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978-0-521-83073-7 - The Politics of High-Tech Growth: Developmental Network States in the Global Economy

Sean O Riain

Excerpt

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PART I

DEVELOPMENT IN THE GLOBAL  
INFORMATION ECONOMY

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# 1

## NETWORKS OF DEVELOPMENT

### Globalization, High Technology, and the Celtic Tiger

#### UNCERTAINTIES OF GLOBALIZATION

The end of the twentieth century has brought with it troubling and uncertain times. The market triumphalism of the 1990s seemed to offer new certainties to replace those of the earlier period of the “Golden Age” of postwar Western capitalism and global “development.” If the victory of global capitalist “market society” brought the depressing project of global exploitation, it also offered the prospect of new movements of resistance and antiglobalization. New political certainties were emerging – clear dividing lines that would be the basis of new struggles for and against corporate globalization. Globalization from above met globalization from below in dramatic struggles in the streets, each offering a different moral and political vision of the global capitalist order.

But as these grand political struggles are fought out at Seattle, Davos, and around the world, they are also fought out daily in the more mundane, everyday political economies of the new era. “Global markets” rely on a wide variety of institutional and social supports and are increasingly dominated by the central position of the leading transnational corporations. These corporations, powerful as they are, are themselves rooted in their intersection with workplaces, households, business networks, state strategies, regional industrial cultures, global cities, and elsewhere. Globalization is a grounded process, which is contested at the micro and meso levels, as well as at the macro level of transnational capital and the social movements that have emerged in such exciting fashion to challenge it (Burawoy et al., 2000).

Far from being bypassed in this process, states are experimenting with organizational and strategic changes nationally and internationally to respond to a networked economy and polity. The governance of the economy has been transformed, and states are scrambling to learn the lessons of the new environment. Economic life and political governance have been rescaled as the national level has become destabilized, from both above by globalization and below by the

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increasing salience of regional economies. In this situation, the “glocal” state aims to promote capital accumulation by linking the local to the global, thereby creating a location ideal for accumulation within a global set of connections (Brenner, 1998, 1999). The organizational structure and strategy of these glocal states are only now beginning to be explored. The state that connects a wide range of local networks to a diverse set of global actors and networks must itself be more decentralized and flexible than states that presided over a centrally negotiated national development coalition (Ó Riain, 2000).

Understanding these grubby scrambles to promote and shape capitalist development and the new political struggles for the rewards of that development is critical not only to developing new “models of development” but also to understanding the possibilities for transformation within the contemporary world system. Ultimately, the “winners” in the struggle for sociopolitical transformation will be those who can connect a moral and ideological victory in the grand struggle over globalization with a myriad of institutional victories in the more mundane world of developmental strategies and coalitions.

This book examines just such a set of capitalist development strategies, investigating the promises and dilemmas of high-tech industrial development in the Republic of Ireland. Once a poster child for the ills of globalization, hollowed out by foreign investment and “brain drain,” in the 1990s the “Celtic Tiger” appeared to be a shining star of neoliberal orthodoxy. When we look beneath the neoliberal veneer, however, we find a much richer story of state–society alliances, state involvement in industrial development, and the emergence of new organizational and institutional capacities that both adjust to neoliberalism and seek to protect themselves from it.

From within a neoliberal order, a new form of state developmentalism emerged in Ireland, as it did elsewhere around the world in this period. A network of “global regions” – dense clusters of technological practice and learning linked by transnational corporate, scientific, and occupational ties – is at the heart of the emerging information economy. In a world of increased corporate power and growing exploitation of labor and nature, the global regions of the informational economy are the critical points where the most dynamic elements of the capitalist economy come to ground and might be turned to developmental and social purposes. Although it is transformed to deal with the new circumstances, the national state still plays a critical role in shaping markets by mediating those connections between the local and the global and by influencing how local-specific assets are mobilized within the range of opportunities available in the global economy.

Castells (1997) argues that the state is increasingly moving toward a position as a “Network State,” embedded in a variety of levels and types of governance institution. Ansell’s research on regional development in Europe suggests that “the ‘Network State’ can operate as a liaison or broker in creating networks and empowering non-state actors, especially when state actors occupy a central role in these networks” (Ansell, 2000, p. 35). Network centrality is critical to this new state – isolation from the local or the global renders it ineffective. A Developmental

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Network State (DNS) attempts to nurture localized Post-Fordist\* networks of production and innovation within global investment flows by shaping the character of the various local connections to global technology and business networks. This is made possible by the multiple embeddedness of state agencies in professional-led networks of innovation and in international capital, as well as by the state's networked organizational structure. However, these multiple state–society alliances lead to uneven internationalization of society and growing inequality, generating political tensions with which the fragmented state structure cannot deal effectively. A crucial contested terrain of the global political economy will be these networked developmental strategies and the class compromises, state and social institutions, and patterns of solidarity and inequality that emerge around them.

Through a detailed examination of the growth of an information technology-based global region in Ireland, the significance of the DNS in promoting that growth, and the patterns of class and state politics associated with those changes, this book explores the possibilities and dilemmas of the real world of global informational capitalism in the early years of the twenty-first century. Drawing on six years of research and using ethnographic, historical, interview, and survey analysis, this book explains how “network development” has come to be the central institutional form of capitalist development in a global network of high-tech regions around the world, centered around “core” regions such as Silicon Valley. It provides a detailed exploration of the workings of the DNS in the Republic of Ireland – deeply integrated in this network of high-tech regions and one of the fastest growing economies in the world in the 1990s. Finally, I undertake a comparative analysis of how the “network” developmental states of Taiwan, Israel, and Ireland shape growth in ways that are significantly different from the “bureaucratic” developmental states that prevail in South Korea and Japan.

## THE REAL WORLD OF THE GLOBAL INFORMATION ECONOMY

To explore these concrete tactics and strategies of development in a neoliberal era, we must tread the rough ground of the real world of the global economy, looking for ethnographic purchase on the slippery world of global flows and networks. The global information economy is an ideal location for such exploration because it is the paradigm of the new global capitalism – fast, virtual, and deeply integrated in global markets.

Since the 1980s, information and communication technologies (ICT) have accounted for growing shares of world trade, investment, and consumption. In the 1990s, trade in ICT goods grew at almost double the rate of total trade, which itself almost doubled over that period. Intrafirm trade through foreign investment grew rapidly and technological standards and learning became increasingly globally

\* ‘Fordism’ refers to an economy based primarily on mass production, mass consumption and bureaucratic organizational structures. ‘Post-Fordism’ refers more loosely to a contemporary era of more fragmented and differentiated production and consumption with less centralized, ‘networked’ organizations.

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integrated (OECD, 2002). If the 1990s was the era of the “globalization project” (McMichael, 1996), then ICT was the “project team leader.” Furthermore, ICT was central to the “New American Economy” (Gilpin, 2002, p. 4). ICT sectors accounted for a large part of U.S. growth; the application of new ICTs improved productivity throughout the economy; and the freewheeling, market-led image of Silicon Valley became the symbol of the triumph of Anglo-American capitalism on the global stage.

But if the image of software programmers linked together through virtual digital networks in a global market for knowledge is a powerful icon of the contemporary information economy, it is also largely a mirage. For wherever we find such programmers, we find them embedded in a dense web of institutional supports – from the technical communities of their peers, through the tight networks of business and technology, to the broader institutional supports of education, research and development (R&D) systems, and state industrial-promotion agencies. The specific ways in which these institutions are connected and rewards allocated across them have varied historically and comparatively, but development of the ICT industries has always been a socially and politically embedded process. The ICT boom is neither the market panacea that its boosters claim nor the speculative “flash in the pan” that its critics observed in 2002. It is the basis of a new “techno-economic paradigm,” a new constellation of technological and organizational innovations that provide the basis for new processes of capital accumulation and technological development (Freeman and Louca, 2002). What precise form this takes remains to be seen, but it will be a crucial issue in the development of global capitalism for the next half-century and beyond.

The emergence of the computer industry was itself deeply tied to the state in advanced capitalist countries, particularly to military funding for technology research. In the United States, this took the form of “military developmentalism” in which private firms were heavily subsidized by public research funds and military markets were critical to the growth of firms such as IBM and regions such as Silicon Valley. The U.S. state was central to the founding of the basic building blocks of ICT today – the academic discipline of computer science, the programming labor force, and the leading firms and regions of the private sector (see Chapter 4).

In the 1960s and 1970s, U.S. ICT industries faced their greatest challenges, posed by the East Asian “developmental bureaucratic states.” Driven forward by an alliance between a cohesive state bureaucracy (with strong informal internal ties based on school affiliations) and the large firms and business groups (*keiretsu*), a form of “alliance capitalism” emerged in countries such as Japan and Korea, which proved to be remarkably successful in international competition (Gerlach, 1992). Building on a set of economic institutions that had emerged since the late nineteenth century (Dore, 1973), the Japanese state stimulated domestic demand for Japanese computers, promoted public and private R&D, and provided a variety of investment incentives for domestic firms – challenging U.S. supremacy in electronics by the 1980s.

In the 1990s, however, the developmental state seemed to have had its day in the sun. The Japanese and Korean states appeared too inflexible to cope with rapidly

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changing informational industries and decentralized Post-Fordist industrial structures. Korean and Japanese firms ran into increasing difficulties throughout the 1990s in rapidly changing high-technology markets. The developmental states also appeared too weak to manage the increasingly internationalized economies over which they presided, as evidenced in the financial crisis of 1997 and 1998. The emergence of flexible regional economies and dispersed transnational networks of technology and finance appeared to have simultaneously undermined the developmental state from below and from above.

However, even as these forces have challenged the developmental bureaucratic states, state and social actors around the world have experimented – under intense pressure – with new forms of developmental strategy that might be effective in a neoliberal international order. Regions around the world have built network developmental strategies, often by connecting to regions such as Silicon Valley. Israel, India, Taiwan, Singapore, and Ireland are particularly interesting cases of regional development, given that each is a surprising “success story.” Each economy has undergone liberalization, to the point where they are “open” to the global economy, and each has pursued foreign investment through financial incentives and investment in a technical labor force. But each has also seen the emergence within its borders of regional agglomerations where technical innovation and economic growth have been concentrated – in many cases, transforming the urban spaces where they emerge. Furthermore, these agglomerations are characterized by relatively decentralized industrial systems, supported by dense social networks of technical professionals and entrepreneurs. In many of these successful economies, a DNS has emerged that promotes local learning within global networks through a decentralized but accountable set of state institutions that maintains close ties to local technical communities and international capital. The institutional structures and political alliances underpinning the role of the state in promoting economic development have also been transformed, and new local and national economic developmental strategies of network development have emerged from within the dynamics of the global information economy. Through their connections to U.S. ICT, these regions also played an important role in the U.S. dominance of high technology in the 1990s.

If the United States has been reinstated at the center of the system, other countries have been able to move up the hierarchy of the international division of labor over the course of this historical shift from bureaucratic to network development in information technology (IT). This is borne out in a study of indicators of “technology-based competitiveness” in thirty-three countries between 1993 and 1999 (Porter et al., 2000). During the 1990s, the United States pulled away from Japan to be the clear global leader in high-tech, whereas the leading “Asian Tigers” – Singapore, South Korea, and Taiwan – are now comparable in their technological strength to the relatively stable Western European economies. The “Asian Cubs” – Malaysia, China, Thailand, Indonesia, the Philippines, and India – are growing in high-tech competitiveness, but much more unevenly. The emergence of China in the 1990s is striking. Ireland and Israel were only added to the index in 1999, but are technologically strong and comparable in many ways to the Asian Tigers.

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Whereas the Latin American countries are slipping backward the Eastern European economies are emerging as likely future locations of high-tech production. The United States is pulling away as East Asia and the newly emergent DNSs such as Ireland and Israel narrow the gap with the rest of the core. Meanwhile, the distance to those falling behind and being excluded grows rapidly.

A set of countries has emerged in the 1990s, therefore, that has pursued such network developmental strategies for mobility in the hierarchy of the international economy, and network development has emerged as an international “social structure of accumulation” (Gordon et al., 1982) in the ICT industry. Built on various prior forms of development, it operates through global networks, linking together socially and institutionally “dense” regions. New state–society alliances have emerged on this terrain of development and, through their various successes and failures, have reshaped the global networks themselves. Not surprisingly, the character of the world system has been changed as this new social structure of accumulation – operating through network institutional forms and across spatial scales – has remade relations of power in the global economy – creating opportunities for inclusion for some, raising the stakes of exclusion and, in its most surprising consequences, reshaping the “Asian miracle” to reconstitute the United States as an economic power at the center of a global network of high-technology regions. Network development is, however, a profoundly unstable social structure of accumulation, based as it is on volatile capital markets and generating high levels of income inequality and highly polarized patterns of economic demand.

In most cases, these changes have led to greater exploitation of labor and the environment and to exclusion from the fruits of development, but other regions have been able to build a viable developmental strategy based on the deepening of local learning and innovation within global networks. The multiple state–society alliances of the DNS lead to uneven development and internationalization of society and growing inequality, generating political tensions with which the fragmented state structure cannot deal effectively. Nonetheless, if state developmental strategies can play this significant role in an era characterized by hostility to state intervention, DNSs are likely to prosper further if international institutions to regulate markets and to facilitate local and national social regulation of economic life are strengthened. As will be seen throughout this book, effective developmental strategies in the era of the neoliberal globalization project require not state retreat, but rather extensive state shaping of the political economy.

### THE CELTIC TIGER

The experience of the Celtic Tiger economy of the Republic of Ireland is a fascinating case where we might excavate this terrain, seeking out both a model of developmental strategy and the dilemmas of that model and what it can tell us about the broader political economy. Deeply integrated in global investment and trade flows since the 1960s, Ireland had been a tragic example of the ills of globalization – the “sick man” of Europe beset by branch plants and brain drain, as well as rampant

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clientelism. What better example for the errant patients of the neoliberal world economy than a miraculous deathbed recovery? In the 1990s, Ireland cut taxes, attracted huge amounts of foreign investment, and underwent an economic boom that leapfrogged it toward the top of the European income league. There is much more here, however, than a simple story of neoliberal globalization. The industrial heart of the Celtic Tiger was its connection to the global information economy and the growth and boom in the ICT industries in the 1980s and 1990s, respectively. Foreign investment remained central to Irish industry, but indigenous industry – supported by the state – also became increasingly sophisticated and internationally competitive. Furthermore, public-sector employment expanded significantly, local demand was critical to growth, and all of this was managed through an increasingly dense network of institutions of “social partnership” extending across almost all spheres of the political economy and integrating local actors, state agencies, and European Union programs.

The ebb and flow of the fortunes of the Irish economy and society pose an intriguing set of dilemmas. If Ireland has ruthlessly integrated itself into global flows since the 1960s, do the ebbs and flows of capital and labor explain the cycles in the national economy? Critics and supporters of capitalist development in Ireland seem to agree that, under current conditions, the only development option is to simply “connect” to the global economy and train your labor force toward this purpose. A persistence with export-orientation, free trade, and foreign investment is argued to be the key to Irish development in the 1990s. Economists see only the power of global market forces at work, with free trade and foreign investment producing growth (Sachs, 1998; Barry, 2000) – although the same formula had yielded only economic failure before the 1990s. Critics of the economists often mirror their arguments: the Celtic Tiger is the outgrowth of international capital flows (O’Hearn, 1998, 2001) or the activities of a market-conforming “competition state” (Kirby, 2002). The critics, however, are in a bind. With no positive account of the causes of change in the Celtic Tiger, they are pushed toward agreeing with the economists that market-led solutions are the only available political choices. Their response is to critique the character of the change itself: the industrial base is weak, the state remains corrupt, and inequality is rising. Although the critique of the cheerleading for the Celtic Tiger is welcome, the overall thrust of the argument fails to recognize the character of change that has occurred in Ireland.

If steady economic growth, increasing productivity and R&D, growth in indigenous industry, elimination of mass unemployment, reversal of mass emigration, increased female labor-force participation, and a renewed sense of cultural vitality are taken seriously, then it is clear that there has been significant transformation. This transformation is all the more remarkable given the context from which it emerged in the 1980s – dependency on international capital was equaled only by the extent of local corruption and clientelism (extending, as we now know, to the leading sectors of beef, property, and banking). How could parts of the Irish population turn global–local connections to their advantage in the 1990s where they had been so hopelessly debilitating in the 1980s?



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The explanation can be found in the institutional transformation of the Irish state and the emergence of new state–society alliances. These transformations include the creation of institutions of social partnership, increasing connections to the various administrative bodies of the European Union (EU), and the diversification and strengthening of industrial development agencies (O’Donnell, 2000; Ó Riain, 2000a; Ó Riain and O’Connell, 2000).

The most widely recognized institutional change in the Irish political economy has been the “social partnership” between business, unions, and government. These series of agreements – initially on wages, but increasingly on a wider range of issues – were based on the trade-off of modest wage increases for tax cuts, stabilizing the public finances and macroeconomy in the 1980s, and laying the foundation for growth in the 1990s. This is as far as most accounts of institutional change go – this is “market-conforming” competitive corporatism. But social partnership has gone beyond the specific wage deals to become the institutional mechanism of public governance through almost all spheres of Irish public life (O’Donnell, 2000). The emergence of these new public institutions has not reformed the corrupt political system but has essentially emerged alongside it as a much more effective and accountable mode of governance, even as corruption continues within the established political institutions.

Furthermore, this macroeconomic stabilization was accompanied by changes in state action in promoting industrial development – in addition to attracting foreign investment, state agencies now provided finance; promoted improved research and management; and fostered the growth of a network of centers, associations, and other supporting institutions for business. In the process, a remarkable turnaround was effected in the fortunes of indigenous industry – ranging from the widely publicized software success stories to the relatively mundane improvement of tourist facilities. Taken together, there has been a widespread upgrading and deepening of the organizational capacities of Irish society, supported by state agencies. These institutions have often, in turn, been financed by EU programs – indeed, the availability of EU funding fostered institutional innovation by allowing new institutions to avoid the worst of head-to-head competition for resources with established interests within the national political system.

Ireland is a case, then, that is fraught with contradictions: the classic contradictions of state developmentalism in a neoliberal global order. Caught up in these contradictions, developmentalist projects in Ireland have grappled with the dilemmas of semiperipheral industrialization within liberal politics. With liberal democratic institutions, high rates of foreign investment, and free trade, Ireland may be less an exception than a vision of the future under neoliberal capitalism. The state proved to be central to the process of semiperipheral industrial upgrading, as an alliance of state technology and industrial agencies with a rising technical, professional class became the foundation of a glocal system of innovation. However, this industrial development occurred in a tense relationship with the institutions of social partnership, because these “knowledge-economy” sectors expanded faster than the sectors where the union movement was strongest and were able to push hardest their claims for pay increases. By the end of the 1990s, tensions between production

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and public-sector workers and the rising technical professionals were creating great difficulties in renegotiating social partnership deals. A rich network of institutions had developed alongside a party political system that remained mired in a dubious mix of neoliberalism and populism.

By 2001 and 2002, the tensions between this populist neoliberalism of the party political system and the developmentalism of state–society alliances and social-partnership institutions left the Celtic Tiger balanced between cannibalizing itself and building upon its own successes. As the global information economy went into a rapid downturn, the Irish high-tech sector suffered and growth rates in Ireland declined to around 3 percent per annum. Orthodox economic analyses blamed declining wage competitiveness and rising public spending, whereas others found the underlying weaknesses of the Irish economy coming home to roost once the foreign investment boom was over. However, the story is more complex – state developmentalism exposes the contradictions in capitalist development between the sociopolitical creation of markets and the cannibalization by markets of the very institutions that support them (Polanyi, 1944). The developmentalist and social-partnership institutions that had developed through the 1990s now faced major challenges from the still dominant political practices and ideologies of the party political system – a neoliberal obsession with competitiveness pursued through clientelist networks. Public spending cutbacks began to weaken labor supply, increase social exclusion, and undermine the institutions that had become increasingly effective in supporting R&D and innovation. The lack of political support for the developmentalist project and the obsession with a narrow conception of competitiveness also had important geopolitical ramifications. Despite overwhelming public opposition to the Bush administration’s 2003 war in Iraq, the Irish government stealthily offered a variety of supports to the U.S. military during the course of the war. By the time of the war in Iraq, Ireland stood at a crucial point of political choice and struggle over future directions: a clear official ideology of liberal competitiveness and a loose affiliation of complex interests supporting different parts of the developmentalist and social-rights projects. In the absence of a cohesive political coalition and an organizing ideology that could contest the neoliberal competitiveness discourse, the Celtic Tiger faced enormous political and institutional challenges in the early years of the twenty-first century.

If we do not understand the institutions of the Celtic Tiger, we are in danger of missing both the real causes of the “miracle” of the 1990s, the sources of its limitations and, indeed, its unrealized potential. Profound reforms in the “globalization project” (McMichael, 1996) remain necessary – if the institutions of the Celtic Tiger could generate the results they did in the face of domestic neoliberal populism and an international order hostile to state and social shaping of economic life, what might they achieve given a more supportive political order? The neoliberal discourse has become the organizing framework for both supporters and critics of the Celtic Tiger: if political coalitions and strategies are to be built that can realize the potential for expanding the developmentalist and social rights projects within the Celtic Tiger – and, indeed, the global information economy – an