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# Dilemmas of Diversification: Regional Economic Development and Business-Industrial Clusters in China and Kazakhstan

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# Dilemmas of Diversification: Regional Economic Development and Business-Industrial Clusters in China and Kazakhstan

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Asian emerging markets, while coming out of defiantly anti-market traditions, have increasingly embraced policies of competitive advantage as crucial to vibrant economic growth. In the post-communist economies of China and Kazakhstan, local economies have contributed to sustainable yet diversified growth in an era where the future recurrence of economic crisis, both in emerging and mature markets, is uncertain. Emerging markets, like developed economies in the West, have turned to inter-regional competition, spurred on by local economies and business-industrial clusters, as internal growth engines to power up national economies. Whether generated from bottom-up commercial growth or top-led government growth, post-command economies of Asia, despite their semi-authoritarian bent, advocate inter- and intra-regional competition. Local economic growth is seen as a means of contributing to overall economic diversification and creating technical, business, and knowledge spillover. Yet promotion of diversified regional economies also poses challenges for Asian state capitalisms that prize state interventionism over commercial solutions.

Transitional economies, such as China and Kazakhstan, aim to activate and sustain nationwide growth by supporting competition within and between multiple industries and regions. Yet these Asian state capitalisms are exceedingly wary of implicit lines of



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fragmentation that may come to the fore as regions and sectors compete with one another for prominence, access to government subsidies, and, most importantly, foreign investment. The political and economic risk of uneven development, as regions jockey for power and position, may compromise overall national stability and fracture into competing factionalisms, particularly if economic growth becomes constrained. Still, for these Asian emerging markets, creating and sustaining dynamic centers of regional innovation and industry is seen as key to achieving diversified national growth and leveling the playing field of long-term economic development.

## China and Kazakhstan: Emerging Market Neighbors

In the first decade of the 21st century, the post-communist emerging markets of Kazakhstan and China defied expectations and anti-market origins by generating strong GDP growth. While China's economy has been slowing in 2012, its projected growth scenarios have earlier clocked in at the high single digits. In 2001, Kazakhstan's GDP galloped into the double digits at 13.5%. After dipping down later in the decade, the country's economic growth still exhibited a respectable upward growth scenario, over 7% in 2010 and 2011, countering trends in faltering Western economies.

In addition to growth stories that defy an anti-market past, the neighboring emerging markets of China and Kazakhstan also share other characteristics. Both states continue to incorporate legacies of a Marxist-Leninism past in their economic present, if with different institutional implications. The shared Eurasian borders of the two states span a contiguous landmass rich in subsurface wealth: natural and mineral resources that support oil, gas, and metallurgy industries.

The two Asian emerging markets also share state-building legacies that predated communism, legacies that grew out of the necessity of controlling and administering large territorial expanses of agricultural land along their respective frontiers. As early the Western Han dynasty (206 BCE - 24 AD), China penetrated into Central Asia and Eurasian territory. Kazakhstan's statehood emerged out of the expansion of the Russian and later Soviet empire into Siberia and central Asia. The sheer scope and variety of both China's and Kazakhstan's territories and sub-regions presents both challenges and possibilities for future state integration scenarios.

## Creating Competitive Advantage: Local Economies and Business-Industrial Clusters in China and Kazakhstan

Despite the divide between *dirigiste* East and non-interventionist West, the model of boosting competition within and between local economies has gained followers on both sides of the statist vs. free market divide. Emerging markets and mature economies alike have turned to regional economic development, in particular the development of business-industrial clusters, as a means to energize state growth. In the *Competitive*

*Advantage of Nations* (1998), Michael Porter of Harvard Business School famously proposed the creation of multiple commercial clusters as a means to enhance overall national growth. The economics of agglomeration, discussed by Paul Krugman (1991) and Alfred Marshall in the 19th century, looked to centers of business-industrial concentration as a means to generate further growth and enhance competitive performance and spillover. In this model, as sub-regional economies differentiate, they branch out into networks of influence that, in turn, generate additional nerve-centers of economic activity.

In the last few decades, both Western and Asian capitalisms have institutionalized business-industrial clusters, whether organic growth centers or special economic zones, as a means to engage local and national economic development in tandem. Whether adopted by agro-zone, industrial park, or inner city enclave, complementary business-and-distribution networks ideally create spillovers that amplify productivity in neighboring regions. As original clusters mature, they may become launching pads for derivative clusters outside of immediate geographic networks.

The business-industry clusters inaugurated by young Asian capitalisms such as Kazakhstan and China aim to tap into the dynamics of competitive overflow, while creating new competencies. However, these emerging Asian economies also try to reign in fragmentation that may arise from potentially contradictory trends exposed by local economies, to compromise overall state integration. Contradictory impulses of localized growth, with regions competing among themselves, may generate new opportunities for overall development. But regional differences, exposing emerging asset and wealth gaps, may also set in motion social and economic disequilibrium that both states seek to contain. The risk remains that the periphery may become polarized, if disjunctures between competing commercial-industrial centers are unresolved, and if regional inequalities create lines of division rather than spillover-effect. China and Kazakhstan both contend with such challenges as they attempt to launch growth centers in their own regional peripheries in particular.

## Frontier Markets Join the Emerging Marketplace

As emerging markets such as China become more closely aligned with global market trends, new players have emerged as new kids on the block. These peripheral states are not yet global forces to be contended with. Yet they, and their disparate brethren across Eastern Europe, Asia, Africa and the Middle East, present global markets with a new cast of characters, along with new growth and investment opportunity, in a global economy where the fate of mature markets is uncertain. Meanwhile, emerging market countries such as China are now sufficiently high-stakes players in the global economy that they exceed the limitations of the term “emerging market”. According to Jim O’Neill, Head of Global Asset Management at Goldman Sachs and originator of the term BRIC (Brazil, Russia, India, and China), “emerging markets” are perhaps more



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accurately deemed "growing markets". Given that China, for one, vies with the US and Europe in its ability to impact trends and contours of the global marketplace, the impact of its economic decision-making reaches far beyond national borders: "The world is new, and the countries driving it are not ones of past generations."

As emerging markets mature, global finance -- ever in search of new opportunities for capital creation -- seeks out new sources of investment, growth, speculation, and hedge opportunity. Frontier markets, considered by many global investors to be a subset of emerging markets, combine relative openness and relative degrees of political stability with greater growth opportunity than "classic" emerging markets, albeit with the downside of greater risk. As young states in Asia and elsewhere enter the high-profile stakes of the global economy, they have offer investment alternatives to global financial markets weary of the uncertain returns of domestic "exotic instruments" (namely mortgage CDOs, which famously turned toxic in 2008). For those intrepid investors seeking to diversify options for financial gain, the frontier markets, Kazakhstan among them, offer uniquely diversified opportunities for market exposure. As BlackRock's website puts it, these markets provide "a logical extension to the global equity universe." In addition to low correlations between mature and immature markets, these "locally driven economies also offer opportunities for early-stage investment in fast-growing economies," opportunities rare in maturing markets: US, European, and, increasingly, China. However, the frontier markets themselves naturally seek to manage their own financial and economic destinies apart from the role that Western investors would have them play.

## Regionalism in Kazakhstan and Business-Industrial Clusters

Kazakhstan's relative isolation from global markets shielded it from the Asian financial crisis of 1997-8, and this reminds the government that integrating into the global economy on the terms of the mature markets is not invariably an advantage. From its own vantage point, Kazakhstan wants to avoid the domination of any one set of global economic arbiters defining the terms on which it enters the global economic stage. Eager to abandon the stigma of frontier status, Kazakhstan's government seeks to define itself not as an outlier or laggard, but as epicenter of Eurasia. While Kazakhstan ultimately seeks influence and, inevitably, integration into the larger schema of global capital markets, the state's priority is to grow a stable real economy from the inside out, while reversing its former frontier status at the edge of Russia.

Despite Kazakhstan government's desire to position itself as epicenter of Eurasia, its economic geography as landlocked state impedes this development. In addition, a crumbling heavy industrial infrastructure, inherited from the Soviet era, demands costly reinvestment across expansive territory. In the past, fragmented logistics were built to bifurcate Kazakhstan's productive landscape: during the Soviet Union, western Kazakhstan's crude oil transport systems were connected to Russia, so as to be processed across the border. Meanwhile, energy supplies in eastern Kazakhstan had depended on Russian inflow. Eastern and western Kazakhstan, geographically disparate, became further disconnected by design.

Northern Kazakhstan (with the industrial centers of Pavlodar and Karaganda) is contiguous with the territorial-industrial-logistics zone of southern Siberian Russia. Industrial supply chains, as well as informal inter-governmental and business relations, continue to connect northern Kazakhstan closely to its northern neighbor. By contrast, southern Kazakhstan, with its desert-zones interspersed by oasis towns, has been closely affiliated with southern central Asian economies such as Uzbekistan and Kyrgyzstan, in terms of irrigation-based agriculture and hydroelectric systems. To the far west of state, adjacent to the Caspian, lies the most precious resource of all, oil – a third of a continent away from the more populous centers of eastern Kazakhstan. To the far southeast stands the former capital of Almaty (former Verney, later Alma-Ata), originally established as a Russian frontier post. Almaty was positioned at the end of the line of a long series of garrison towns that mapped out the expansion of Russian empire into southern Siberia and central Asia, acting as a zone of containment and control to mark out agrarian settlement and constrain nomadic territory. Such a fragmentary landscape, which reinforces internal geographic disparities, continues to challenge the logistics of the state, which impede evenly developed economic growth.

When the Soviet Union collapsed, Kazakhstan's government looked to the success stories of East Asia on which to pattern economic and business development and trade. The state moniker "Snow Leopard" was chosen by the government to join the formidable line-up of the successful "Asian tigers". Unlike the East Asian economies, however, Kazakhstan was bound by land-locked limitations without access to the Pacific trade routes that defined export-led growth of the East Asian success story. Kazakhstan business and government leaders admired the East Asian developmental states, with their close relationships between large corporate conglomerates -- Korea with its *chaebol* and early Japan in its *kereitsu* stage. Singapore, embracing semi-authoritarian government along with a successful sovereign wealth fund, served as an important model for strong state control coupled with commercial success.

In order not to be defined by the limitations of a commodity-extraction state, Kazakhstan's government has sought to create multiple sources of revenue from diversified external and internal sources. It aimed to bypass the boom and bust cycles of a resource-dependent state (resource curse or "Dutch disease") by accessing multiple channels of revenue generation. In the early 2000s, Kazakhstan's government planned to launch business-industrial clusters as a means to create competitive local economies, industries, and sectors.

To focus on regional economies as potentially disparate sources of foreign investment revenue beyond the booming oil-gas sector, in the late 1990s and early 2000s



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Kazakhstan's state investment bureau published marketing materials explicating the resources and industries of multiple regions of Kazakhstan: from phosphates to pharmaceuticals, gold to grain, construction to chemicals. While the unpredictable markets for oil and gas might create intermittent risk for Kazakhstan's future, investment in multiple industries and regions would harbor more stable sources of security through economic diversification.

In efforts to strengthen and further diversify regional economies, in 2005 the government of Kazakhstan invited Michael Porter, business strategy expert of Harvard Business School's Institute for Strategy and Competitiveness, to advise on the creation of business-industrial clusters. Along with the consultancy J.E. Austin, the Kazakhstan cluster-project proposed initial templates for broadening and deepening economic diversity through multiple growth clusters. In twelve regions, Kazakhstan's government and business planners, along with advisors, selected 55,000 enterprises for study. Seven sectors were identified as best prepared to support commercial and industrial cluster growth: food-processing, textile manufacture, transportation logistics, tourism, metallurgy, construction materials, and last not least, oil-and-gas machine building. By 2012, in later policy iterations, other industries were added as emerging priorities: biotechnology, IT, alternative energy, atomic power, chemicals and pharmaceuticals.

In order to diversity away from the former predominance of heavy-industry prioritized by Soviet era growth, the development of light industry was conceived as a means to approximate the competitiveness of the East Asian economies. China had profited by its ability to translate light industry into nanotechnology and other small-scale manufacturing venues. Similarly, Kazakhstan likewise hoped to create more centers of small-scale manufacturing to promote export-led growth from multiple centers. For example, "Ontustyk Special Economic Zone," scheduled for completion in 2015, aims to rejuvenate one the few islands of light industry where Soviet Union had not neglected regional core competencies: namely, the textile and weaving industry indigenous to southern Central Asia.

In 2010, investment in light industry shot up from negative numbers in 2008 to 11 million. In other areas of western Kazakhstan, to offset the singular domination of the oil industry, a project for the creation of an automated fishing complex for sturgeon-farming was initiated. In northern Kazakhstan, manufacturing facilities for potash were implemented, while in the south phosphorus and nitrogen-phosphorus industrial zones were targeted for development. A wide range of multiple manufacturing facilities and commercial ventures were instituted, from rare metals extraction to tourism and hospitality, adding to the spectrum of regional diversification across the state.

### Balancing Center and Periphery: The Challenges of Cluster Creation

However, despite the ambitious diversification program, the continued priorities of diverting resources to the state center compromise the project of building out multiple centers of economic productivity and business clusters. An OECD (2011) report examining the impediments to diversified growth in Kazakhstan noted the relative absence of sufficient infrastructure and financing to support further supply-chain networks. The uneven distribution of resource wealth in the west, compared to relatively resource-poor regions in the south, continues to perpetuate regional disparities and resentments. On the one hand, poorer regions in the southern Kazakhstan rely on the center to support and finance growth projects (Cummings, 2005). Poorer regions feel abandoned by the increased concentration of wealth in Astana, the new center of elite glitterati on the formerly windswept center of the steppe. At the same time, the western regions of Kazakhstan, astride the bulk of subterranean wealth, seek to have greater say in how regional wealth is utilized and allocated, including access to foreign investment projects which continue invest primarily in the oil-and-gas sector.

In December 2011, deliberately coinciding with Kazakhstan's Independence Day, striking workers in the oil-producing western region of Mangistau led riots which claimed 14 fatalities and over 80 injuries, as striking oil-industry workers clashed with police over labor disputes (Rudnitsky, 2011). While the underlying origins and outcome of the rebellion remain uncertain, the message learned by the government is clear. Central government management of resources takes precedence over prioritizing regional growth, if restive regional fragmentation is to be the outcome. Earlier in the decade, government leadership accomplished the goal of establishing a symbolic geographic center. The new capital of Astana, positioned more closely to the territorial center of the state, reverses the peripheral place of the former capital of Almaty, as outpost of the former Russian frontier.

Still, although Kazakhstan's government has repositioned an illustrious new capital closer to state center, the goal of Kazakhstan as economic epicenter of Eurasia remains elusive. The landlocked status of the state continues to contribute to logistics and trade difficulties that its neighbor of China, facing the Pacific, has largely overcome. No longer at the behest of Russia, however, Kazakhstan's political economy will look to the maturing emerging market of China to finance internal infrastructure and engage in mutually cooperative ventures, in order to more closely consolidate its own goal of economic pivot of Eurasia.



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## Formation of Proto-Clusters of Business and Industry in China: From Soviet-Style Centralization to Maoist Fragmentation

In creating a policy of economic diversification and competitive economic development that bridges state-led growth with commercial advantage, China shares with Kazakhstan an expansive geography inflected by a Marxist-Leninist past and, previously, traditions of state-building that emphasized control over large and often diverse regions. Here too, policies that build up business-industrial clusters often reflect dueling legacies where top-down priorities compete with localized, bottom-up incentives. In the case of Kazakhstan, the lingering frontier legacy, coupled with the desire for centralized management that previously eluded it in the Soviet era, have combined to create an economy complicated by mixed messages to its regional governments, not to mention the country's populace and the global community at large. In China, divergent institutional tendencies – namely, the tension between centralization and decentralization – complicate a range of financial (Shih, 2009) and economic policy choices and decisions (Zheng, 2007). The inconsistent paradigms between top-down centralized control and bottom-up economic diversity complicate the process of building up competitive localized clusters of business and industrial enterprise. And these inconsistencies, in the view of Asian governments, justify strong state interventionism, particularly where economic gaps throw off the goal of overall growth.

Recent literature of state capitalism has tended to focus on the uniform directives as operating from a single, tightly-orchestrated center. However, in the case of Kazakhstan, alternating currents of decentralization and centralization (Cummings, 2005) have complicated economic decision-making within the regime. In China, a single set of quasi-authoritarian directives belies the sub-surface complexity of regional diversity. Yet such institutional gaps may also allow for the flexibility of negotiating, bargaining (Tsai, 2007), and creative experimentation (Pascha, et al., 2011) as low-risk alternatives are tested out before being transposed unto larger templates of region, province, and state (Zheng, 2007). As economic experiments involving small-scale ventures proceed by trial and error, they impact the formation of larger-scale state direction and directives. The evolution of competing regionalisms in China exposes potential fragmentation but also contributes to ongoing innovations that arise out of layering and negotiating different business and economic paradigms.

In the Chinese market, two divergent institutional legacies can be identified to impact policies of regional economic growth and business-industrial cluster-building and economic agglomeration. One pattern, a top-down, government led growth model prioritizes central management of large-scale industry. This schema depends on the concentration of state financing to target strategic industry, including centralized support of heavy industrial manufacturing, logistics, and project finance. The other model, a more organic patchwork of individuated micro-regions, grows out of small-scale commerce and trade. The first pattern is more prevalent in northern and western

China, where vast territorial expanse, Soviet influence on large-scale industry, and military-agricultural traditions of state-building prefigured top-down government intervention. The second pattern, closely identified with southern and eastern China, favored more individualized, small-scale commercial zones, where dense population and diversified light industry predominated.

The centralizing legacy of China's business-industrial development harkens back to a previous Leninist program of state industrial policy, but also leads toward East Asian state-development models that favor close interaction between strategic corporations and government. By contrast, the atomistic tendency and the prioritization of local economies, which set the stage for bottom-up business growth clusters, grew out of a Maoist predilection for micro-regionalisms.

In the middle decades of the 20th century, for a China eager to bypass an entrenched agrarian past and embrace large-scale industrialization, the Soviet Union represented the apex of achievement: heavy industry, logistics, and centrally-coordinated technology. The Soviet ability to centrally manage large territories, as well as small-scale data management (Huang, 1994) alike proved an inspiration to communist China. By the 1950s, the Soviet Union was already creating incipient computerized systems of input-output to collect the dizzying array of data derived from the center, as well as multiple regional peripheries.

Further, the Soviet Union's system of managing disparate regional entities also made its mark on China's emerging political economy, namely, on the Chinese frontier zone adjacent to the Soviet border. China designated its "new frontier" (Xinjiang) as the "Xinjiang Uyghur Autonomous Region," patterning itself after the Soviet program naming regional Central Asian peripheries according to titular nationalities: Kazakh, Uzbek, Kyrgyz, Tajik and Turkmen Soviet Socialist Republics (S.S.R.s). In the former Soviet Union, such strategies conveyed paradoxical messages of control and concession, ultimately setting in place perimeters for eventual fragmentation into disparate state entities. In China, while this scenario is unlikely, alternate and coexisting trends of concession and containment continue to impact differential economic development of business and industry along China's western frontier.

The differential development of western vs. eastern China in the 20th century was in part influenced by several conditions: 1) western (and northern) China's relative proximity to Soviet large scale industrial projects and policy zones, compared to southeastern China's proximity to Pacific commercial routes and Chinese diaspora states; 2) large territorial regions of low population density, along with multi-national populations, overlapping both Soviet Central Asia and western China; 3) shared priorities of border control and frontier management that characterized previous traditions of state-expansion (imperial Russia and China) and, 4) last but not least, the



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importance of subsurface assets of hydrocarbon wealth and minerals shared by both western China and Soviet Eurasia.

Despite these shared prioritizes, by the late 1950s and 60s China's ability to internalize a centralized program of heavy industry, as well as the Soviet Union's capacity to continuously manage such projects, became formidable (Sachs and Woo, 1994). Not only was continuous reinvestment in heavy industry costly and hard to maintain, but the programs of centralized technology and data-management also overburdened the state center (Huang, 1994). The Chinese state, by necessity as well as design, returned to its own grass roots, literally and figuratively. China became increasingly preoccupied by the far more basic concerns of food security (Meisner, 1982). Maoist campaigns increasingly championed a return to the land: small-scale agriculture, light industry, and radically downsized communes.

Increasingly distancing Chinese policy from Soviet-style industrial centralization, Mao prioritized localized economies as the template for economic vitality and growth:

> We cannot follow the Soviet Union, centralizing everything and leaving no way for the localities…We need unity, but we also need particularity….[E]very locality has to have a particularity suitable for its own conditions. Such "particularity" is needed for the interests and the unity of the entire country (Mao, 1977:271, 275, cited in Zheng, 1977: 360).

While in western China some state collectives retained their sprawling Soviet dimensions (Wiemer, 2004), in eastern China downscaled communes focused on micro-units of patchwork productivity. As the Chinese center was preoccupied with maintaining its own internal administrative and fiscal organs, it increasingly ceded management of agriculture and light industry to the regions and localities. Radical experiments such as the Great Leap Forward (1958-61) and Cultural Revolution (1966-76) resulted in trauma to the state and regions that went far beyond the ill-fated experiments of the backyard furnaces.

Still, despite intermittent systemic chaos, the downscaled commune system of the 1960s also tapped into what would prove to be a formidable advantage for eastern China: the diversified lattice-work of village-market towns that undergirded the redefined commune systems linking local economies to larger networks of trade (Skinner, 1963, 1964). In abandoning the large-scale Soviet models of centralized industry and vast mechanized state firms, the Chinese economy lost the initial advantage of technological performance. But because of this disadvantage, Chinese regional economies were able to avail themselves of small-scale regional economies and economic decentralization that was later to form the impetus for competitive local economies in eastern China.

## The Proliferation of Proto-Commercial Clusters in Eastern and Southern China

In eastern and southern China local economies supported differentiated micro-regions generating a variety of business, commercial, and industrial enterprises. In the patchwork economies of these regions, highly individuated organic growth clusters emerged out of unique proclivities adopted to local conditions. According to Daniel Bell, in his discussion of "What Europe Can Learn From China," (The New York Times, Jan. 7, 2012), local economic diversity of Europe can be compared to the intricate China's regional diversification, where centuries-old localities developed specific products and markets. For instance, guilds such those of Nuremburg, based on village market-towns, competed as centers of craftsmanship with other neighboring German medieval and Renaissance towns. They formed regional trade networks that became way stations along more comprehensive trade routes.

For instance, by the 1980s, the Yangzte River Delta zone and Pearl River Delta region, supported micro- and macro-clusters that availed themselves of circuits of local industry that dated back centuries. For instance, the origins of the Wenzhou footwear cluster in Zhejiang province date to the fifth century A.D., while the textile and silk manufacturing industry of Xiqiao (Guangzhou province) began in the Tang dynasty (618-907 AD) (Zeng, 2010: 27). Eastern and southern China networks of market towns further tapped into the trading corridors centered upon flourishing port-cities, from Shanghai and Tianjin to Guangzhou and Hong Kong.

In the late 1970s and 1980s, specialized communes, many of them based on traditions of regional cottage industry, created new small-scale enterprises, whether devoted to Dragon Well Tea or plastic toothbrushes. By the early 1980s, a two-track pricing system allowed small-scale markets to revive, as village-communes sold surplus goods after satisfying state quotas. In order to access export-led growth, communes marketed artisanal wares and small-scale light industrial goods at commune showrooms and Friendship Stores. Kitten-chasing-butterfly embroidery and Great Wall carved folding screens were test-marketed to foreign commercial vendors, primarily diaspora trade and investment from Hong Kong, Singapore, Malaysia and Taiwan. Different regional provinces from the early 1980s actively courted potential foreign investors from the near abroad, competitively differentiating their own regional platforms. In the concentric circles of commerce proliferating around the Pearl River Delta, the Yangtze River Delta, and the Tianjin port zone, micro-regions, macro-urban regions and, increasingly, Special Economic Zones facilitated a mutual spillover effect of trade and technology that helped to create a booming economy along China's entire eastern seaboard.



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## The Formation of Special Economic Zones, Trade Zones, and Cluster-Growth in Eastern China

In the contemporary eastern and southeastern China of the 2000s and beyond, special economic zones have interspersed to intensify production and innovation, creating second- and third-generations of development based on earlier commercial clusters. Whether designated as SEZs (special economic zones), FTZs (free trade zones), EPZs (export-processing zones), EDTZs (economic and technological zones), or HIDZs (high-tech industrial development zones), successive generations of competitive clusters have drawn upon the competencies of earlier organic clusters but also competed with them. In turn, micro-regions that did not attain special economic status have often imitated "open cities" and established their own self-funded economic zones (Wang and Hu, 2010).

To take advantage of spillovers, special economic zones have been established at a partial distance from traditional urban centers, such as Guangzhou, Shanghai and Tianjin, in order to create more extensive commercial corridors. The location of the Shenzhen SEZ, originally a traditional fishing village, was selected by the government for two reasons: 1) the geographic advantage of proximity to Hong Kong, as well as 2) less resistance to institutional change (Zeng, 2010:57). Similarly, the Binhai New Area was established at some distance to Tianjin city, the prominent 19th century port city of northeastern China, to enhance and expand industrial and commercial opportunity into the less-developed proximity.

The combination of bottom-up and top-down initiatives allowed local governments to experiment with multi-stranded initiatives where lower-risk degrees of experimentation would have lesser impact on the larger economy, in case of failure. Local municipalities were encouraged to compete head to head, without involving the central government. Regional and local governments were provided with hard budget constraints, but also incentives to conduct their own economic policies and claim the residuals (Ahrens and Jünemann, 2011; Montinola et al., 1995). Local economies essentially acted as entrepreneurs (Oi, 1999; Zheng, 2007), with risk decentralized and central government involvement minimized. Fine-tuned tax incentives were periodically modified according to region, industry, maturity, and exposure to business hardship (Zheng, 2007:156-7). Foreign investment tax rates generally capped at 15% for foreign investors for the first few years of operation. Meanwhile, the role of local governments in R & D varied according to industry, location and condition.

As multiple corridors of competition emerged and proliferated across eastern China, smaller competitors were forced to find new ways to advertise and seek market share, at times piggy-backing on their competitors. For instance, the Ningbo region utilized the Shanghai 2010 Expo Website to remind visitors of its famous multi-industry trade fair.

In micro-cluster and macro-cluster alike, emerging expertise encouraged other entrepreneurial ventures – private, public, and public-private – to take risks in other sectors and industries beyond their current domains. Multiple centers of green technology emerging in northern and southern China have competed to differentiate themselves, initiating relationships with regional clients, national competitors, or international vendors.

Along China's eastern seaboard, differential local economies have evolved to prioritize different types of competition. In the "Wenzhou model" (southeastern Zhejiang province), intense, small-scale competition among individual or small-scale entrepreneurs predominates (Tsai, 2007). The mid-scale enterprises of "Sunan model" more closely link local government with group entrepreneurship. The Pearl River model prioritizes foreign investment as driver of competition (ibid.). Compared to the government-driven economic models of the Chinese interior engaging the northern and western frontier, cluster development in eastern and southeast China mobilized bottom-up enterprise as the primary driver of growth.

The focus on light industry prevalent in eastern Chinese clusters, whether SEZs or organic growth clusters, allowed for a flexible transformation that quickly adjusted to varied degrees of small-scale experimentation. Within a single regional cluster, diversification of local industry quickly developed into multiple, specialized niches of export-led growth. For instance, in the Tianjian region (northeast China port zone), original food-processing and medical equipment clusters established in the 1990s expanded into six technology clusters by 2007: electronic information (through joint ventures with Motorola, Panasonic, and Samsung); optical, mechanical, and electronic integration (Honeywell); biomedicine (Novo Nordisk and Smithkline Beecham); a new material cluster; a new energy cluster; a machinery cluster (Toyota); and an environmental protection cluster (Veolia Water and Vestas). By 2007, Tianjin industrial clusters supported 11 incubators, 245 incubated enterprises, 27 engineering technology research centers, 45 R & D centers, and seven venture capital institutions. Regional enterprises engaged in bio-chip, membrane technology, electric automobile, stem cell, and nanometer technology research (Li et al., 2010: 94-96).

With intensified local competition within and between localized clusters of China's east, several degrees of expansion have gradually extended into China's interior. In addition to the "Big Four" first-tier cities (Shanghai, Guangzhou, Shenzhen, and Beijing), second-tier megacities have emerged along the eastern seaboard, as well as further into central China (Chongqing, Wuhan, Chengdu, and Xian). Third-tier cities, supporting a growing middle class, also appeared as satellites of eastern clusters (Tse, 2010). Finally, fourth-tier cities ushered the next wave of development into the western interior, with Lanzhou (Gansu), Baotou (Inner Mongolia) and Urumqi (Xinjiang) forming the "new wave" (ibid.).



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However, despite the gradual penetration of economic growth into the interior, the persistent disparity of wealth between China's east coast regions and its interior continues to pose challenges for the Chinese government. In 2000, the Chinese central government launched the "Develop the West" campaign, which has been followed by a series of incentives in the following decade including land reclamation, resource development, and educational initiatives. In China's coastal cities, ever-intensifying competition, along with increased costs of living and production, all mandate a push towards the west, but one that "leapfrogs" development at a more accelerated pace. While commercial clusters have amplified competition and led to a mature economy along China's eastern seaboard, China's government is concerned that its own internal western frontier is not keeping pace with heightened competition and commerce elsewhere in China.

## Initiating Business-Industrial Clusters on China's Western Frontier

As China's government addresses the development of the western frontier, it encounters not only challenges of economic disparity, but also institutional discontinuities. In China's west, expansive territory, subterranean wealth, diverse populations (Han and non-Han Chinese), and last but not least, a different institutional landscape complicates the program of China's state integration. Earlier state-building trajectories begun in early imperial China, coupled with the later influence of the Soviet centralized state industry, reinforce a policy along China's western front that places greater emphasis on top-down administrative-military management rather than bottom-up commercial expansion led by localities. Further, these localities may be compromised by interests that have little to do with the overall aims of national integration.

Beginning in the Western Han (206 BCE – 9 CE), as the *tuntian* system, and culminating in the Qing Dynasty (1644 - 1912), China's policies of border control and frontier expansion prioritized the establishment of military containment reinforced by agrarian settlement. China's policy of consolidating large tracts of land across an expansive frontier resembled imperial Russia's policy of establishing border controls along its own Eurasian frontier. Much as Cossacks manned military fort towns in Siberian and Kazakh territory, in the 19th century and earlier, Han Chinese and Manchu border guards were responsible for land reclamation and border policing along China's own Central Asian frontier. The goals of maintaining public order among disparate populations, while engaging in land reclamation of less arable areas, much of it desert and pasture, led to the prioritization of boundary controls.

The People's Republic of China incorporated the Qing dynasty formula of frontier border-control to contain a potentially restive frontier zone, while reclaiming arable land for cultivation. The Xinjiang Production and Construction Corps (XPCC), combining agriculture settlement with policing, utilized Chinese lower-rank soldiers to settle the area. In contemporary western China, XPCC (*bingtuan*) military units took over responsibilities of trading, in the early 2000s becoming the second largest originator of trade and agriculture in the region after the government (Wiemer, 2004:170).

In China's west, in contrast to the fertile east, desertification rendered arable land scarce but valuable. In the westernmost province of Xinjiang, extensive desert expanse bifurcates much of the region's vast interior, despite the underlying assets of oil, gas and minerals. In northern Xinjiang, alpine steppe zones, industry towns, and the famed oasis town along the old northern Silk Route (Turfan) are separated by distance and desert from former oasis towns of a more southern branch of the former Silk Route (Kashgar and Khotan), far to the south and west of Xinjiang. Testaments to ancient trade routes are identifiable mainly underground: cave frescoes of merchants, courtiers, and monks of multi-ethnic origin. Still, horticulture and cotton to the south, and livestock and dairy production in the north, in addition to hydrocarbon assets, promise productivity in multiple industries.

Adding to the ranks of Han Chinese and former Manchu soldiers, in the mid-20th century and the following decades, Han Chinese have migrated into the western frontier for reasons ranging from government encouragement to new business opportunity. As westward-bound Chinese moved into the frontier, they competed with the indigenous Muslim Uyghur population with commercial, government and agricultural opportunities. With the ongoing competition for jobs and a piece of the China growth story, wealth differentials in the western regions have the potential to take on ethnic, religious, or military complexion.

In late 2010, according to a *People's Daily* article, Chinese officials admitted that Xinjiang was still in a "fragile state" after conflicts that erupted a year later. In July 2009, official figures counted 197 people dead and 1,700 injured in one of the severest riots in Urumqi to erupt in decades. In late February 2012, a Xinjiang-run state website announced further tension in the region, with 20 killed and reports of local Muslims attacking Han Chinese (Wong, 2012). The goal of lessening income gaps in order to reduce socio-economic discord has amped up central government involvement.

Aiming to eliminate the potential "seeds of unrest" arising from income and ethnic disparities, the central government has targeted measures that combine top-down incentive with bottom-up localized growth. These measures are designed to accelerate economic growth while decreasing wealth disparities in the still lagging western regions. One of the main potential growth generators is slated to be the creation of a special economic zone in western Xinjiang, transposing the measures of revenue generation from China's successful eastern development model. In 2010, the Chinese central government took on a bold move of establishing the Kashgar SEZ, scheduled for completion in 2016, as a regional isolate distant from other commercial or industrial



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centers closer to the Chinese center. A more likely location for cluster-creation might have been closer to the vicinity of Urumqi, Xinjiang's capital and an urban center closer to Beijing. The frontier boomtown of Urumqi, established as a Han administrative city, hosts a diverse, multi-ethnic population (Han Chinese, Uyghur, Hui, Kazakh and other nationalities), arguably more open to institutional change. By comparison, Kashgar, a relative outpost in western Xinjiang, holds a majority Uyghur populace, with bazaars and mosques more reminiscent of Central Asia than Han China.

In addition to the Kashgar special economic zone), micro-regional "islands" formerly designated as ethno-nationality enclaves are now developed as economic micro-niches for diversified industry. The Kizelesu Kirgiz Autonomous Prefecture and Bayangol Mongolian Autonomous Prefecture were premised on a previous template of the Soviet design: multi-national micro-zones, with implicit divide-and-control considerations. In China, these ethnic-administrative territories have been repurposed as diversified experiments of eco-niches or specialty industrials: from fruit tree cultivation and nature preserves to mineral ore mining.

In Xinjiang, micro-regional incentives are accompanied by large-scale, integrative development strategies. The policy of managing vast tracts of land in the western regions is a high priority today, evidenced in capital construction and logistics projects. According to figures from 2000, the central government dominates investment in the capital construction projects of Xinjiang, accounting for 60% of regional investment. This contrasts with a far lesser involvement in the rest of China, at 32% (Wiemer, 2004: 175). In 2000, the state share in the value of Xinjiang's gross industrial output came to 77%, with the national figure of the rest of China far lower at 47% (ibid.).

A top priority of heavy industry and infrastructure projects in China's far west is aimed at unifying and consolidating the northern and southern parts of the vast Xinjiang region, divided by the geography of desert expanse (Taklamakan) into bifurcated sub-alpine and southern oasis zones. The increased integration of the formerly fragmented province also links up to infrastructure and logistics projects across China, with disparate western regions connecting to networks of pipeline, rail and highway leading to eastern China. More than eight national highways, 66 inter-provincial highways, and more than 600 county level roads crisscross Xinjiang, with industrial efforts ranging from energy extraction, petrochemical processing zones, saline land reclamation projects, and other construction facilities (White Paper, Xinjiang Development, *China Daily*).

Infrastructure projects linking western and eastern China also are positioned to reach far beyond China's western borders: to the frontier markets and emerging markets of Eurasia, Middle East, and South Asia. As of 2009, the creation of nearly 20 Grade-I Ports and 12 Grade-II Ports opened China's western borderlands to a host of disparate trading partners: Kazakhstan, Russia, Mongolia, India, Pakistan, Kyrgyzstan, Tajikistan, and Afghanistan. In 2008, Xinjiang's volume of foreign trade reached 22.217 billion, making it second in trade volume among China's central and western provinces (ibid.). With plans on both Xinjiang's and Kazakhstan's part to increase trade, in March 2012, the Xinjiang Department of Commerce announced sales turnover between Xinjiang and its Central Asian neighbor amounting to nearly $11 billion, up over 13% from the previous year, with sales turnover targets in 2012 to slated to expand 18%. Meanwhile, Kazakhstan's Senate announced that trade turnover with China topped $20 billion in 2011 (*BizXinjiang*, March 29, 2012).

As China reaches beyond its western frontier into the near abroad, the future of successful revival of overland trade -- a latter-day Silk Route -- to augment China's booming Pacific trade, is as yet nascent. In creating alternate trade corridors to Eurasia, South Asia and the Middle East beyond Xinjiang, the Chinese frontier exposes itself to a host of multi-national, economic, and institutional actors beyond its western frontier: from long-term partners such as Pakistan and large-scale emerging markets of India, to failed states such as Afghanistan. By opening up China's back door to outside influence, China will contend with divergent socio-economic and political interests that will create opportunities, even if they complicate the state's internal integration process. Yet, in order to create commercial alternatives beyond the Pacific coast, China is ultimately in a better position to create an even economic playing field for its own internal constituents, not to mention its economic development-at-large.

By successfully building up business opportunities along its western frontier, China more fully equipped to address the larger scope of political and economic challenges that face it globally. Beginning with its near-neighbor Kazakhstan, China can test out markets and investment strategies in its own backyard. Whereas Kazakhstan had been the ambivalent recipient of Soviet industrial policy along the Russian frontier, now China has acquired the resources to invest in large-scale industrial projects benefitting both itself and its neighbor. The Chinese government has gradually acquired the largesse and luxury, along with the interest, to develop infrastructure projects and heavy industry within and beyond its own borders: namely oil, gas and commodity extraction. China can experiment with economic, trade and investment strategies in the near abroad (Kazakhstan) before establishing ventures further abroad (Africa and the Americas).

In the mid-20th century, the China state abandoned Soviet centralizing project of heavy industrial investment, concentrating on developing economic diversification based on competitive local economies. Half a century later, China has able to revisit its own large-scale strategic industries, simultaneously amplifying investment while promoting competition between its own corporate giants in the oil and gas industry. Having succeeded in deploying business-industrial clusters and competitive local economies on the eastern seaboard, it is better placed to transpose principles of economic diversification and competitive advantage unto the state sector. At the same time,



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China is now in a better position to finance and invest in strategic projects across the state border, in the near-west (including Kazakhstan) and further abroad.

**Transposing Competitive Advantage Unto Strategic Oil and Gas Industry: From Micro-Clusters to Multinationals**

If China's initial western development trajectory was premised to a large extent on border containment policies and top-down industrialization, experiments in regional competition policy successful in eastern China are being transposed both to the more sensitive border regions, as well to high-profile strategic industries. The principles of competitive advantage, if conditioned and generated within China's own context, have proved fitting vehicles for international expansion and large-scale industry. With successful experiments of regional competition in the local economies on its own eastern seaboard, China is better positioned to take on larger-scale projects involving economic diversification with higher degrees of risk and reward, from natural resources to international finance.

The central government has encouraged strategic industry giants, namely state oil-and-gas multinationals, to engage in the competitive practice earlier afforded only small and medium businesses. State oil companies, positioning themselves to be national champions in triplicate – China National Oil (CNPC), China National Offshore Oil Corporation (CNOOC), and Sinopec -- have increasingly carved out separate domains. They readily compete with one another for market share. At the same time, state coffers are behind them, offering support in the case of downturn. Despite this, China's oil giants hardly resemble the stereotype of moribund monoliths passively waiting for government handouts. Government backing does not seem to compromise active competition among the oil giants.

As China's three largest oil companies grew, they initially pursued strategies grounded in territorial or functional advantage. China National Oil concentrated on upstream extraction, while CNOOC (China Overseas Oil) focused on offshore development. Last but not least, Sinopec devoted itself to downstream enterprises. China National Oil initially invested in its own western frontier, Xinjiang's Tarim basin, before expanding further afield. CNOOC established domestic offshore localities in the East China Sea and Bohai Bay, before extending corporate reach into overseas destinations in Southeast Asia and beyond. Meanwhile, Sinopec established itself as the arbiter of refinery capacity along multiple business and product lines.

Once these competencies were firmly established, these three state companies expanded into other domains, to finally begin competing on each other's turf. China National Oil, after testing out its inland western frontier in Xinjiang province, went head-to-head with China Overseas Oil (CNOOC) in a quest for international cross-border ventures and acquisitions. China National Oil established a beachhead in Kazakhstan, financing an East-West pipeline to eventually link China's western interior to the Pacific.

However, expansive strategies between competing Chinese oil giants for international influence and oil access did not always proceed smoothly as planned. In 2005, CNOOC, competing with China National Oil for Central Asian oil access, made moves to acquire US-based Unocal, which presided over key oil interests in southern Central Asia. After an outcry from US media, public, and government, the Chinese corporation reacted quickly, pulling back its large-scale interest in US companies. In the mid-late 2000s, CNOOC quickly and quietly reversed strategic course, pursuing lower profile deals in the US and Canada. In the long run, these acquisitions collectively comprised great financial and territorial scope, even while attracting much less attention in the US media. By late 2011, numerous M&A deals by CNOOC had taken multiple 33 percent stakes in oil properties dispersed and divided up throughout the Midwestern US states.

Meanwhile, China's neighbor Kazakhstan has become far less dependent on Russia and the West by playing the China card for its own strategic interests. In Kazakhstan during the early 1990s, China was seen as seen by the Kazakh populace as backwater and country cousin, as compared to elite Russia; China was deemed a cheap purveyor of low-quality goods and a bothersome influx of petty traders. Less than ten years later, however, China had become a venerable and reliable source to develop Kazakhstan's own fragmented infrastructure. In turn, China could become a valuable ally in providing an alternative to dependence on Russia and the West for hydrocarbon investment. China's ability to finance Kazakhstan's internal infrastructure, creating pipelines to link up Kazakhstan's own oil-resource rich west with its populous east, would be a future benefit. Simultaneously, China's investment in the logistics of Kazakhstan would also satisfy its own large appetite for oil in the process, through linking up with China's internal pipeline infrastructure.

More recently, China and Kazakhstan have pursued other mutually beneficial interests as well. Both China and Kazakhstan have established sovereign wealth funds and financial state holding companies, where diversified asset management can move beyond faltering Western financial markets to take multiple stakes in emerging market industries as well as those of more developed economies, whether through commodities, international private equity, real estate, or other growth ventures. Faced with uncertain returns in the West, China and Kazakhstan are increasingly poised to evolve separate yet mutually cooperative investment projects to further diversify their own state portfolios limited by the constraints of Western-dominated capital markets. For instance, China's financial conglomerate CITIC (China International Trust and Investment Corporation) acquired shares of Kazakhstan's sovereign wealth fund Samruk-Kazyna.



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Such projects of mutual interest will likely continue as the post-transition Asian emerging and frontier markets outgrow their limited labels. As they balance market-driven opportunity with state-led scenarios, they will continue to experiment with diversified trends in capital formation, asset allocation, private equity investment, and multi-directional trade and investment strategies that reach along varied corridors of global reach. Along with this, both China and Kazakhstan will continue to address the long-standing issues of diversification in their own interiors, as they negotiate the delicate balancing act between central and local, state and market.

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