. What this analysis suggests, then, is that the new internationalization places new demands on the state yet leaves it less politically able to pursue transformative ends.

To understand the dynamic relationship between the developmental state and its leading firms, we need to look elsewhere for a dynamic evolutionary view of institutional change that posits structural change vis-à-vis path dependence in state-firm relations. In evolutionary economic geography (see Boschma and Frenken, 2006; Martin and Sunley, 2006; Boschma and Martin, 2007; Rafiqui, 2009), we can discern some useful conceptual toolkits to rethink the state-firm relations in a dynamic selection environment associated with economic globalization. Boschma and Martin (2007: 539; emphasis omitted) note that "the basic concern of evolutionary economic geography is with the processes by which the economic landscape – the spatial organization of economic production, distribution and consumption – is transformed over time".

> The emphasis is on the processes and mechanisms that make for or hinder the adaptation of the economic landscape, and how spatial and historical contingency interact with systemic necessity. Thus evolutionary economic geography is quintessentially concerned with the spatialities of economic novelty (innovations, new firms, new industries), with how the spatial structures of the economy emerge from the micro-behaviours of economic agents (individuals, firms, institutions); with how, in the absence of central coordination or direction, the economic landscape exhibits self-organization; and with how the processes of path creation and path dependence interact to shape geographies of economic development and transformation, and why and how such processes are themselves place dependent (p.540; emphasis omitted).

Martin and Sunley (2007: 593) further argue that an evolutionary approach in economic geography "raises the question whether the evolution of networks and connections can be analysed in terms of changes in underlying generative rules".

In the context of state-firm relations in the Asian NIEs, one major change in these *generative rules* is the increasing globalization of production activity and thus a concomitant evolutionary process of globalizing networks from an endogenous regional construct measured in terms of relational assets and knowledge repertories to global articulation. This changing generative rule thus raises some questions of evolutionary change: is the developmental state increasingly replaced by global articulation? Are state-centric institutions less important for firm dynamics and growth in today's globalizing world economy? To a certain extent, the institutional fetishism in existing developmental state theories serves as an obstacle to such a transformative view. Jayasuriya (2005: 383) thus laments that "developmental state theorists, because they understand 'policy capacity' as a set of fixed institutional endowments or attributes, are unable to grasp how these capacities change in response to broader changes in the constellation of social and economic interests. What we require is a more constitutive conception of the state and policy capacity that recognises that the state is not an 'entity', but a complex and constituted set of relationships between frameworks of political authority and the international political economy, domestic social forces, and the broader ideational notions of authority or stateness".

I argue that Evans' (1995) conception of the developmental state as preconditioned on relations of embedded autonomy with society and economy is problematic. Conceptually, it tends to lock the state and the multitude of other actors, particularly firms and business groups, into a recursive mode of mutual dependence that does not allow for new forces to work themselves out of these lock-in relations. Admitting this major weakness of his "embedded autonomy" framework, Evans (1995: 225) points out that "[u]nfortunately, while a comparative institutional approach may have facilitated uncovering these contradictory political dynamics, they were certainly not predicted in my initial discussion of state-society relations. My version of the comparative institutional approach offered some ideas about how states might affect industrial transformation but had relatively little to say about how this transformation would change the basis of subsequent state involvement".

Put in the context of the Asian NIEs, a strict conception of embedded autonomy may well explain the *initial* origin of certain state-initiated projects of industrialization during the 1960s and the 1970s (cf. Woo-Cumings, 1999b; Greene, 2008). But it cannot adequately account for the evolutionary dynamics of key actors emerging from these projects and industries during the past two decades. These actors have not only literally grown out of the state plan. Their successful articulation into global production networks has also rendered state planning in such areas as industrial policies and national champions increasingly ineffective and unacceptable, if not outright wrong. In this sense, Beeson (2006: 451) forcefully argues that "once the development state has effectively done its job and 'caught up' with established industrial economies at the leading edge of production and knowledge, it is far from clear that state planners are any wiser about the course of future technological development than the private sector. In other words, there are limits to what states can do, specific circumstances in which planning development seems to be effective, and a danger of entrenching a counterproductive institutional inertia where the relationships between political and economic elites are inadequately monitored and transparent, or where they linger on past their expiry dates". When such "institutional inertia" is less effective in the continual growth of Asian NIE firms today, what comes to their rescue seems to be the even-more complex organization of the global economy on the basis of global production networks.

What then are global production networks? How are they organized and how do they emerge in different industries? A brief reprise is useful here. Since the 1960s, firms from industrialized economies have increasingly been taking production activity across borders. Through this process of internationalization, they have become transnational corporations (TNCs). These TNCs are not autonomous and vertically integrated organizations; rather, they resemble a form of intra-firm and inter-firm networks comprising a large assortment of other actors and organizations (Ghoshal and Bartlett, 1990; Yeung, 2005b; 2008a; 2009c; Gulati, 2007). As TNCs become much more global in their scale and scope of operations, their networks are also concomitantly global in nature, leading to the emergence of global production networks. Coe et al. (2008b: 272; original italics) recently argue that networks "reflect the fundamental *structural* and *relational* nature of how production, distribution and consumption of goods and services are—indeed always have been—organized. Although they have undoubtedly become far more complex organizationally, as well as far more extensive geographically, production networks are a *generic* form of economic organization". Before I go further, it is useful to clarify the nature and organization of global production networks that involve both business firms and economies in organizationally complex and geographically extensive ways:

> Production networks – the nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed – have become both organizationally more complex and also increasingly global in their geographic extent. Such networks not only integrate firms (and parts of firms) into structures which blur traditional organizational boundaries – through the development of diverse forms of equity and non-equity relationships – but also integrate national economies (or parts of such economies) in ways which have enormous implications for their well-being. At the same time, the precise nature and articulation of firm-centred production networks are deeply influenced by the concrete socio-political contexts within which they are embedded (Henderson et al., 2002: 445-46).

In this perspective, a global production network is defined as one that is coordinated and controlled by a globally significant TNC and involves a vast network of their overseas affiliates, strategic partners, key customers, and non-firm institutions. Unlike leading firms in the Asian NIEs, global lead firms refer to powerful firms that orchestrate and coordinate complex global production networks in their respective industries that span different territories and regions. These lead firms are often large transnational corporations that in turn are movers and shapers of the global economy (Harrison, 1997; Peck and Yeung, 2003; Gereffi, 2005; Dicken, 2007; Dunning and Lundan, 2008; Yeung, 2009c). They are market leaders in terms of their brand names, technology, products/services, and marketing capabilities. Good examples are Hewlett-Packard and Motorola in information and communication technology (ICT) industries, Sony and Philips in consumer electronics, Toyota and General Motors in automobile, The Gap and Nike in clothing and footwear, Citicorp and HSBC in banking, Hilton and Marriott in hospitality, British Airways and Singapore Airlines in passenger air travel, Wal-Mart and Carrefour in retailing, and UPS and

Exel/DHL in logistics. In the manufacturing sector, global lead firms often specialize in the upstream activities of research and development and downstream activities of branding, marketing, and post-sale services. While they continue to engage in high-value manufacturing activities, these global lead firms are increasingly compelled to outsource a large portion of their product categories to strategic partners and independent manufacturers (e.g. IT, clothing and garment, toys and footwear, machinery industries). There is thus a movement of global lead firms towards market control via product and market definitions, rather than leadership in manufacturing processes and technologies.

Take the computer industry as an example (Yeung, 2007a; 2009a). A brand name TNC such as Dell or Hewlett Packard is likely to be a *global lead firm*, coordinating its own R&D and manufacturing affiliates worldwide and its less than a dozen strategic partners such as electronic manufacturing service providers. It also has to coordinate marketing activities with its key customers worldwide and to deal with non-firm institutions such as labour organizations and civil society organizations in different host cities and regions. This diversity of firms and institutions in different spatial formations explains why a global production network is organizationally complex and geographically extensive. It also points to a diversity of modes through which any particular global production network can be governed (see Gereffi et al., 2005; Hess and Yeung, 2006b; Coe et al., 2008b; Yeung, 2009c). Reflecting on this political contestation in global production networks, Levy (2008: 944) argues that the global production networks approach "pays attention to the agency of actors in mobilizing and deploying resources, forging alliances, shaping regulatory structures, and framing issues. From this perspective, GPNs resemble contested organizational fields in which actors struggle over the construction of economic relationships, governance structures, institutional rules and norms, and discursive frames".

With the rise of global production networks in the late 1980s and beyond, I argue that Asian NIE firms are much less constrained by domestic industrial policies, unlike the state-firm fixity in the 1960s and the 1970s. Further to the state's embedded autonomy in society during the early days of industrialization in the Asian NIEs, we now witness a serious contending force to this embedded relation between the developmental state and its "objects of desire" – the rise of their national firms and the successful articulation of these firms into complex global production networks. How do we put this dynamic change into a sound conceptual framework premised on the recent development in theorizing global production networks? This analytical challenge requires an evolutionary view of the rise of Asian NIE firms as drivers of globalization. This conceptual framework draws upon evolutionary economics and theorizes how economic actors make adjustments and adaptation in the face of changing selection environments. In their recent critique of the excessive analytical focus on inter-regional and inter-place differences in economic performance (e.g. innovation and entrepreneurship) in much evolutionary economic geography (EEG), MacKinnon et al. (2009: 136) argue that "the relative significance of the unintended, aggregate effects of the behavior of individual agents versus deliberate intervention through public institutions such as the state in shaping the evolution of the economic landscape represents an important research question for EEG to address". This actor-oriented approach also goes beyond the micro-foundational direction in some EEG work that focuses on the role of organizational routines in the evolutionary dynamics of firms that in turn shape urban and regional change.

Three decades of successful policy interventions by the developmental state in these Asian NIEs have now produced a whole army of leading national firms from these economies that can compete on their own feet in the global economy. Graduating from their earlier dependence on the developmental state for capital and technologies, these Asian NIE firms have taken on a more direct role in steering the development of their respective industries and sectors, a role previously occupied by the developmental state. This evolutionary change in "role play" between leading firms and the developmental state does not take place naturally or in an institutional vacuum. More importantly, it is firmly grounded in a process of new path creation that entails a shift of strategic partnership from state-firm to firm-firm relations in these Asian NIEs. This process of *strategic coupling* is defined as a mutually dependent and constitutive process involving shared interests and cooperation between two or more groups of actors who otherwise might not act in tandem for a common strategic objective. In the context of the Asian NIEs, strategic coupling refers to the dynamic processes through which economic actors in these economies coordinate, mediate, and arbitrage strategic interests with their counterparts in the global economy. These trans-local and trans-national processes involve both material flows in transactional terms and non-material flows (e.g. information, intelligence, and practices).

More specifically, this strategic coupling process exhibits several distinctive attributes. First, it is strategic because the process does not happen without active intervention and intentional action on the part of the participants. As argued by Mathews (2006), Mathews and Zander (2007), and Yeung (2002; 2009d), strategizing is most useful/profitable in a market condition of disequilibrium because such condition allows for arbitraging of different opportunities. This view of strategizing concurs with the Schumpeterian concept of entrepreneurship that postulates the function of the entrepreneur as someone serving as a disruptive and dynamic force in an economy that has reached a static equilibrium. Through carrying out "new combinations" (Schumpeter, 1934: 66), the entrepreneur disturbs the existing static equilibrium of an economy and forces it into disequilibrium. This process, widely known as creative destruction, is central to the Schumpeterian entrepreneur who brings about economic change and development. It allows for a resurrection of leading firms in the Asian NIEs as the driver of globalization. Second, the strategic coupling between these firms and their developmental state is time-space contingent as the coupling process is not permanent and is subject to change. Indeed, a typical strategic coupling resembles a form of temporary coalition of different actors and institutions (Taylor, 1999; Taylor and Asheim, 2001). Third, the convergence process transcends territorial boundaries and geographical scales, as actors from different spatial sites (firms, states, regions, and localities) converge and their practices radiate out to diverse geographical scales – some global and some highly local. Overall, the concept "strategic coupling" explains how leading firms in the Asian NIEs have articulated into the imperatives of global production networks over time; it is about dynamic relational processes that mediate their collective action and common interests.

As illustrated in Figure 2, there are two mutually constitutive dimensions to this dynamic process of strategic coupling. The first dimension refers to the *disembedding* of leading firms from the developmental state over time in response to the changing selection environment. The second dimension points to the *reembedding* of these firms in global production networks orchestrated by lead firms from advanced industrialized economies. These two dimensions are mirror images of each other, i.e. two sides of the same coin. The growing disembedding of firms from home states necessitates the reembedding of these economic actors in another organizational platform such as global production networks. Starting with the late 1980s, this disembedding of lead firms from the developmental state began to take shape in all three Asian NIEs. In South Korea, perhaps the strongest form of the developmental state among the three NIEs in guiding national champions, leading *chaebol* groups have embarked on a massive globalization drive since the early 1990s, partly facilitated by the financial liberalization implemented by the first civilian government under the Kim Young-Sam administration. This disembedding was a product of both willing *chaebol* groups and the reluctant state that saw its power and control waning in the context of democratization and liberalization. Kalinowski (2008: 449-450) thus observes that:

> … the large business conglomerates (chaebol) emerged as an independent interest group and stopped following the government's economic plans… and in the 1990s the *chaebol*'s interest dominated the public discourse and government policies… [S]tate interventions in the late 2000s are very different from what they were during the heyday of the developmental state. State interventions are becoming less and less strategic and more and more reactive, mitigating the economic and social costs of market-oriented reforms. Thus, the state is getting bigger, but at the same time weaker. It is less strategic, and less associated with 'midwifery' than with a 'nursing' function – feeding the losers of market reforms and cleaning up the mess when markets get out of control.

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Figure 2 here
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This shift of the developmental state from its "midwifery" or even "husbandry" role to that of a "nursing" role can also be witnessed in the other two Asian NIEs – Taiwan and Singapore. Leading firms in both NIEs began to disembed themselves from the developmental state apparatus in the late 1980s. In Taiwan, the developmental state was never as powerful and effective in governing the market and growing national champions as in South Korea. This weaker embedding of firms in the Taiwanese state was already acknowledged in Amsden (1989) and Wade (1990). Recent evidence by Wu (2005) and Greene (2008) further shows that even this "weaker" strength of embedding in the earlier work is exaggerated. Before 1978, Greene (2008: 3) argues that the political leadership in Taiwan was only making "a halfhearted commitment to promoting an industrial science policy" and "[a] coherent science policy evolved only haltingly and as the result of a complex interaction among eager technocrats, academicians, and foreign advisers and a shortsighted political leadership. At no time was it a direct result of top-down policy originating from the political leadership". The rapid emergence and success of leading firms from Taiwan in the global ICT industry since the 1990s has therefore created a favourable condition for them to disembed from the developmental state bureaucracy in search for new strategic partnership. In Singapore, the developmental state had chosen to work with foreign capital since its inception and therefore produced a class of domestic private firms that were not dependent on, if not alienated by, the state's priority. Still, the state deliberately intervened in the domestic economy by establishing a wide range of state-owned enterprises (SOEs), perhaps much more so than in South Korea and Taiwan, that have come to the forefront of global competition today (e.g. Singapore Airlines, Keppel, and Sembcorp). Since the late 1980s and the early 1990s, the developmental state has embarked on a difficult process of corporatizing and privatizing major SOEs that symbolizes the first wave of disembedding national firms from the state (Yeung, 2004a: Table 1). The difficulty though rested with the lack of local private entrepreneurs and capitalists who were able to take over these gigantic SOEs. This was also the time when Singapore underwent what Rodan (1989) terms "Second Industrial Revolution" in order to upgrade its industries and economic competitiveness through carefully managed wage increase and labour policies (see Yeung, 2005c).

By the late 1980s, the developmental state in all three Asian NIEs had almost completed its task of deliberately governing the market in order to promote industrial transformation. This very success in latecomer industrialization has produced an unintended effect of their leading domestic firms increasingly seeking to disembed themselves from the (neo-)developmental state at home and to reembed in emerging global production networks in search for new sources of capital, technologies, market, and capabilities. As illustrated in Figure 2, this reembedding process requires Asian NIE firms to go beyond their domestic economies and to participate directly in globalization (Yeung, 2002; 2004b); it is premised on two necessary conditions: the emergence of transnational communities and changes in industrial organization. The critical role of communities and social capital in economic development is now well recognized. One such community refers to the transnational elite professionals and businesspersons who shuttle constantly around the globe (Saxenian, 2006; Saxenian and Sabel, 2008; Yeung, 2009a). This transnational elite community has rewritten the concept of international knowledge formation from one of brain drain to a two-way process of brain circulation. Through their constant movements between different regions of the world, these technologists and entrepreneurs have formed a transnational community of informal brain networks characterized by certain common social identity and, sometimes, nationalistic sentiments. To Levy (2008: 953), global production networks "exist within the 'transnational space' that is constituted and structured by transnational elites, institutions, and ideologies… Within this space, transnational communities emerge with economic systems, relations of power, and institutional forms that are distinct from, though interacting with, national or region-bound forms". Yet, the business practices of these transnational communities have contributed to the formal coupling of firms and institutions in the Asian NIEs with lead firms in global production networks through a variety of organizational arrangements. Saxenian (2002: 183 and 186; also 2006) thus argues that:

> these communities have the potential to play an increasingly important role in the evolution of global production networks. Transnational entrepreneurs and their communities provide a significant mechanism for the international diffusion of knowledge and the creation and upgrading of local capabilities… [They] provide a direct mechanism for transferring the skill and tacit knowledge that can dramatically accelerate industrial upgrading in their developing countries. In addition they frequently coordinate relationships between the network flagships and suppliers, particularly when they are based in regions with differing languages and business cultures. This role ranges from helping to identify appropriate original equipment manufacturer (OEM)

suppliers to facilitating the ongoing (and often face-to-face) inter-firm communications required by the rapid pace of change in the industry.

Another necessary condition for the reembedding process refers to changing industrial organization. Lead firms in global production networks are compelled to adopt organizational and technological innovations in order to fix their competitive problems. These fixes in turn create a new form of industrial organization that provides a window of opportunity for Asian NIE firms to plug themselves into global production networks. Saxenian (2002: 184-185) observes that "The deepening social division of labor in the industry creates opportunities for innovation in formerly peripheral regions – opportunities that did not exist in an era of highly integrated producers [before the 1980s]". In particular, the rise of vertical specialization by brand name firms and/or original equipment manufacturing in many industries is linked to the vertical disintegration of value-chain activity within individual lead firms and the subsequent vertical reintegration of this activity in geographically dispersed locations (see also Dunning and Lundan, 2008). In the global electronics and ICT industry, for example, this process of vertical disintegration/reintegration provides an organizational platform for Asian NIE firms to connect with lead firms in global production networks (see also Leinbach and Bowen, 2004; Bowen and Leinbach, 2006; Bowen, 2007; Yeung, 2007a; 2008b). This process of changing industrial organization is also greatly facilitated by technological changes. Primarily because of the capability, flexibility, response time, and cost competitiveness of Asian NIE firms in particular industrial districts and high growth regions, this strategic reembedding process operates to the benefits of both lead firms in global production networks and their Asian NIE partners such as electronic manufacturing services providers and dedicated service providers. Lüthje (2002: 228) thus argues that "[t]hrough their continuing acquisitions CM [contract manufacturing] companies act as transnational network builders, assembling a variety of plants with different manufacturing practices in specific national and global markets. Contract manufacturing, therefore, can be characterized as a mode of integrating, coordinating, and regulating diverging economic, social, and cultural conditions in global production systems". These changing organizational-technological capabilities of Asian NIE firms thus facilitate their reembedding into the strategic imperatives of lead firms in global production networks.

Conclusion

The recent reinterpretations of the developmental state in East Asia demonstrate the continual vitality of the debate no less ferocious in comparison to the "first wave" of the debate during the late 1980s and early 1990s. They point to substantive divergence in theoretical positions and empirical evidence, even though they are examining the nature of the developmental state during the same historical period. The divergence in their viewpoints may well reflect their different objects of analysis and grounding in historical and sectoral contexts. Still, few of these "second wave" studies are challenging the basic tenets of the canonical studies in the "first wave" theories of the developmental state and developing a dynamic conception of state-firm relations that takes into account the changing context of economic development in the global economy and the rise of new forms of economic organization beyond the developmental state-firm nexus.

This paper has taken up this analytical task of examining the changing firm-state relations in the Asian newly industrialized economies. My evolutionary perspective on such changing drivers of globalization argues that the disembedding and reembedding of Asian NIE firms constitutes a unique process of strategic coupling and charters a possibly new pathway of development in these Asian NIEs. It also shifts our analytical attention away from a state-centric view of industrial transformation in the Asian NIEs that characterizes the developmental state literature for almost two decades. Hobday (2001: 25) is quite right to argue that "because of the dominance of this debate, there are few studies which derive 'bottom-up' policy conclusions from firm-level studies. The activities and strategies of firms in engaging with international production networks cannot be properly accounted for within theories of the developmental state, as latecomer firm behaviour tends to be treated (usually implicitly) as an automatic response to policy and economic circumstances, rather than as a shaping influence in its own right".

In comparison to the "bringing the state back in" approach in the comparative institutional analysis literature (see a critique in Yeung, 2009b), my firm-specific and bottom-up strategy of analyzing the Asian NIEs allows for a greater diversity of evolutionary adjustments and adaptation exercised by economic actors in response to their changing selection environment. It opens a new chapter in our conceptualization of firm-state relations in an era of intensified economic globalization. Instead of reducing such relations to one of dependence and lock-in, this strategic coupling approach injects more contingency into the evolutionary dynamics of the developmental state, business firms, and their global production networks. This call for "bringing the *firm* back in" the analysis of drivers of globalization in the Asian NIEs necessarily moves the dynamic growth of Asian NIE firms to the forefront of empirical investigation.

Notes

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[1] For a critical view of the developmental state in relation to the 2008 global financial crisis and the rise of the state in economic governance, see Block (2008) and Radice (2008). Block (2008) offers an important argument that the developmental state in the US is much hidden behind Congress' "competitiveness policy" since the 1980s (cf. Krugman, Tyson, Reich). Drawing upon O'Riain (2004), he distinguishes between the "developmental network state" such as the US and the "developmental bureaucratic state" such as Japan.

[2] See examples of Hyundai Heavy Industries and POSCO in Amsden (1989). Writing in the late 1980s, Woo (1991: 15) reflects that "Daewoo did not even appear until the late 1960s. The others [Hyundai and Samsung] did not grow into anything big until the 1970s; thus, the conglomerates are a very recent phenomenon".

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Figure 1. The developmental state and its relationships with domestic firms

Figure 2. From embedded autonomy to strategic disembedding and reembedding: States, firms and global production networks