Coordination vs. Control:
Planning New Cities as New Economic Engines in China

by

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ABSTRACT

Over the past twenty years, there appears to have been a resurgence of "new cities" that have been master-planned, built, and populated "from scratch" throughout the global South—particularly in China, where over 600 are currently estimated to be under construction or in conception. Departing from historical precedents—such as the high modernist capitals, socialist industrial towns, or residential new towns of the 20th century—many contemporary planned cities are intended to serve as new economic engines, by which governments seek to "upgrade" their local economic base, shape new industrial clusters, and cherry pick desirable sectors, firms, and workers to attract to their region. In many projects, master-planning practices have thus intensified not just in the domain of urban design, but also in the domain of industrial policy. In addition, weak, low-capacity governments have hired strong, private sector planners who can undertake this planning work on their behalf. For example, the county of Gu'an transformed from being the poorest to the richest county in Hebei province within a span of 15 years, after a private real estate developer called China Fortune Land Development created a "new industry city" in the service of the local government—in exchange for fifty years of "ownership," shared revenue, and near complete control over its planning. While scholars in critical urban studies, geography, and design have heavily critiqued these new cities as top-down, privatized, commodified, and homogenized products of corporate profit-seeking, there has been little scholarship on the logic of these public-private investments from an economic development perspective. In this thesis, I offer a conceptual framework that describes how new planned cities can theoretically create long-term, positive-sum economic value—not just short-term spoils—and investigate how private planners might contribute to this value creation. Drawing from interviews with real estate developers in China, as well as the case study of CFLD in Gu'an, I examine both the opportunities and risks posed by the rise of these private planners and these new, deeply intertwined modes of urban and industrial master-planning.

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Introduction

A New Generation of New Cities

In recent years, urban scholars, geographers, and journalists have occasionally observed what appears to be a resurgence in "new cities" that have been planned, built, and populated "from scratch" over the past two decades, in many parts of the world (Keeton, 2011; Herbert & Murray, 2015; Moser, 2015a; Shepard, 2017). So far, there is no clear consensus on what exactly a "new planned city" constitutes as an object of study—how to define "newness," "plannedness," or even "city"—especially in light of larger epistemological debates in the field on the nature of urban phenomena (Brenner & Schmid, 2015; Robinson & Roy, 2016; Storper & Scott, 2016).[1] That being said, it appears true that a broad class of large-scale development projects has emerged over the past twenty years which exhibit certain commonalities across regional contexts, and were created in roughly the following manner:[2]

1. *Master-planned, financed, and project managed by a central planner* – Most major decisions and upfront factor investments (such as assembling a large unified area of vacant land) are made by a few primary actors in advance of construction; these central planners are typically sub-national government entities that own or control the land, but frequently working in partnership with (or led by) a private sector real estate developer or other firm.

[1] This echoes parallel difficulties with contemporary concepts such as "eco-cities" (Rapoport, 2014) and "smart cities" (Glasmeier & Christopherson, 2015).

[2] This working definition draws from fieldwork conducted by journalists and field researchers such as Wade Shepard, who uses the following criteria (abridged): "1. New cites are developed from the ground up as part of holistic and large-scale masterplans; 2. New cities offer the full gamut of urban offerings; 3. New cities have their own economic drivers; 4. New cities are physically distinct from other urban areas; 5. New cities have their own identities" (Shepard, 2018). Percival & Waley (2012)'s notes similar terminology used by others: "In this paper, we use the term 'satellite city' throughout, but the terms 'new town', 'urban integrated mega project', 'new urban area' and 'privatopolis' are also used by developers to refer broadly to the same type of urban development" (2885).

2. *Rapidly built in a coordinated fashion* – The physical build-out of the planned area was conducted under the scope of a single project and on the timeline of years or decades, rather than emerging in piecemeal fashion over a longer period of time; there were specific construction, population, and job creation targets scheduled for certain deadlines.
3. *Built on greenfield* – The land had little or no built-up urban fabric prior to the project's development; for example, it was built on top of landfill claimed from the sea, newly released greenbelt zones, or other undeveloped rural and non-urban land.
4. *Distinct from other urban settlements* – The project has geographic, fiscal, administrative, and conceptual distinction from existing cities in the region, and is neither an expansion district adjacent to an existing urban area nor an internal renewal zone within one.
5. *Pre-determined, multi-functional mix of uses* – The project was designed to fulfill both consumption and production functions, and houses significant residential, commercial, and industrial activity; it is neither a mono-functional "bedroom community" with only housing and no jobs, nor an "industrial park" with only jobs and no permanent amenities. It is sustained by its own economic base in tradable jobs (e.g. government, manufacturing, tech), and also generates non-tradable jobs (e.g. personal services, restaurants, retail, janitorial).
6. *Explicitly envisioned as a "city" by their creators* — The project is not represented as a gated residential community, commercial complex, science or office park, university or research campus, destination resort or theme park, transportation hub, or other form of large-scale multi-use settlement (although it may internally contain one or many of those things). Rather, it is imagined as a holistic urban environment offering a complete range of amenities that allow people to "live, work, play," and reside "from cradle to grave" within it.[3]

[3] Of course, simply calling a newly developed mega-project a new city—often as part of branding strategy for selling real estate property within it—is obviously not sufficient criteria in and of itself. However, it seems worth

While efforts to systematically map and survey the global prevalence of projects captured by this working definition are only just beginning, emerging case studies and press materials suggest that they are concentrated in rapidly urbanizing countries in the Global South. At least one hundred are known to be in conception or under construction in India—such as Lavasa, Dholera, and Gujarat International Finance Tec-City (Datta, 2015; 2017); dozens more in Southeast Asia—such as Forest City, Iskandar Malaysia, and Putrajaya in Malaysia, Surabaya and Solo in Indonesia, and Phu My Hung in Vietnam (Moser, 2017; Rizzo & Glasson, 2011; Dieleman, 2011; Bunnell et al., 2014; Douglass & Huang, 2007); the Gulf Coast states and the Middle East—such as Knowledge City in Qatar, and King Abdullah Economic City and King Abdulaziz City for Science and Technology in Saudi Arabia (Tok et al., 2014; Gallarotti, 2013; Moser, 2015b; Rizzo, 2017); many regions of Africa—such as Kigali in Rwanda, Hope City in Ghana, Konza City in Kenya, King Mohammed VI Green City in Morocco, and Waterfall City and Lanseria Airport City in South Africa (Watson, 2014; Herbert & Murray, 2015; van Noorloos & Kloosterboer, 2018); as well as in Latin America, such as Yachay Knowledge City in Equador (Tapia, 2016).

In terms of sheer volume, however, China is undoubtedly the global fount of new city planning and building activity. A state survey conducted in just twelve out of China's thirty-two provinces found over 200 active "new town" projects under development as of 2013, and reported that all surveyed provinces planned to build new towns (National Development and Reform Commission, qtd. in Yin et al., 2018); considering that eight out of the twelve surveyed provinces are in relatively under-developed inland regions, the national total could very well be

noting that the planners of these projects intentionally evoke the scale, density, multi-functionality, and variety of experiences often associated with the "urban" in describing what they are attempting to create, even as it comes with potentially greater costs, scrutiny, and challenges to their experiences in traditional real estate.

double that figure. Separately from official numbers, scholars in China have manually collected data on at least 675 new towns that have been launched in over 270 municipal regions across the country as of 2014, which collectively cover over 66,000 sq. km (Lu & Chen, 2018)—an area over three times the size of Massachusetts. And while these projects are often described as new "towns" or "districts" within the Chinese administrative lexicon, they are certainly the size of large cities in other places: the average new town project in the aforementioned dataset is about 115 sq. km in size (for reference, Boston, MA has a land area of about 125 sq. km), has a density of 8000 people per sq. km (Boston has 5,000 per sq. km), and is located 25 km away from its nearest neighbouring city (ibid). Some massive new cities in China are already on track to becoming as well-populated as the existing mega-cities they were originally created to relieve; for example, Zhengdong New District in Henan province achieved a footprint larger than Seattle and a population of over 1.2 million within 15 years of first breaking ground in 2002, and aims to house over 5 million people by 2020.[4] Famously, the city of Shenzhen was a relatively small county town of 30,000 residents in 1980, when it was designated the first SEZ under China's reform era and master-planned for expansion; within the span of 40 years, it became one of the world's largest cities and manufacturing centers, with an estimated population of over 20 million and the third highest economic output (second only to Beijing and Shanghai) in China in 2019.[5] Thus even allowing for conservative criteria and definitional debates over what "new cities are," it is evident that this kind of intensive and pre-meditated planning, building, and populating

[4] Zhengdong New District official, interview with the author, June 2018; also see Shepard, 2015: 48. It should be noted that ZND is an example of a large urban development project that is directly adjacent to the existing city of Zhengzhou, although it is administratively separate from the old city and has its own economic base. See Shepard, 2015: 48-50 for a description on Chinese mega-cities that create a "second city" nearby to relieve pressure from its historical centre.

[5] "General Introduction," General Office of Shenzhen Municipal People's Government, last modified August 9, 2018. http://english.sz.gov.cn/about/profile/201811/t20181126_14732447.html. Due to vast differences in macroeconomic and national development conditions, Shenzhen is not a good comparison to contemporary new cities built in the past 20 years; that said, it is a "new city" that looms large in the imagination.

activity from a greenfield state—"master-planning" in the shorthand of this thesis—is not a fringe phenomenon, but a distinctive and significant process by which urbanization is occurring globally today. In this sense, the world is becoming not only more urban, but also more planned.

Academics, consultants, policy-makers, and politicians have proposed a range of desirable functions that this new generation of planned cities are hoped to fulfill. One common macro-level argument is that there is an under-supply of urban space relative to increasing demand for urban life, especially in many countries of the Global South that are undergoing industrialization and population growth. Migrants seeking better opportunities flow into existing mega-cities, many of which are already overburdened with heavy congestion and pollution, inadequate housing and infrastructure, and low governance capacity. Scholars like Saskia Sassen and Kanti Bajpai have argued that as populations continue to shift from rural to urban, "we need more cities, rather than to keep expanding existing cities until they become unmanageable" (Sassen, *The Hindu,* 2017), and even that "we may have to think of building completely new cities and destroying older ones… You can grow fast and build very livable cities along the way" (Bajpai, *The Times of India,* 2012). Similarly, an NYU research initiative called the Urbanization Project, led by planning scholar Angel Schlomo and economist Paul Romer, focuses on the projected doubling of the world's urban population between 2010 and 2110, during which, they assert, "there are two ways to channel this rapid urbanization: existing cities can expand, and new cities can emerge."[6]

Another set of advocates for new cities advance what could be described as variations of the "blank slate" argument. For example, Indian state official Amitabh Kant—CEO of the

[6] "About the Urbanization Project," NYU Stern Business School, accessed May 21, 2019. https://www.stern.nyu.edu/experience-stern/about/departments-centers-initiatives/centers-of-research/urbanization-project

National Institution for Transforming India, and former CEO of the Delhi Mumbai Industrial Corridor Development Corporation—has stated, "In much of the developed world, innovative new digital technologies are being retrofitted onto aging infrastructure to make cities work better for the 21st century. But here in India we have a tremendous opportunity: to build new cities from the ground up with smart technologies" (2013, qtd. in Datta 2015: 21). More controversially, a similar line of reasoning underlies Paul Romer's notion of "charter cities;" but instead of blank slates for physical infrastructure, Romer suggests a need for institutional blank slates, arguing that new cities can act as experimental test-beds for piloting policy reforms—"new ideas about how to structure interactions among people, such as land titles, patents, and social norms" (2010: 1)—that are politically, socially, or bureaucratically difficult to implement on the ground in existing cities. Still others gesture at the symbolism as well as the pragmatics of starting from scratch. For example, Olufemi Babalola, the chief executive behind a new city project in Lagos, has stated, "We are building Gracefield Island because the time for it has come in West Africa, particularly Nigeria… People ask us, 'Why Gracefield Island, why are we creating an island?' and we say that we are doing Gracefield Island on reclaimed land because we need a clean slate, a clean canvas on which to do what we are doing."[7]

However, the most common purpose assigned to contemporary new city projects is the pursuit of economic development. Promotional materials published by new city planners and their patron governments (e.g. KAEC-City Quest 2013, 2014, 2015) invariably propose that creating new cities will "upgrade" the composition of their existing industrial base, allowing them to enter higher-skill sectors, trigger creative clusters and innovation hubs (such as the "next Hollywood" or the "Silicon Valley of Country X"), and cultivate vibrant urban environments that

[7] Qtd. in Wade, 2017

will attract valuable workers, firms, and secondary investment to their region above other regions. For example, King Abdullah Economic City (KAEC) and four other new "economic cities" under construction along the Red Sea Coast in Saudi Arabia are intended to diversify the kingdom's economy away from its reliance on the crude oil industry, provide one million new jobs for the country's youthful population, position Saudi Arabia as among the world's "top ten competitive investment destinations," and "leapfrog" the country into a "post-oil knowledge economy."[8] Dholera Industry City in Guajarat, India—the prototype of Prime Minister Modi's campaign to build 100 new smart cities—is also supposed to create 800,000 jobs through its status as a Special Investment Region (SIR), house two million inhabitants by 2040, and generate long-term economic growth as "the building blocks of global Gujarat," in Modi's words.[9]

The idea of harnessing these new cities as new economic engines apparently has such arresting and widespread appeal that it has become a key component of many national development plans (Hvidt, 2012)—such as Putrajaya and Cyberjaya in Malaysia's Vision 2020, Cyberabad in India's Vision 2020, Konza Technology City in Kenya's Vision 2030, and KAEC in Saudi Arabia's Vision 2030—as well as the object of massive investment, with KAEC projected to cost $100 billion USD, Iskandar Malaysia $40 billion, and Dholera $10 billion, to name a few.[10] However, the logic behind how exactly these projects are designed to deliver returns on investment through "spurring economic development"—and what this term even means to the governments and planners leading the project—is most often left unexplained. In addition, there is little academic research or historical precedent rigorously investigating what effects these experimental mega-projects are likely to have towards these vaguely defined goals.

[8] King Adullah Economic City promotional materials, qtd. in Moser et al., 2015b.
[9] Halcrow Group, qtd. in Datta, 2015.
[10] KAEC in Moser et al., 2015b: 73; Dholera in Datta, 2015: 28; also see New Cities Foundation, *KAEC City Quest Forum* reports from 2013, 2014, 2015.

Old Wine in New Bottles?

In the face of these expansive and expensive proposals, many scholars are rightly skeptical that a new generation of planned cities can solve the world's most "wicked" social, environmental, and economic problems. As with master-planned mega-projects in the past, many have criticized these projects for riding on the strength of utopian rhetoric and computer-generated imagery, while diverting resources away from perennial problems in existing urban areas—in sum, that new cities act not as vehicles for mass economic development, but as private cars for "bypassing the squalor" (Bhattacharya & Sanyal, 2011). As geographer Sarah Moser—director of the New Cities Lab at McGill, one of the only research institutes dedicated to tracking the development of contemporary new city projects around the world—asks in the title of her article (2015a), *"New cities: Old wine in new bottles?"*

Taking the example of Dholera Industry City in India, Moser argues that new planned cities today "can be understood as yet another effort at reinvention, which once again implies that a 'backwards' and stagnant India requires the guidance of modern and technologically savvy Western-sanctioned global 'experts' who promise that utopian corporate cities will spark economic growth, modernize the locals, and lift the rural poor out of poverty" (2015a: 33). Moser draws direct parallels between colonial cities planned by British imperialists and new cities planned today under the Modi government, arguing that the latter are the "descendants of and heirs to colonial imperial city building," that "in fact reproduce colonial era power dynamics and priorities" (ibid., 31)—with the main difference being that instead of the circulating architects, planners, and technocrats of the British Empire, today's new planning "experts" are the transnational corporations and consultancies (Cisco, IBM, McKinsey, etc.) now in league with the "neoliberal state" (34). To generalize this connection between colonial and

contemporary eras beyond the Indian context, Moser claims that "with few exceptions, current new cities are a phenomenon found primarily in former colonies in Asia and Africa (e.g. Malaysia, Indonesia, Cambodia, Myanmar, India, Morocco, Nigeria, Ghana, Kenya, Angola and others)" (33).

This critique is representative of many that position themselves in a lineage of scholars who have reflected on the failures of planned cities from the past, such as James C. Scott (1998), James Holston (1989), and Lawrence Vale (2008) on Brasilia and Chandigarh. Moser cites these works and explicitly uses a "longer term perspective borrowed from planning historians [that] can highlight important historical continuities and institutional legacies" (2015a: 32). But while this analysis is helpful for illuminating the echoes of history in some ways, it is both too broad and too blinkered in other ways. For one, it misses the methodological point that planning historians were looking backward in time, not forward. Their critiques evaluated the outcomes of mid-20th century planned cities *ex post*, several decades after they had been built, populated, and lived in, at a point when their problematic aspects became physically and socially manifest; they did not evaluate the future of new cities that had not yet materialized at the time, and they were not against planning *a priori*.[11] For another, the critique takes a global view, yet it leaves out the vast ranks of new cities emerging in regions without histories of Western colonialism—such as most of mainland China—which in their hundreds, now constitute the majority of the world's new planned cities, not the exception. While there may be reasons to deliberately exclude Chinese cases from certain comparative analyses due to country-specific structural features that factor into their creation (such as authoritarian rule, GDP-based political promotion,

[11] Scott: "Much of this book can be read as a case against the *imperialism* of high-modernist, planned social order. I stress the word "imperialism" here because I am emphatically not making a blanket case against either bureaucratic planning or high-modernist ideology. I am, however, making a case against an imperial or hegemonic planning mentality that excludes the necessary role of local knowledge and know-how" (1998: Intro, 6).

state-owned urban land, or land-based financing—which in fact have mechanical parallels under different regimes in other countries), any general attempt to understand new planned cities as a global phenomenon and pattern of urbanization should take China under serious consideration.

But most substantively, this type of critique primarily denounces contemporary new cities as "driven by corporate interests" (Moser 2015a: 32) and enabled by "the spread of neo-liberal ideology that brings state and national governments into close collaboration with corporations" (ibid., 31). Similarly, geographer Ayona Datta describes Dholera as shaped by "the corporate sector seeking to create new global markets in India," as well as "the neoliberal state, which is playing an ever increasing role in directing and controlling the discourses and practices of urban planning with the active participation of the corporate sector" (2015:17). Urban studies scholar Gavin Shatkin also distinguishes contemporary new city projects in Asia by "their explicitly profit-oriented and commodified nature, and the powerful role of the corporate sector in their conceptualization, planning, development, and governance" (2011: 80). But despite this focus on the "corporate," these critiques are just as vague as the projects' promotional materials in terms of explaining which private entities matter for this analysis, what their objective functions are, what specific relationship they have with the government and the planning process, and how exactly their interests drive the economic, social, political, or other outcomes of the new city. Besides pointing out that multi-national ICT companies like Cisco benefit as vendors of hardware and software from the popularity of the "smart city" concept (Moser 2015a: 34), that some districts of new cities are designed to "emulate corporate office parks" (ibid., 33), and that their "architectural idiom" and "utopian language" create a "visual hierarchy that positions global corporate culture as the modern future" (33)—how else should we think about the rise of private players in the traditionally public domains of urban planning and economic development,

and the ways in which their involvement will shape new cities and economies in the future? Are new planned "economic cities" old colonial wine in new corporate bottles, simply by association? Are they always a bad idea?

New Wine

Prompted by these questions, I revisit two significant dynamics at play in many contemporary new planned cities: their intended use as new economic engines (*why* are they being created?), and the increasing involvement of private players in their planning (*who* is creating them?). However, I approach this phenomenon from an economic development, planning practice, and political economic perspective, rather than the critical urban theory, geography, and design perspectives that have led the discourse thus far. As Moser notes, "there is a widespread view that new cities are a crucial part of any emerging economy's toolkit for economic growth, yet very little research has been conducted to determine the extent to which this is true" (qtd. in Shepard, 2017). This thesis aims to begin filling that gap in research.

Through an economic development perspective, the large concern that critical urban scholars and geographers raise—that "corporations are the new colonizers," so to speak—might be articulated as the concern that the objective functions of the principal agents involved in planning new cities (private real estate developers, private vendor firms, local governments, and politicians) only maximize their own short-term, zero-sum gain, and not long-term, positive-sum value to the many in society who are impacted by them (such as the future residents of the new city, the former residents of the region who may have been displaced, other regions competing for the same resources, or the public whose taxes might be better spent on other public investments). More concretely, the risk is that private firms will use new cities to extract

opportune profits (developers by buying greenfield land low and selling luxury real estate high, vendor firms by selling their tech products while the "smart city" trend is hot); that local governments will use new cities to capture one-time windfalls in fiscal revenue (by selling the land to the highest bidder, or receiving development subsidies from the central state); and that politicians will use new cities to stimulate spikes in GDP through subsidy-induced shocks of building activity (by accounting for construction, capex, and the inflow of secondary investment) that improves their political standing for the next election or promotion cycle, no matter the long-term utility of what they are actually building.

What this critical view does not consider, however, is whether there are also ways in which new planned cities can plausibly create positive-sum, long-term economic *value*—by generating positive externalities, solving market failures, improving productivity, unlocking innovation, or opening up new areas of economic activity; not just temporary spoils—and how the involvement of private players in the planning process might possibly contribute to this creation of greater value. In this thesis, I describe a conceptual model of "new industry city" master-planning that theoretically fulfills this purpose, and appears to be actively practiced by certain new city planners in China, but remains under-studied in the academic literature.

In this model, the central planner seeks to harness the rare concentration—in space and time—of resource allocations, planning decisions, and coordination efforts that go into creating a new city, as a unique path-breaking opportunity to redirect the industrial trajectory of the region down a more desirable path. Underlying this is the basic logic of spatial agglomeration and cluster theory (Cooke & Morgan, 1998; Porter, 1998): by carefully coordinating place-based investments and the location decisions of complementary firms—concentrating them in one place and time in the form of the new city project—a central planner can theoretically solve

classic first mover and cross-firm coordination failures in the market, and trigger agglomeration activity that would not have otherwise occurred. The idea is that the new planned city can justify its capital costs by generating positive externalities to the firms and workers that move to it, and becoming more economically productive than "the sum of its parts"—i.e. the same set of firms and workers if they had remained distributed in other locations, rather than in the new city.

In order to achieve this in practice, the central planner must not only create a master-plan for every aspect of the city's urban form and land use in advance of construction; it must also explicitly program its economic rationale for existence, well before actual firms, workers, and residents even enter the picture. Crucially, this process presents planners with the power to cherry-pick the pillar industries that will anchor the new economic basis of the new city—in other words, to use the new city planning process as a medium for setting local industrial policy, drawing from developmentalist strategies of economic development. Planners then customize the physical facilities and business policies of the new city to fulfill the anticipated needs of the chosen industries, and market the specialized expertise of a new place-based economy ("logistics city," "hi-tech/fin-tech city," "knowledge city," etc.) before it even exists—essentially betting that if they have chosen the right industries for the right places, *if you build it, they will come*.

In reality, the problem is that most local governments—especially in poor regions which stand to gain the most from a "new economic engine"—have nowhere near the expertise or capacity to undertake these rigorous practices of urban *and* industrial master-planning for the far future. This model requires the central planner to bear significant financial risk, often over project timelines that stretch into years, if not decades, of vacancy and negative cash flow before seeing residents or returns to investment. Over the long years of the project, they must avoid the temptation to sell the land to the highest bidder that comes along (usually looking to build high-

margin, luxury real estate products) for a one-off fiscal infusion, but reserve it for slow-to-develop clusters and non-revenue generating uses (such as business service centers, public research institutes, parks, or university campuses) that they hope will eventually feed into a greater industrial eco-system. They must not only have the upfront land and capital resources to successfully build out the physical city, but also the market acumen to make strategic industrial policies and investment decisions, as well as the coordination mechanisms and corporate connections to actively recruit firms, workers, and residents to an unknown and unestablished new city rising up from formerly empty fields.

Given these sophisticated requirements, it makes sense that weak local governments would seek out strong planning partners in the private sector to undertake these tasks on their behalf. These "private planners"—such as large real estate developers, the real estate and investment branches of large conglomerates with arms in multiple other industries, or sometimes even large technology firms at the centre of large production chains or eco-systems—might be hired to expand the capacities of local governments in terms of comprehensive urban development, industrial research and policy expertise, and extensive corporate networking. The state brings the key component of *control* (over capital resources required to build the physical city, such as land, subsidies, and infrastructure) to the table, and the private planners bring the complementary component of *coordination* (across firms, workers, and residents that cannot be coerced into moving to a new city, but must be attracted there in adherence to market logic). Governments could explicitly structure this arrangement into multi-decade contracts with private planners, which would compensate them for their services via shared revenue from the new city, and first rights to develop land inside it. If the terms of this contract are well-designed, the idea is that the private planner would not exit the project as soon as they finish building and selling,

as traditional real estate developers do, but instead be incentivized to nurture the long-term economic health of the new city, as their own profits would be bound to its growth.

In light of this conceptual model, I argue that certain modes of creating new cities are not just recycling "old wine in new bottles," but have the potential to create real economic value for society, and that part of this value can *only* come from the industrial planning expertise and coordination abilities provided by private-sector planners that follow market forces, in settings where the public sector does not have these capacities. These models utilize fundamentally new modes of urban *and* industrial master-planning that are deeply intertwined and difficult for governments to do on their own, which has necessarily led to the deeper intertwinement of public and private players than in the past.

That said, this model of private-led planning undoubtedly raises new risks of its own. The problem of value creation in an impoverished region is genuinely difficult to solve through urban master-planning in a market economy, whether the planner is public or private. After all, the question of how to geographically redistribute economic resources and activities from rich places to poor places—primarily using place-based qualities and land-based assets—is the perennial crux of regional economic development, of which new planned cities are just the latest iterations. Even assuming the most pro-public intentions and structuring in the best incentives, private planners may still make poor investment decisions, bad master-plans, and white elephant projects (or in the case of China, scores of "ghost cities") that cost enormous sums to build but fail to ever create value. In addition, the decisions that these private planners and government actors make cannot be explained solely through assumptions of rational economic choice or market logic in the abstract—as planning scholars Fangzhu Zhang and Fulong Wu stated, "we need to investigate the political economic process in order to explain talent concentration. The

processes go beyond agglomeration effect… we need to identify the real actors and their agencies in the city rather than resorting to a general notion of agglomeration, diversity, or relatedness (between economic sectors)" (2019: 153). In other words, new cities do not come into existence on their own, propelled by the invisible winds of cluster theory, but are highly contingent on the actors that make them using whatever market and non-market means they have at their disposal, following both "economic" and "political" considerations. Large (mis)allocations and relocations of firms, workers, and capital may be driven by political-economic motivations that may lead to worse outcomes than if these planners had not intervened.

Moreover, the more this mode of master-planning new cities spreads, these potential risks will not be limited to the outcomes of any one project in isolation, but compounded by the hundreds or thousands of newly built "economic cities" that may arise to compete with each other over the same pool of desirable sectors, firms, and workers in the market. As the same handful of private planners expand their portfolio of new cities to work for different client governments in different regions in parallel, new problems of cross-city coordination and inter-city competition will emerge at the macroeconomic scale. The opportunities and risks of giving such power to private planners—not only to shape the built environment, but also to radically reshape the economic environment; not only at the local scale of each individual city, but also at the macro scale of all new cities in interaction with each other and with existing cities; not only to make market-driven investment decisions, but also to leverage the political resources and connections they have to make their projects succeed—merits further study.

Empirical Base and Case Study

While I have so far discussed this model of master-planning in conceptual terms, many prominent real estate developers and local governments in China have actively applied these and similar practices to their new city projects over the past twenty years. This reflects the view of Wu et al. (2015) that planning occupies a much more central, proactive, and visionary role in the Chinese context, where "the impact of planning in China is wide-reaching and cannot simply be understood as higher GDP growth… planning also represents development and the creation of economic *value*" (3). Wu et al. emphasize that contrary to Western perceptions of the role of planning as regulating and inhibiting the market, in China, planning is "the primary tool for municipalities to attract new industrial and residential developments," "shape the market according to the needs of the state and the general public," "facilitate innovation and regional competitiveness," and "open up new directions for market development that would otherwise be left untouched by other market actors" (ibid., 1-3).

While work by Wu and others have so far focused on the Chinese *state's* use of planning for value creation at national, regional, and municipal levels (in contexts where the state has considerable capacity and expertise, such as the powerful metropolitan government of Shanghai), in this thesis I highlight the key role of private real estate developers acting as the central planners—or what I will later describe as "coordinators"—of new city projects in China. Studying the internal planning procedures invented and used in-house by these developers—especially in contexts where they act on behalf of low-capacity governments in economically weak localities, which gives them enormous autonomy over all aspects of the city-making process—is a window into how new city projects get implemented on the ground. More pragmatically for research purposes, developers are also less secretive than governments towards

external researchers: they have reason to publicly advertise their ability to work in challenging market conditions, their wide range of projects-in-progress, and their large network of industry contacts and working relationships, because they view these as assets that will help them beat out competitors for government contracts—whereas government officials most often propagate shiny promotional materials that describe their new city projects only in the most positive light.

The empirical base of this thesis draws on over thirty hours of interviews with analysts, project managers, and urban planners from some of the largest private real estate development firms and consultancies operating in China—such as China Fortune Land Development (CFLD), China Resources Land (CR Land), Fosun Group, JLL Asia, Hong Kong Land, Nanfung Group, TUSincere, and Topchain—conducted during professional events such as the World Real Estate Forum in Cambridge, MA (June 2018), the China Innovation and Entrepreneurship Fair in Guangzhou (June 2018), the MIT China Future City Innovation Connector Roadshow in Beijing, Wuhan, Hangzhou, and Shenzhen (July 2018), and the MIT China New City Forum in Beijing (November 2018), as well as an internship inside the Industry and Innovation Department of China Resources Land in Shenzhen (summer 2018). In addition to interviews with developers, it draws on conversations with researchers at the CFLD Industrial Research Institute in Beijing (January 2019); field visits to new cities such as Gu'an New Industry City (Hebei province), Zhengdong New District (Henan), Xixian New Area (Shaanxi), and Xiong'an (Hebei) in 2018, as well as interviews with several local government officials and Chinese planning scholars involved in these projects.

While my conceptual model draws on all of the sources above, in order to clearly illustrate this model at work, I will present a case study of Gu'an New Industry City in Hebei Province, China. This new city project exemplifies the model of deeply intertwined urban and

industrial master-planning undertaken by a deeply intertwined public-private partnership, and is considered a notable rags-to-riches success story of new city-making in the Chinese context. In brief (with more details in the following chapter): in 2002, Gu'an was one of the poorest counties in Hebei Province, with a per capita GDP of just $1,000 USD, when the Gu'an county government signed a special PPP contract with a relatively unknown real estate developer called China Fortune Land Development (CFLD). CFLD offered the local government a total package of services in planning, building, and populating a new industrial city on 60 sq. km of vacant land, with an economic base driven by three high-tech sectors—advanced LED display manufacturing, aviation and aerospace technology, and biomedical R&D—which they proposed would generate sustained economic growth for the county over the long-term. In exchange, however, CFLD would be given "ownership" of the city for 50 years, during which it would exercise full control over all aspects of the city-making process, get first rights access to the land, and split revenue with the local government. Now, a little over fifteen years into this experimental contract, Gu'an has become the second wealthiest county in Hebei province—its nominal fiscal revenue having jumped an astonishing 90x from 110 million RMB [$16 million USD] in 2002 to nearly 10 billion RMB [$1.5 billion USD] in 2017—but the private developer *de facto* owns and operates the new city they have built for them.[12]

The Gu'an case reflects a significant new business model for city-making that is being replicated and exported throughout and beyond China, particularly to other countries in the Global South. Since its success with the Gu'an project, CFLD has launched over 80 similar "new industry city" projects in thirteen Chinese provinces and at least six other countries

[12] CFLD urban planning exhibit in Gu'an New Industry City, visited November 2018; "Gu'an New Industry City," CFLD, accessed May 21, 2019, http://www.cfldcn.com/en/nic-guan.html. See next chapter for more details.

(Brunei, Egypt, India, Indonesia, the Philippines, and Vietnam).[13] In 2016, it also formed a partnership with Conway Inc. (a prominent consultant to governments and companies planning international expansion and cross-border corporate investment) that would form "an integral part of our global expansion strategy.. and fast-track our entry into new markets"[14]—essentially an international pipeline through which CFLD can source corporate branches, factories, and startups with which to populate its growing portfolio of new cities around the world. And in concert with the launch of China's Belt and Road Initiative in 2015—as well as the increasing reach and velocity of global urban policy transfer in general (Phelps et al., 2014, Bunnell & Das, 2010)—CFLD's Gu'an project has also become the object of significant benchmarking among policy-makers and planners from other countries, including Malaysia, Egypt, India, and Vietnam.[15]

CFLD's expansion has no doubt been accelerated by the fact that their projects have been lauded by both domestic and international institutions. The China Real Estate Information Corporation—China's leading real estate data provider—ranked CFLD #1 on its list of top industrial park operators in 2016, 2017, and 2018.[16] National state agencies such as the General Office of the State Council, the Ministry of Finance, and the National Development and Reform Commission publicly commended CFLD's new industry cities in 2015, 2016, and 2017.[17] The state-sponsored Brand Globalization Summit named CFLD "the most trusted Chinese brand

[13] Yiming, Guo, 2018, "CFLD vows win-win cooperation in overseas ventures," *China.org.cn,* May 17, 2018. http://m.china.com.cn/appshare/doc_1_29302_771777.html.
[14] "Press Release: China Fortune Land Development Corporation and Conway Sign Strategic Agreement," Conway Inc., November 2016. https://conway.com/press/CFLD-Conway-161107.html.
[15] Lokman Mansor, "China's CFLD keen to develop industry city in Malaysia," *New Straits Times*, November 3, 2016. https://www.nst.com.my/news/2016/11/185447/chinas-cfld-keen-develop-industry-city-malaysia; "Najib visits Gu'an New Industry City," *Borneo Post online*, November 3, 2016. https://www.theborneopost.com/2016/11/03/najib-visits-guan-new-industry-city/; "IDA, China's CFLD discuss developing industrial zones in Egypt," *Egypt Today*, May 9, 2018. http://www.egypttoday.com/Article/3/49662/IDA-China-s-CFLD-discuss-developing-industrial-zones-in-Egypt; Bruns, 2016.
[16] "CFLD Honors," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/honor.html.
[17] "CFLD: Operator of New Industry Cities," China Fortune Land Development presentation to UNESCAP, accessed May 21, 2019. https://www.unescap.org/sites/default/files/CFLD%20Presentation.pdf.

overseas" in 2018;[18] and Gu'an New Industry City was listed among 60 "people-first PPPs for sustainable development" chosen by the United Nations Economic Commission for Europe (UNECE) in 2018.[19] In addition, business figures such as Rich Lesser (CEO of Boston Consulting Group) have praised CFLD as "an outstanding company," and Michael Porter (Harvard Business School professor, who first popularized the idea of the "business cluster" in his 1990 book, *The Competitive Advantage of Nations*) has remarked that "the idea of CFLD is very similar to mine. As a private company, CFLD plays an important role in the development of the global economy."[20] If anything, these accolades give even more reason to closely study the new modes of planning practiced by this and similar "private planners," as they provide fuel for their global expansion. While the CFLD-Gu'an model obviously does not reflect the planning processes and PPP structures driving all new planned cities in all contexts—which limits how far its insights and implications can be generalized—it represents a surprising and seemingly novel model of (potential) economic value creation via private master-planning of cities. A deep examination of this case study updates the critical discourse around these phenomena by shedding light on both the new opportunities and new risks that it presents.

Gaps in Current Approaches

Despite the foregrounding of projects like Gu'an in the minds of real estate developers and local government officials today—to an intense degree in China—this new generation of planned cities has yet to receive much theoretical or empirical scholarship. As Percival & Waley

[18] "CFLD wins 'the most trusted Chinese brand overseas' award at 2018 brand globalization summit," CFLD, January 26, 2018. http://www.cfldcn.com/en/detail.html?id=20.
[19] Guo Yiming, "Gu'an New Industry City touted as PPP model by UNECE," *China.org.cn,* May 15, 2018. http://www.china.org.cn/cfld/2018-05/15/content_57806873.htm
[20] Qtd. in "CFLD: Operator of New Industry Cities," CFLD presentation to UNESCAP.

(2012) acknowledge in their study of privately-planned cities in Cambodia, "while these projects are beginning to receive academic attention, the majority of studies have a limited capacity to explain why and how they are produced" (2873). This is particularly true of the economic logic behind new planned cities as proposed public-private investments for development.

At a basic level, one gap in existing studies is that most descriptive profiles (of projects which are often still under construction or in blueprint status) rely on sources such as state brochures and websites, rosters of associated companies and investors, stylized masterplans, and other promotional materials in order to glean facts such as the budget, stakeholders, site dimensions, and goals that are promoted by the project. Few studies go "behind the scenes" to evaluate the internal planning processes undertaken by the planners and policy-makers of the project on the inside. For example, the most concrete financial detail given by Datta's study of Dholera Industry City is that it "will cost around $9-10 billion, with the Indian state and Japanese corporations (Hitachi, Mitsubishi Corp, Toshiba, JGC and Tokyo Electric Power Company), contributing up to ten percent of this amount – the rest is expected to come from the private sector" (2015: 28)—however, this does not explain the distinction between the named Japanese corporations and the "private sector," nor what these firms are vested in and expecting in return. Similarly, van Noorloos & Kloosterboer's taxonomy of new cities being built in Africa claims to "elicit the financial trajectories and complex financial capital flows leading to new cities (from very anecdotal evidence)" (2018: 1228), but provides little more than a laundry list of all investors involved with any project in their dataset, ranging from Chinese state agencies and banks, multi-laterals like the World Bank and UN-Habitat, hedge funds such as Rendeavour and La Cité du Fleuve, to a "myriad of national and international private investments" (ibid., 1229).

Perhaps as a result of these gaps in information, the few studies of new planned cities that

offer an assessment of their future economic performance—either in terms of stakeholder profit or broader social value—provide thin justifications for their projections one way or the other. For example, Rizzo (2017) argues that Qatar's Education City, a project less than two decades old, is "bound to fail in transforming Qatar into a mature knowledge economy" (95), by contrasting its preliminary features with those of established knowledge-based urban developments in Australia, Luxembourg, Spain, and the Netherlands. Despite acknowledging that "the study of one case only is not sufficient to make final claims" (ibid., 91), the article is ultimately titled, "Why Knowledge Megaprojects Will Fail to Transform Gulf Countries in Post-Carbon Economies: The Case of Qatar." On the flip side, in a survey of new cities built by private developers in Southeast Asia, Douglass & Huang (2007) assert, "As an economic venture, however, all of the edge-city mega-projects, including PMH [Phu My Hung], seem destined to be great successes. Land values will continue to increase in and around all of their host city regions, each of which continues to be a vortex of economic growth for their respective economies. Those with a financial stake in these ventures are likely to see tremendous returns on their investments" (33)—again, without accompanying analysis as to why this was destined to be in this case, and under what conditions it would not. Shatkin (2011) offers a slightly richer account of "When and why do UIMs [urban integrated mega-projects] succeed or fail?" by focusing on the legal, logistical, and political difficulties private planners face in acquiring land from their occupants in many Asian countries (with the exception of China). However, Shatkin does not address the many failure modes that are also possible *after* the land assembly stage.

Most distinctly, emerging academic literature—primarily from global urban studies, critical urban theory, geography, and adjacent fields—tends to be critical of all new planned city projects by default. Many studies implicitly and explicitly use the same social, political, and

aesthetic analytical frames used to critique high modernist master-planned cities from the mid-20th century; insofar as contemporary forces are seen as shaping today's planned cities to be different from the past, the vague consensus seems to be that broad trends towards neoliberalism have unleashed today's projects to be built even bigger, faster, gaudier, and less regulated than before, lacking even the old social ideals of modernism to guide them. Given their hindsight view, scholars are understandably concerned that history's mistakes are being repeated, which lends an air of unspecified suspicion to their studies, even of a "'thing' that has not yet fully materialized, lived in" (Datta, 2017: 7). Contemporary master-planning ventures "prioritize urbanization as a business model rather than a model of social justice" (2012: 2), Datta concludes, and "the process of building new cities [in India] is bifurcated by conflicting demands of economic growth and justice" (ibid., 43).

While these normative and political questions are critical to ask of new planned cities—of all cities, at all times—it is difficult to productively engage with them without a solid grounding on the economics (the "business model") of how these projects work, why they are being created, and *how* they are created. For one, a key experimental question and empirical gap that must be filled is whether new "economic" cities actually contribute to economic growth and industrial development, and under what conditions. As Moser et al. state in their profile of King Abdullah Economic City (2015b), "Whether the economic cities succeed according to plan or not, they offer fascinating insights in the ambitions of the ruling elite…" (72)—but a very important separate question is, are the economies cities likely to succeed or not in the first place? Do they do what they are intended to do? Similarly, Hvidt (2012) notes in his study of planning for development in the Gulf Coast Cooperation, "While recognizing that planning and actual implementation of policies can potentially be two very different matters, this paper limits itself to

analysing what the states claim they want to do, not what they actually do… it is hoped that it will provide insight into how governments in the region officially conceive their future developmental track in both the short and long term" (189). But while interpreting and interrogating what a government claims it is trying to do is important, what they actually do and how well it works—If they build it, will people come? Is it likely to create more jobs? Is it creating jobs or reshuffling them? What will be the multiplier? Is it worth the opportunity cost?—are just as, if not more, important for questions of social impact.

One might argue that these questions are best answered by development economists, not urban scholars. This seems true to some extent; certain empirical questions (such as whether a new planned city project caused a net positive increase in total factor productivity) require experimental and statistical methods that depart from approaches traditionally used in urban studies and planning. In addition, due to the early stages of and large variations between many new city projects, rigorous economic studies will likely take more time to accomplish. That said, there are also important conceptual, institutional, historical, sociological, and political-economic questions that would help advance the normative issues that scholars in urban fields most care about. For example, what are the objectives, incentives, contractual obligations, and compensation structures of their stakeholders? By what market and non-market mechanisms are they bringing together billions of dollars of funding, dozens of investors, thousands of seed firms, and hundreds of thousands of residents? Never mind avoiding financial disaster or ghost citification, if an ideal new city for economic development and value creation *could* be created, what would "good" look like? These are useful questions to ask, but they seem to have been bypassed in scholars' attempts to fit the phenomena to existing frameworks from the urban studies toolkit, whether "colonialism," "neocolonialism," "neoliberalism," "neoliberalism with

Chinese characteristics," "entrepreneurial urbanism," "worlding," "state-driven capital switching," or "a fix for global financial capital."

After all, the answers to economic development questions have large implications for distribution and equity related questions as well: If enormous public funds are invested in mega-projects that turn out to be utter failures, the public loses. If state and private planners choose the wrong industries to subsidize in the wrong areas, the public loses. If new cities end up becoming exclusive "enclaves" for the wealthy, but the overall demand for housing continues to outpace the supply (as it arguably still does in China[21]), it is unclear what direction this wealth-based sorting effect would take—if the wealthy residents of existing, crowded cities moved into luxury apartments in new planned cities nearby, is it possible that the housing stock in the existing city would become more affordable for other citizens? These are open questions where a variety of perspectives would serve a great contribution towards our understanding of these phenomena.

Thesis Outline

In the following *Background* chapter, I first set the scene with an in-depth description of my case study, Gu'an New Industry City in Hebei Province, and how it came to be through the public-private partnership between China Future Land Development (CFLD) and the Gu'an county government. I address four aspects it seems to exemplify—top-down planning, privatization, commodification, and homogenization—that are critically debated in literatures on contemporary urbanization. I take an alternative but complementary economic development perspective to show that the Gu'an model raises new questions and twists to these issues.

[21] Looney & Rithmire argue that China's population as a whole is still "under-urbanized" relative to its level of industrialization, compared to other countries that the World Bank classifies as "upper middle income" (2016: 2).

In the *History and Theory* chapter that follows, I draw from historical cases of new planned cities and frameworks from economic theory to try to explain why we now see the rise of private real estate developers entering the business of master-planning new cities to serve as economic engines in contemporary China. I argue that a historical shift in the intended primary function of new planned cities (the *why*) led to an accompanying shift in the type of planner that could successfully create this new kind of planned city (the *who*), as well as a shift from a city-making model primarily based on *control* of capital resources in the past, to *coordination* of resources in the present. Rather than starting from a critique, I suggest that there is a rationale for the increasing involvement of private planners in city-making (beyond "corporate profit-seeking" and "neoliberal deregulation") as well as potential for value from their involvement.

In the chapter on *Conceptual Framework and Planning*, I then propose a framework that helps organize the decision-making process that private planners undertake while trying to make a new city project come to life, and describe my empirical findings from interviews with CFLD and other Chinese real estate developers on their internal industrial research, planning, and coordination methods. I attempt to discuss, in an even-handed way, both the new opportunities and the new risks that this model of master-planning poses, from the micro scale of any given new city project's trajectory to the macro scale of inter-city competition.

Finally, in my conclusion, I briefly address the extent to which my conceptual framework and the case of Gu'an can usefully travel across contexts. I end with some thoughts on the importance of studying planning processes with a policy- and practice-oriented perspective—especially in the context of trying to understand new cities that have not yet fully materialized and are not yet "lived," and thus cannot serve as the main objects of study from a user's perspective—in addition to a critical scholarly perspective.

Background

> BUILDING YOUR MODEL CITY
> We work hand-in-hand with you to meet your national development goals. You set the direction; we develop a life-cycle blueprint and action plan to ensure the long-term success and sustainability of the New Industry City. Together, we can improve livelihoods, advance industries, and create transformational economic and social growth.
>
> OUR MOTTO
> "Industry First"
>
> – China Fortune Land Development Co., Ltd

A Visit to Gu'an New Industry City, Hebei Province, China

Twenty years ago, the county of Gu'an was one of the poorest in Hebei Province, China. Hebei is a province shaped like a closed hand; it wraps around the municipalities of Beijing and Tianjin, two of the largest cities in the world by almost any measure, which together form one of the richest regions of economic activity in China, the Beijing-Tianjin industrial belt. But despite their proximity, these megacities exist as separate administrative and fiscal regions that do not directly sustain the adjacent province of Hebei. Thus, even though Gu'an is located just across the border from the municipality of Beijing—an area around the size of New York City sitting 50 kilometers south of Tiananmen Square, or about an hour's drive from the capital—Gu'an county had a population of 380,000, annual fiscal revenue of 110 million RMB (about $16 million USD in today's dollars), and a per capita GDP of just under $1000 USD in 2002.[22]

As the story is told by those in the real estate world, Gu'an sat poised at a promising location to "catch" the development pressure radiating out of Beijing from the north and Tianjin from the east in the early 2000s.[23] Beijing's population would grow from 13 million in 2001 to 30 million in 2016, while Tianjin would jump from 10 to 15 million between 2010 and 2015.[24]

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[22] Yiming Guo, "Gu'an New Industry City touted as PPP model by UNECE," *China.org.cn;* "Gu'an New Industry City," China Fortune Land Development.
[23] CFLD SPV representatives at Gu'an site, interviewed by the author, November 2018.
[24] Alex Xu, "Standing Committee Reports on Beijing's Population Growth," *China.org.cn*, October 29, 2002.

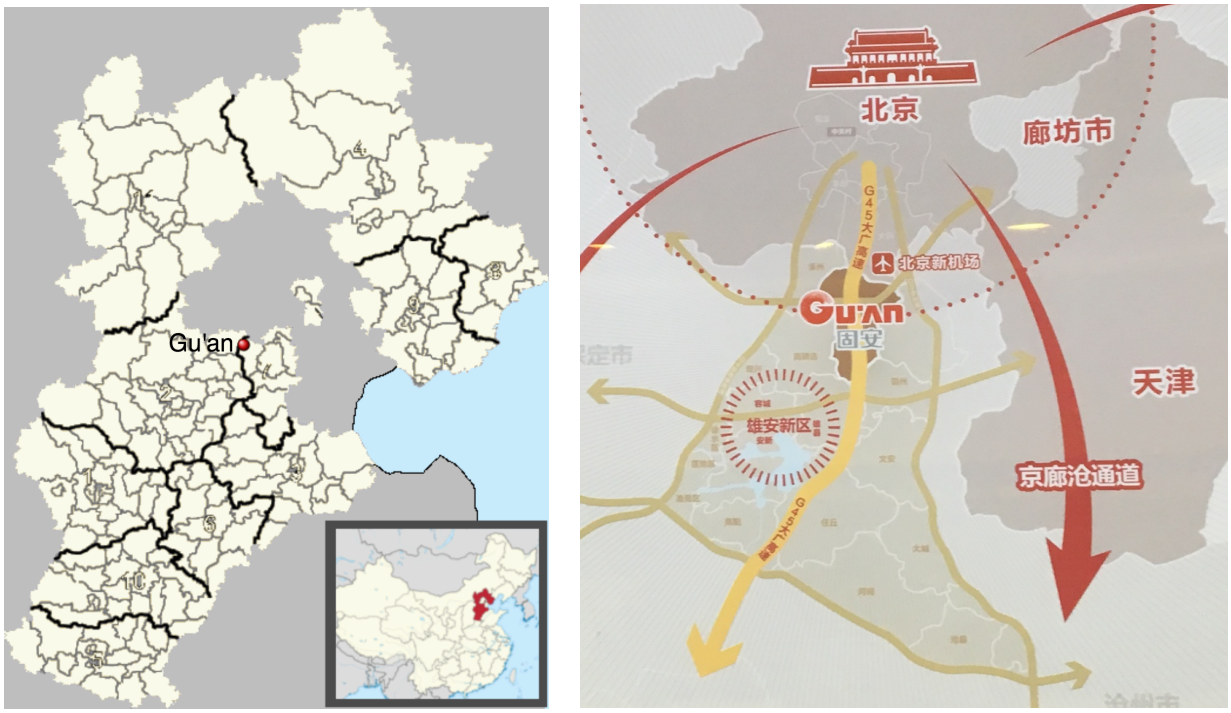

Figure 1: The location of Gu'an County in Hebei province, on the edge of Beijing and Tianjin.[25]

Companies were already struggling to find enough space to be stationed in Beijing, and developers expected the property market to get even hotter in the future, which would open opportunities for new industrial agglomerations in the areas surrounding the mega-city.[26] But as of 2002, this pressure had yet to push any businesses or urban development projects into Gu'an county, even though much of the land was greenfield because it was too sandy to farm.[27] At the time, the largest domestic real estate players—Vanke, Evergrande, Sunac—cared about Beijing, not the Beijing area.[28] They specialized in building consumption-oriented residential

<http://www.china.org.cn/english/2002/Oct/47100.htm>; "Beijing sees slower population growth," *Xinhua*, January 20, 2016, accessed May 21, 2019. <http://www.chinadaily.com.cn/china/2016-01/20/content_23160880.htm>

[25] Left: Penyulap, Wikipedia Commons: https://en.wikipedia.org/wiki/File:Location_map_for_Hebei.png; Right: Author's photo from urban planning exhibit, Gu'an New Industry City, Hebei, taken November 2018.

[26] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*, June 13, 2017, accessed May 21, 2019. <http://finance.sina.com.cn/chanjing/gsnews/2017-06-13/doc-ifyfzfyz3716326.shtml.>

[27] CFLD analyst at Gu'an New Industry City, interviewed by the author, November 2018.

[28] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.

communities, as large cities spilled over into suburbs and satellite towns: apartment complexes gift-wrapped with green parks, shopping malls, and downtown public spaces, with a lifestyle concept crafted to appeal to middle class homebuyers—a developer's most lucrative product in the midst of China's great housing boom.[29] No developer had come to Gu'an because housing required either the pre-existence of high-paying jobs in the local area, or relatively short commuting distances to jobs in a city nearby. Gu'an had no pre-existing urban or economic fabric to speak of—it was considered a "blank sheet of paper," a "gamble," "a small county town with the lowest GDP in Hebei province"—and lost out to rising suburbs like Xianghe and Yanjiao in terms of proximity (a 45-minute drive, rather than 60) to Beijing and Tianjin.[30]

The local government of Gu'an county was too poor to do much to change its lot on its own. It lacked the capital to directly develop urban spaces or industrial facilities, the political influence to appeal for state subsidies or infrastructure investments from above, the corporate connections to attract companies looking to relocate, as well as the administrative capacity and industrial expertise required to drive economic development efforts forward, or even make detailed plans for what they would like to do given more capital, connections, and capacity. Of course, the local government held control over vast swathes of land—in China, subnational state bodies legally own or can easily expropriate land for urban conversion[31]—and vacant land in Gu'an was much cheaper than parcels with existing durable structures in Beijing or Tianjin. But this was also true for most greenfield areas in Hebei within a 50-km radius of the capital, and did not serve to differentiate Gu'an from the other poor, competing counties around it. After all,

[29] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018.
[30] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.
[31] See Katherine Wilhelm (2004) "Rethinking Property Rights in Urban China," pages 237-243 for an in-depth discussion of how public vs. private "ownership" or "control" of urban property and housing effectively works in China; Constitution of the People's Republic of China: "Chengshi de tudi shuyu guojia suoyou." Article 10. Qtd. in Wilhelm, 242.

companies looked for more than tax breaks and cheap lots when establishing new headquarters—if they were going to move out of the big city, they wanted an eco-system tailored to their operations, a government that understood their business needs, and an attractive urban environment that would help them attract the best talent.[32]

So far, this is a classic story of peripheral struggle and regional economic development. In many ways, it is the same story that unfolds on the outskirts of major cities in the United States and Western Europe, despite the vast differences in political, institutional, and economic regimes—for example, the struggle experienced by de-industrialized "Gateway Cities" in Massachusetts that sit within a 30-minute commuter rail trip to the world's largest pharmaceutical and bio-tech R&D cluster in Cambridge and Boston, yet have been unable to capture its spillover benefits and quietly slid into decades of poverty.[33] However, something happened in Gu'an that does not typically happen in the United States or Western Europe.

In 2002, the county government of Gu'an signed a special contract with a private real estate developer called China Fortune Land Development (华夏幸福 *Huaxia Xingfu*). CFLD was a young company that had incorporated only four years before, and its founder, Wang Wenxue, sought to radically differentiate it from other domestic players that could out-compete CFLD in terms of construction experience and capital horsepower.[34] Instead of offering the Gu'an government the usual menu of residential and commercial products—which typical developers would construct, sell, then exit as fast as they could—CFLD proposed to research,

[32] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business, March 2, 2018. https://knowledge.wharton.upenn.edu/article/cflds-guan-new-industry-city-new-kind-public-private-partnership/.
[33] Tiffany Ferguson, Talia Fox, Adam Hasz, Laura Krull, Haijing Liu, Andy Stuntz, Joanne Wong, and Zhekun Xiong. 2018. "Nodal Economic Development: Building Life Sciences Capabilities in Gateway Cities." Department of Urban Studies and Planning, Massachusetts Institute of Technology.
[34] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.

plan, finance, and build a "new industry city" from the ground up on 60 sq. km of Gu'an county's greenfield land (an area about three times the size of Cambridge, MA)—and then stay to populate, operate, and cultivate it for a period of 50 years.

First, this meant that the company would execute the full suite of traditional urban planning services ("an end-to-end solution") on behalf of the Gu'an government, including: rural to urban land conversion and treatment; land use planning, urban design and spatial master-planning; all infrastructure capitalization and construction (roads, public transportation, utilities, communication networks, waste management); building, selling, and operating residential and commercial complexes (or managing land auctions to outside developers); developing all public facilities (schools, hospitals, public parks, libraries); and providing or managing all city services (such as inner-city transportation, energy and waste, and business registration services, but also education, medical care, and even the city branding and "cultural aspects" of the region).[35]

But more significantly, CFLD's motto was "Industry First." The company asserted that the only sustainable practice of regional development required not only spatial planning and physical infrastructure investment, but also meticulously programming the economic specialization, sectoral composition, and industrial trajectory of the new city from the start. CFLD argued that it was more important to secure an in-flow of desirable, high-skilled firms and jobs than sleek new architecture and highways, and that these firms and jobs must come to Gu'an following hard market logic rather than political pressure or state handouts; if there was no economic rationale for the new city to exist and it had no economic identity that would distinguish it from other newly developing or existing urban areas, Gu'an was at risk of becoming yet another bedroom town—or worse, a "ghost town" filled with housing sold as long-

[35] Interviews by author with researchers and managers at the CFLD Industrial Research Institute in Beijing, January 2019; "Public-Private Partnership," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/ppp.html.

term investment assets but sitting vacant for decades, such as the infamous Kangbashi district of Ordos in Inner Mongolia (which was founded around the same time as Gu'an and planned for a population of one million, but the majority of which is still unoccupied).[36] CFLD thus presented itself not only as master urban planner and builder, but first and foremost as an industrial policy expert. "Industries are the foundations of cities, and cities are the carriers of industries," as Meng Jing, the current president of CFLD stated. "CFLD develops and operates New Industry Cities in counties at the periphery of metropolitan areas. By balancing local conditions with scientific planning, CFLD provides partners with a comprehensive set of integrated solutions, with integration between industry and city, and industrial development at its core."[37]

This comprehensive set of solutions first involved doing a battery of "scientific and systematic" studies to understand Gu'an's comparative regional advantages in relation to macro trends.[38] Although CFLD's present research is now conducted in-house at the CFLD Industrial Research Institute in Beijing, they initially commissioned external consultants from McKinsey, BCG, and Roland Berger at the time of Gu'an's founding.[39] On the basis of this research, they then prioritized three "pillar" industries (advanced display manufacturing, aerospace and aviation, and biomedical R&D) to curate within the city—all selected for their potential to become "high-end, high-tech industry clusters that provide positive multiplier effects."[40] CFLD then leveraged their extensive in-house industrial networks to recruit desirable companies to set

[36] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.
[37] "CFLD calls for comprehensive partnerships in building new industry cities," CFLD, January 31, 2018. http://www.cfldcn.com/en/detail.html?id=19.
[38] "Industry City," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/industry-city.html.
[39] Interviews by author with researchers at the CFLD Industrial Research Institute in Beijing, January 2019.
[40] "Industry Cluster," CFLD accessed May 21, 2019. http://www.cfldcn.com/en/industry-cluster.html. CFLD now focuses on 10 areas of industry expertise: "new generation of information technology, high-end equipment manufacturing, auto, aerospace, energy conservation and environmental protection, new materials, health, urban consumption, productive services to promote the adjustment and upgrading of industrial structure, and cultural creative industries."

up shop in Gu'an. By first inviting large anchor firms at the core of their sub-sectors, which helped them draw in upstream SMEs, they sought to build out complementary "innovation eco-systems," "industry clusters," or "verticals" around them. In addition, CFLD emphasized their suite of ancillary business services—such as expedited tax and administrative support, access to academic, R&D, and venture capital institutions, and specialized equipment—that would be tailored to the particular needs of their invited companies.[41] While corporate solicitation and business services are now commonplace, CFLD's early expertise in this model of industrial and urban development established it as a market leader relative to other developers in China.

The contract between CFLD and the Gu'an county government was designed to be a deep public-private partnership (PPP), which CFLD describes with slogans such as "government-led, enterprise-based, and achieving win-win outcomes," and "1+1 > 2."[42] The Gu'an county government would only be responsible for approving and generally supervising the project, while a regional branch of CFLD dedicated to the Gu'an project would be tasked with every part of the planning, construction, and operational processes above. During the 50-year contract period, CFLD and the government would share fiscal revenue generated by the city—via consultancy fees, as Chinese state bodies are prohibited from transferring public funds directly to private businesses—until the expiration of the contract, upon which the Gu'an government would resume full ownership of the new industry city, and the regional branch of CFLD would (presumably, as this is still 35 years in the future) be closed.

[41] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.
[42] "History," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/history.html

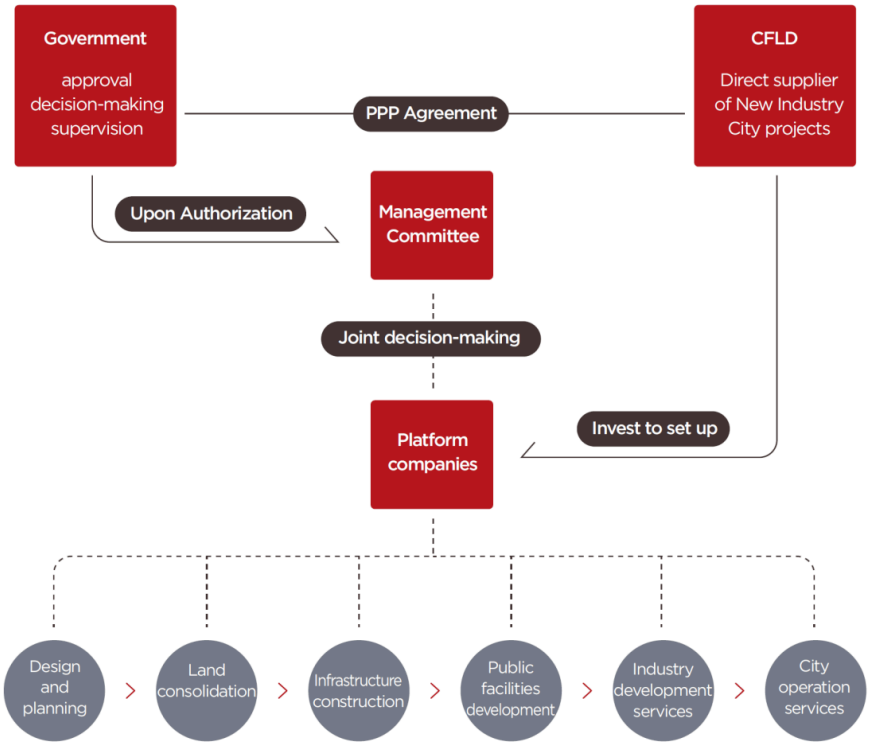

Figure 2: CFLD-Gu'an PPP structure[43]

Under this arrangement, CFLD would initially finance and execute all primary land, infrastructure, and utilities development at cost; the following year, the government would transfer back to CFLD 115% of their expenses from the year before (essentially paying them a 15% service fee, which would be about enough for CFLD to cover interest on their loans and break even for the year—thus providing "free" services to the government, as one manager at CFLD put it). Second, CFLD would provide strategic, industrial, and spatial master-planning services, which the government would reimburse at 110% the following year (a 10% service fee). Last, for every company that CFLD brought in to open offices or facilities in Gu'an's industrial zones, the government would pay CFLD a commission fee of 45% of that company's

[43] "Public-Private Partnership," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/ppp.html

fixed investments in Gu'an. This was the crucial part of CFLD's business model—they would barely break even on the traditional infrastructure, groundwork, and urban development services they would provide in the short-term; but the bulk of their compensation would be tied to their success in bringing in private investment and corporate branch plants over the long-term.[44] This structure incentivized CFLD to work hard to attract industry to Gu'an—if the city's fiscal revenues did not increase, they would earn no profit.

How would the cash-strapped Gu'an county government find the money to pay CFLD? In the beginning—before the arrival of new industrial and residential property owners that the government could tax—cash flow would have to be driven by land-based public financing. Because the Chinese state owns all urban land and does not collect property taxes, the local government's only window for land value capture (and their primary source of fiscal revenue) comes from charging "land lease sales," or the one-time use fees developers pay in exchange for the right to develop the land, build property on top of it, and "own" this property for a fixed period of time.[45] The government would need to sell their only asset, greenfield land, to collect land-use lease fees with which to pay back CFLD. The idea was that this could happen either of two ways, both of which would benefit CFLD: the government could sell land to outside developers at a higher price (due to appreciation in land value from CFLD's upgrading efforts, which would give the government a bigger revenue source with which to pay CFLD), or the government could sell the land directly to CFLD at a very low price (with which CFLD could then directly build and sell housing themselves, and profit off the wider margin).

[44] The corollary to this was that this business model only worked because of the local government's inability to recruit companies themselves, and the utter lack of demand for Gu'an in the market—this would never work with a client like the Shanghai municipal government, which would have no use for CFLD's industrial development services. I return to this topic in Chapter 3: Conceptual Framework and Planning, under the sub-heading *Where*?
[45] For more, see Wilhelm, 2004.

From CFLD's perspective, this arrangement was a bold bid to become a market leader in the real estate market by *not* acting like a traditional real estate developer. As per the contract, CFLD attained almost full control of all master-planning, property, and industrial development decisions to build a full-size city however they saw fit, in a prime location just an hour away from Beijing. As the master-planner, they could choose which parcels to sell off to other developers (at a premium) and which ones to take for themselves, often with the government's greenlight to convert it to higher-margin residential uses.[46] They could then plow their earnings from housing back into developing Gu'an's industrial base.

This gamble in Gu'an succeeded, and gave them a distinctive profit-making strategy: in 2016, across all their projects, CFLD's corporate solicitation branch turned a 96% gross margin and constituted 60% of total firm gross profit (earning approximately $1.6 billion USD), while revenue from building residential units only made up 30% of total firm gross profit. In other words, they made far more money and more efficient money through being an industry development expert and coordinator, than through selling apartment units. Given this revenue structure, CFLD is not accurately described as a property developer, but more closely resembles "a service provider whose primary client is local government."[47]

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[46] Hou Wen, Huang Rong, Yu Ning and Han Wei, "Once-Poor County Builds New Model for Property Development," *Caixing Global,* March 23, 2017. https://www.caixinglobal.com/2017-03-23/once-poor-county-builds-new-model-for-property-development-101069592.html. According to this report, "competing developers said China Fortune enjoys preferential treatment whenever the Gu'an government holds a land auction. An executive at a Beijing-based developer told Caixin that Gu'an officials support China Fortune's industrial park investment by giving the company a better chance than others to buy land for residential projects. In fact, according to several sources at real estate companies who asked not to be identified, land auctions in Hebei involving China Fortune are rarely won by other developers. Other sources close to China Fortune said Gu'an officials have favored the company in many ways. For example, plots originally designated for industrial construction have gotten a green light for residential use."

[47] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.

REVENUE STREAM	REVENUE (USD, millions)	GROSS MARGIN %	GROSS PROFIT (USD, millions)	% of TOTAL FIRM GROSS PROFIT
Corporate Investment Solicitation (Commission Fees)	1,646	96%	1,576	60%
Residential Development (Unit Sales)	4,003	21%	824	30%
Other Land Development (Service Fees)	2,369	11%	261	10%
Total	8,018	33%	2,661	100%

Figure 3: Breakdown of CFLD Revenue Stream Profitability (2016)[48]

Likewise, from the Gu'an government's perspective, this structure of deep PPP also had clear benefits – it served as an experimental, but low-risk venture that netted them outside expertise to do all the hard work of bringing new industrial activity to their region. As Zhang Shufeng, present executive president of CFLD, put it, "To date, the biggest problem in the development of China's metropolitan area, however, is that central cities outshine others. The surrounding counties face many difficulties in development. They are short of funds, talent, industry and essential mechanisms. In addition, they also face a strong siphon effect from central cities."[49] With the partnership of CFLD, the local government did not need to spend money out of pocket or take on more debt in order for this model to work—all the reimbursements and fees paid for themselves through the increase in land value, based on the upfront capital, groundwork upgrades, and services CFLD put in first. This was something that a small municipal government in a weak economic area simply could not do on their own.

[48] CFLD 2016 Annual report, qtd. in "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership." E-House China & Wharton School of Business.
[49] "New industry cities inject new impetus into county economies," *China Daily,* April 10, 2018. http://www.cfldcn.com/en/detail.html?id=17.

Within fifteen years, Gu'an transformed from the poorest county in Hebei province to one of the strongest industrial clusters in the vicinity of Beijing. Even while sharing tax revenue with CFLD (with about 60% going to the county and 40% to the developer in recent years), Gu'an's total fiscal revenue jumped from 90 million RMB [$13 million USD] in 2001 to 9.9 billion RMB [$1.5 billion USD] in 2017—over 90x nominal growth.[50] It went from a population of 380,000 and a per capita income of slightly under $1000 USD in 2002, to a population of over 500,000 and a per capita income of $7000 USD in 2018—a sevenfold growth.[51] And while the original site planned for development was 60 sq. km, the scope of the project has gradually expanded to more than 170 sq. km—170 sq. km of land that cost CFLD 1,100 RMB per sq. meter in 2002 [$160 USD in today's dollars], to land now holding houses that cost an average of 20,000 RMB per sq. meter [$3000 USD].[52]

So far, CFLD has invested about 32 billion RMB [$4.8 billion USD] into Gu'an, constructing 300 kilometers of roads, six water supply plants, four thermal power plants, a sewage disposal plant, two lakes, three parks, 2.3 million sq. meters of linked greenways around the city, as well as several public squares, hospitals, high schools, and commercial districts.[53] Through its industrial development efforts, 23 industrial clusters have formed, with over 520 companies, 30,000 new jobs, and 150 billion RMB [$22 billion USD] brought into the city.[54] The three priority sectors—advanced display manufacturing, aerospace and aviation, and biomedical R&D—each have production capacities worth more than 100 billion RMB per year

[50] "Gu'an New Industry City," CFLD.
[51] "Gu'an New Industry City touted as PPP model by UNECE." *China.org.cn*
[52] "Once-Poor County Builds New Model for Property Development," *Caixing Global*. These statistics are all as reported by CFLD in the press and on their website.
[53] "Gu'an New Industry City," CFLD.
[54] "CFLD: Operator of New Industry Cities," CFLD presentation to UNESCAP.

[$14.6 billion].[55] In addition, there are research centers and business parks for airport-based logistics, thermal hot springs, modern agriculture, and an incubator for commercializing scientific research from Tsinghua University. There are good restaurants surrounding the lakefront plaza, and children and grandparents strolling in the park.

CFLD would be the first to remind its clients *and* its critics that "building a new industry city is a long-term endeavor."[56] After only 15 out of its 50 contracted years, we cannot yet make conclusive claims about the net economic impact, longer-term trajectory, or counterfactuals of the Gu'an project; CFLD still has another 35 years of work ahead. But at least so far, on the surface and in the statistics, Gu'an seems to have had a promising start—the industrial and urban projections the private planner made in its master-plans appear to have come to fruition.[57]

[55] "CFLD calls for comprehensive partnerships in building new industry cities," CFLD, January 31, 2018. http://www.cfldcn.com/en/detail.html?id=19

[56] "Public-Private Partnership," CFLD.

[57] Part of Gu'an's forward momentum is due to several key developments announced by the central government over the last few years, all of which strengthen Gu'an's geographic position as a new urban and industrial node between Beijing and Tianjin. First was the announcement in 2014 that an integrated urban and economic mega-region would be formed between Beijing, Tianjin, and Hebei province—"Jing-Jin-Ji"—in the image of other competitive global mega-regions such as the Greater Tokyo area or the Boston to DC Northeast corridor. In 2015, Beijing's municipal government formally announced plans to relocate much of its headquarters to the new administrative district of Tongzhou (about an hour's drive from Gu'an); similarly in 2017, the Central Committee of the CCP and the State Council launched the Xiong'an New Area in Hebei (also an hour from Gu'an) as a new planned city that would absorb much of Beijing's non-essential, non-capital functions, and serve as the new economic hub and "innovation demonstration zone" of Jing-Jin-Ji. See: Jon Taylor, "Five years on: The Beijing-Tianjin-Hebei urban agglomeration," *Asia Dialogue*, March 15, 2019. https://theasiadialogue.com/2019/03/15/five-years-on-the-beijing-tianjin-hebei-urban-agglomeration/; Frank Ka-Ho Wong, "Xiong'an New Area: President Xi's Dream City," *China Briefing*, March 26, 2019. https://www.china-briefing.com/news/xiongan-new-area-beijing-tianjin-hebei/.

Figure 4: A promotional image of the central man-made lake CFLD built in the center of Gu'an [58]

Figure 5: A promotional image of one of Gu'an's many "new economy" industrial parks [59]

[58] "Gu'an New Industry City," CFLD, accessed May 21, 2019. <http://www.cfldcn.com/en/nic-guan.html>
[59] Ibid.

Figure 6: A still from a drone video taken of the lake from bird's eye view [60]

Figure 7: Children and grandparents out enjoying an autumn day in Gu'an [61]

[60] "Gu'an ST," YouTube video, 2:26, posted by "Felipi Barros," October 2, 2017, https://www.youtube.com/watch?v=HItUf8om3Z4.
[61] Photo taken by author during site visit, November 2018.

Although policy-makers often bring up Gu'an as the most prominent case of a private developer successfully creating a new industry city under a deep PPP model, there have been surprisingly few academic studies on the internal master-planning processes used by CFLD in its creation.[62] Most planning and geography literature on contemporary Chinese new cities tends to focus on the role of entrepreneurial, subnational governments as the central planners of such ventures—for example, the work of Shen & Wu (2017) on suburban residential new town development near Shanghai as a "spatial fix for capital" for both the accumulation of middle class household wealth and local governments using land as a secondary circuit; the developmentalist mentality of the Beijing municipality in creating new towns along the growth pole of the Beijing-Tianjin industrial corridor (Wu 2016a); and the central state's creation of larger "interconnected city-regions" like Jing-Jin-Ji as scaled-up versions of urban clusters (Wu 2016b). The work of Chen & Karwan (2008) and Wu & Zhang (2019) on the Shanghai government's cultivation of (and control over) innovative industries within the Zhangjiang High-Tech Park of their Pudong New District also focuses on the strong municipal state as central planner. Other case studies of state-led projects approach the new city primarily as a medium for capital-switching, rather than industrial development—such as Yin et al. (2018)'s study of Ordos and other unsuccessful inland projects—or through the lens of urban and architectural design, such as Xue et al. (2013) on the formation of Zhengdong New District in Henan province.

Li & Chiu (2018) point out that "one critical yet long neglected actor in China's new urban space development is local government-affiliated urban investment and development corporations (UIDCs)" (688)—such as the Shanghai Creative Industry Investment Co., Ltd., or the Lijang Old Town Management Co., Ltd—which are "amphibious" and "semi-public" entities

[62] While the large majority of my literature review was limited to English-language articles in the news and in academic journals, a scan of Chinese-language scholarship also turned up little scholarship on the Gu'an case.

that are not explicitly part of a government's administration, but still act as "loyal allies" of the government in developing designated urban project areas; they are hybrid entities that are "equipped with state functions yet deeply involved in the market" (ibid., 689). However, private planners like CFLD do not quite fall into this category either, as they are incorporated organizations independent of any one local state body (whereas UIDCs tend to be special purpose vehicles formed by governments for specific urban development projects). Only one existing study of Gu'an New Industry City by Cheng et al. (2018) recognizes the unique role that CFLD plays as a distinctly *private* entity that comprehensively manages all public planning functions on behalf of the Gu'an county government. As Cheng et al. see it, "professional investors [CFLD planners] were introduced to do the right things, which reduced friction costs and improved the quality and efficiency of infrastructure construction and public services" (2018: 6). However, what exactly were the "right things?" Did CFLD in fact make optimal choices, and how would one assess this? Existing studies, including this brief study by Cheng et al., have yet to delve into the detailed urban and industrial master-planning decisions that CFLD grappled with from an internal viewpoint, in order to better ground these questions.

Critical Debates in Current Literature

The model of city-making and industrial master-planning practiced by CFLD in the Gu'an case raises big questions that cut across fields—planning practice and theory, global urban studies, geography, political economy, regional economic development, industrial policy, regional innovation studies—and embodies critical debates in the emerging literature on new planned cities. On the one hand, it appears to have accomplished an economic miracle overnight (at least on the timescale of urban mega-projects and regional economic development ventures),

and indeed provided a poor and under-invested region with the beginnings of the new city and new economic engine that it had been promised (although, again, it is only fifteen years into the project, and its longer-term trajectory and broad economic impact are as of yet unknown).

On the other hand, it appears to exhibit four aspects—roughly captured by the terms "top-down planning," "privatization," "commodification," and "homogenization"—that have been deeply criticized by scholars in broader discourses on contemporary urbanization patterns. As Douglass & Huang stated in their study of privately-planned new cities in Southeast Asia, "Variations among the edge-city mega-projects undoubtedly exist… Yet, every exception seems to succumb to overriding impulses to be private, commodified, exclusive, homogeneous, secure and global in new urban culture. As such, their capacity to serve larger social needs… will continue to be exceptionally limited" (2007: 33). So far, these critiques of new planned cities have primarily come from scholars taking critical urban studies, geography, and design oriented perspectives, and implicitly or explicitly taking normative stances on whether these massive experimental developments might be desirable in any way—or as Watson (2014) titled her article on new cities, "[African] Urban fantasies: dreams or nightmares?" What the current literature tends to miss, however, is that in order for these normative questions to be fully understood and better answered, all four of these aspects can and should also be considered in terms of their economic logic, in addition to their urban, social, and aesthetic form. In the following section, I briefly synthesize the four key issues as they have been discussed in the context of new planned cities at large, and then introduce new questions and twists raised by the particularities of the Gu'an model along these four axes. I argue that the economic development perspective to these questions has not received enough attention in the broad fields of global urban studies—despite how vital it is for scholars and policy-makers facing normative issues—

and that without consideration of these questions from this perspective, the current literature and conventional approaches are unequipped to fully address its most pressing concerns.

Top-Down Planning

First, at a high level, there is the classic tension between centralized, top-down planning vs. decentralized, bottom-up approaches to urbanization. Historically, certain state-led attempts to master-plan both entire cities and entire economies have caused what James C. Scott described as "fiascos"—complete failure to address the needs of their actual inhabitants and participants—in *Seeing like a State,* his seminal critique of authoritarian high modernism (1998). These and other dictatorial experiences of 20th century urban renewal led to a general backlash against such modes of top-down planning, the delegitimization of "muscular" urban planning as a paradigm, and a turn towards grassroots, participatory, mediation-based practice in North America and Western Europe (Beauregard, 1991; Fainstein, 2000; Watson, 2009; Klemek, 2011; Campanella 2011; Cirolia, 2014), primarily on the grounds of political, social, and design grievances.

On the other hand, works such as Gavin Shatkin's study of the "Singapore model" (2014) show that the Singaporean state's widely heralded achievements in technocratic, top-down urban and economic planning—quality public housing for every citizen, comprehensive public transit, and "strategic state intervention aimed at fostering growth in key economic sectors keeping Singaporean companies one step ahead of international competitors" (118)—all took place within "a context of state dominance of land, property, and the economy that has few parallels elsewhere in the world" (ibid., 116)—or what Shatkin calls "the dream of absolute planning control" (118). In parallel, in the domain of development economics, the long-standing debate over the value of the "managed hand" vs. laissez-faire between heterodox developmentalists and

free-market liberals has established the historical benefits of top-down intervention in developing industrial capacity, particularly in the growth of the "East Asian tiger economies" (Chang, 2003; Rodrik, 2009; Kohli, 2012; Wade, 2018; Mazzucato, 2018). In addition, recent debates on planning reform, such as at the Royal Town Planning Institute in the UK (Adams & Watkins, 2014; Adams et al., 2016), have revived the idea of the economic value of stronger planning, which they assert "has a clear role in supporting growth" by shaping markets via shaping places, stimulating development activity in weak or fragile markets, and targeting "areas that are poorly planned and where 'negative externalities' (such as congestion, overcrowding, or pollution) threaten long-term investment value" (2014: 1-3).

The Gu'an project has clearly been made in the image of these comprehensively controlled and carefully directed examples of development under top-down planning. However, while there is some evidence supporting the viability of these interventions in history and theory, the practical aspect of how to actually master-plan in this way, and then implement what is planned, is a separate and highly complex problem. After all, expertise in planning the built environment does not equal expertise in planning the economy; but once these are bundled as part of a comprehensive decision-making process led by the same planners—usually a team of local government officials and developers who cut their teeth on traditional real estate and construction projects—there opens up a large space for failure from poor or politically-motivated decision-making. Ongoing debates on the "how tos" of implementing good top-down interventions—whether industrial policies should follow comparative advantage, or leap vertically or laterally in industrial space (Lin & Chang, 2009), whether regions should specialize or diversify (Kemeny & Storper, 2014), or how to identify a region's best bets for "smart specialization" in the first place (Balland et al., 2018)—highlight the challenges faced by policy-

makers when trying to operationalize these ideas in practice. What novel risks arise when, as economist Albert Saiz puts it, "real estate developers need to become macroeconomists?"[63]

Privatization

Second, new planned cities like Gu'an present an extreme case of the blurring line between public and private sector activities in urban development, and the rise of deep public-private partnerships (PPPs) that "privatize" the bulk of city-making decisions. As one senior manager at Fosun Group, a major Chinese real estate developer, summed it up, "We are a private company and we act like we are the government. It is unique to the Chinese model to have the developer do government functions of economic development."[64] While there has been substantial research on the role of PPPs in implementing large-scale urban regeneration and infrastructure projects (such as Altshuler & Luberoff, 2003; Sagalyn, 2007; Diaz Orueta & Fainstein, 2008), as well as in urban service provision (OECD, 2008; Bel et al., 2014), these treatments of PPPs typically focus on their traditional functions of sharing financial risk, filling funding gaps, and improving service efficiency, rather than leveraging private expertise in urban and industrial planning.

PPPs such as those behind projects like Gu'an are better described as the "privatization of planning," which Shatkin defines as "the transfer of power over and responsibility for the visioning of urban futures and the exercise of social action for urban change from public to private sector actors," and the "domination of private developers in all planning processes" (2008: 388). However, this analysis takes place in existing cities such as Metro Manila and

[63] Albert Saiz, International Housing Economics & Finance (lecture, MIT Department of Urban Studies and Planning, February 20, 2018).
[64] Interview with author in Shanghai, January 2019.

Kolkata, where developers merely fill the void left by "the retreat of government," in cases where the municipal state's ability to provide much-needed urban services is compromised (ibid.). Herbert & Murray note that the literature on PPPs has "largely overlooked the incipient global trend toward master-planned, holistically designed private cities in which the participation of municipal authorities as active partners, or even detached facilitators, has been reduced to a minimum" (2015: 473).

In the relatively few existing studies of private developers building entire new cities from greenfield—Douglass & Huang, 2007; Shatkin, 2011; Dieleman, 2011; Percival & Waley, 2012; Cirolia, 2014; Watson, 2014; Murray, 2015; Moser, 2017; Jung & Lee, 2017; and van Noorloos & Kloosterboer, 2018—scholars tend to view them as exploitative situations where "the accumulated power of real estate capital has simply dwarfed the regulatory impulses of municipal planning authorities" (Herbert & Murray 2015: 472). They interpret "privatization" as a dynamic where a weak state fails to prohibit developers from building "privatopias" (McKenzie, 1996), "enclaves" (Sidaway, 2007; Murray, 2017), and "gated communities" (Hogan & Houston, 2002). In other words, they assume that the involvement of private (as in private enterprise, non-state) developers will inevitably lead to the proliferation of private (as in exclusive, elite) urban spaces. If the developer happens to provide anything of value to the public along the way, it is only because they have "learnt that by providing funding and technical expertise in the installation of bulk public infrastructure (such as road upgrading, storm drainage and other physical improvements) they greatly enhance their chances of winning approval for large-scale development projects" (Herbert & Murray 2015: 490).[65]

[65] The negative valence of which has been challenged by Seekings & Keil, 2009, and Hogan et al., 2012, who point out the possibility that "private urban space" holds different meanings in different contexts, and a call to look beyond dystopic normative assessments of "privatization."

However, the CFLD-Gu'an model does not fit squarely into these notions of "privatization." It represents a case where a weak and poor local government purposefully hired a private real estate developer for its services in strengthening the local economy, by building a new industrial base housed in a new city. And while CFLD does dominate the gamut of urban planning processes this project required—from zoning to landscaping to building roads (aligning with Shatkin's definition of the "privatization of planning" in this sense)—CFLD also led the process of strategizing Gu'an's long-term industrial trajectory, choosing its priority sectors, setting its internal business policies, and negotiating with companies to relocate to the new city. In other words, it also "privatized" economic development activities which traditionally fall under the public domain.

This form of privatization is prone to a different set of potential problems than current studies in the literature have addressed so far: CFLD's discretionary power over the public investment decisions in Gu'an county allows them to act as influential intermediaries between external private firms and the local government, and essentially serve two masters at once. For example, CFLD (and other similar Chinese developers acting as private planners) also double as venture capitalists and incubators, often directly investing in the same outside companies and startups they seek to recruit into their new city projects. Developers also work as site selectors on behalf of external companies, helping them negotiate the best "landing pad" deals from local governments, but also rerouting them to other new city projects within their own portfolio if the first does not fit the companies' needs. What potential conflicts of interest arise when corporate relocation decisions are funneled through this intermediary broker? How does this influence the economic geography of firms and new industry cities?

Commodification

Third, scholars have expressed concern that new planned cities are symptomatic of global trends toward the "commodification" of land and urban space under increasingly neoliberal property rights and fiscal regimes. "Commodification" is a complex political economic concept that is used by many people in many ways, and is often vaguely defined; for example, Douglass & Huang have argued that the private planning of new cities "allows for nearly total commodification and marketing of space inside of the edge-city mega-projects… space in these mega-projects is a commodity to be packaged, branded with commercial identities, and sold to investors and users" (2007: 10), and Shatkin has called attention to "the transformation of the urban experience through the wholesale commodification of the urban fabric" (2011: 77). However, the quality that almost all urban space (even public facilities such as tolled roads or roads) can be bought and sold for private investment and usage describes nearly all existing cities in market economies today, not just privately-planned new cities. The more novel update seems to be that projects like Gu'an now represent the reality that the *service* of creating an entire new city from scratch—customized to a region's place-based conditions and its government's desires—is available as a commodity that can be bought, sold, and delivered for money on the real estate market, through hiring private planners such as CFLD to build, operate, and then hand over the keys after it is up and running.

More broadly, the use of the term "commodification" to mean the sale or leasing of government-controlled or nationalized greenfield land "because of the relatively quick financial (typically one-time) boon it promises to fiscally strapped cities" (Carolini, 2017: 127) has been observed in many low-income countries of the global South, in contexts where the state can leverage control over vast swaths of undeveloped, unoccupied land—or, as Carolini points out,

"land occupied by 'non-productive uses' (read: housing the poor or working classes)" that the state can easily displace and replace with more desirable, "productive uses" (ibid., 127).[66] Shepard argues that for local governments, allowing new cities to be built from scratch is "often extremely profitable—at least at the onset" because "inherent to the creation of a new city is the creation of urban development land that can be sold to developers" (2017). If maximizing fiscal revenue is the goal, the state is logically incentivized to acquire this land at the lowest possible cost—by expropriating it from its original occupants or paying them minimal compensation, releasing greenbelt or parklands for development, or literally reclaiming land from the sea—and sell it at the highest price to achieve the widest margin. Indeed, this seems to be happening at large-scale and at great cost to rural occupants of desirable land in many places, including rural China (Landesa, 2011; Ong, 2014; Chuang, 2014).[67]

The institutional forces compelling governments to exchange land for fiscal revenue seem particularly intense in the Chinese political economic context, which is unique in that all ownership of land is public (with "urban" land owned by the state and "rural" land owned by village collectives), but private usage of urban land (the exclusive right to develop, build, and own property on top of the land for periods of 40 to 70 years) can be bought from the government in the form of land lease fees—in the absence of a regularly collected property-based tax system, these one-time, lump sum fees are the Chinese local government's only way of capturing increases in land value. After a major tax reform in 1994 radically changed local-

[66] As Carolini points out, this also occurs in high-income countries in the global North under "renewal" or "gentrification" schemes; however, these are usually political contexts where governments have less power to develop large unified areas of non-urban public land, such as national parks, and where the remaining land is already privately owned or fragmented among multiple private owners, which makes it much more difficult for public or private actors to undertake large-scale urban mega-projects, such as new cities.

[67] Often the means by which the government acquires "vacant" land is through some form of coerced or compensated displacement. In certain contexts, this robs the original occupants of almost all their land value, while in other contexts occupants are compensated so handsomely that many report hoping to be chosen for development, as it would be akin to "winning the lottery."

central fiscal relations in Beijing's favour—mandating local governments to share much more of their tax revenue with the central government while simultaneously increasing their fiscal spending burdens—local governments were forced to find alternative sources of revenue to fill the gaps in their budget, which led them to rely on land-based public financing methods such as lease fees and leveraging land as collateral for loans.

Scholars have extensively studied the impact of these institutional changes on rural-to-urban conversion in China (Tan et al., 2011; Ho & Lin, 2004; Hsing, 2006), estimating that municipalities make an average of 40 times more revenue per unit of land than they pay rural farmers' collectives to clear it for redevelopment, and that these land-leasing fees make up nearly half of municipal revenue throughout the country, climbing over 70% in some localities (Landesa, 2011; Tang et al., 2011; Yeh & Wu 1996). As Lin argues, much of the physical growth of Chinese cities in the past few decades has been "based more on the commodification and development of land as a source of municipal finance than on the introduction of any new technology, the labour market, or a creative industry" (2014: 1815). And because directly upgrading urban areas within existing cities is now more expensive than acquiring developable greenfield land outside them (Lin, 2007)—and in turn, getting this land for cheap gives governments the wiggle room to offer it to investors, firms, and developers at below market-rate prices in a bid to attract them to otherwise unappealing sites—local governments have turned to making new cities far away from existing cities as a revenue-raising strategy, even in inland regions of Western China, where weak economic activity does not justify the building of these new cities—often in the middle of nowhere—on market fundamentals (Yin et al., 2018).

However, if the "new city as instant revenue" thesis were the only motivation driving all local governments in China that build new cities, the kinds of new cities they would create would

presumably all be high-end residential bedroom towns; because the local government would want to receive the greatest one-time lump-sum land use lease fee, they would sell their land to the highest bidder, which would compel that developer to use the land for their highest-margin product, which is typically luxury housing that they can sell immediately upon construction.[68] Why, then, are developers like CFLD in Gu'an using developable land within the new city area on non-revenue generating or riskier investments (such as several startup incubators, co-working spaces, an R&D lab for scientists Tsinghua University to try to commercialize their research, and industrial land in general)? Why do Chinese developers complain that local governments now refuse to sell them land for housing unless they promise to develop industry alongside it, even as this makes it less immediately profitable for both parties?[69]

What the Gu'an case study suggests is that critical studies of "new cities as commodification" should also evaluate what the land is used for *after* it has been "sold" to developers for municipal fiscal revenue. If the arguments above explain the supply side of how much land is available to real estate developers for urban development, there should also be explanations of the nature of demand for its usage after this initial transaction has occurred. Local government officials must balance their political imperative to invest in local generators of growth—such as new industrial cities like Gu'an that are aimed for longer-term economic

[68] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018. This makes sense in the context of China's homeownership and household saving patterns; due to strict national capital controls that prevent Chinese household wealth from leaving the country, as well as under-developed and under-utilized asset markets, buying housing is the primary way in which most Chinese invest their savings. As Looney & Rithmire explain it: "Most Chinese households that can afford it invest in real estate, everything from their own, modest urban apartments to second and third investment properties. This same pattern holds in the countryside, where the lack of alternatives compels villagers to invest in housing despite the absence of formal housing markets (legally, village homes are private but not marketable properties). Real estate investment has steadily risen as a percent of GDP since the 1990s" (2016: 4). Many scholars have pointed to the mechanism of commodification for fiscal fundraising on the government side, and correspondingly, for housing as investment on the household buyers' side to explain why hundreds of empty "ghost towns" have been constructed in the inland regions of China, full of housing units that have been sold but not inhabited.

[69] Interviews by author with large Chinese real estate developers in Beijing and Shanghai, November 2018 and January 2019.

development—against the countervailing need to meet their immediate budgetary needs by selling off land for whatever use brings in the most cash. What mechanisms (or lack thereof) will govern what economic activities will take place on the land in the 40 to 70 years of the lease period following the sale, and what kind of economic value (or lack thereof) are these activities likely to create?

Homogenization

Lastly, scholars have noted that many new planned cities—particularly in Asia and most especially in China—engage in practices of modeling, emulating, and "inter-referencing" other cities that are perceived as globally successful or "world class" (Ong, 2011), which has led to the spread of highly homogenous new city projects across many regional contexts. As Ong notes, this practice was made explicit from the early days of China's reform and opening up period, such as when Deng Xiaopoing visited Shenzhen in 1992 and "called for the creation of 'a few Hong Kongs' (*ji ge Xianggang)* along the coast" (2011: 17), which triggered a chain of inter-referential urban learning whereby "Shenzhen is Hong Kongized, Guangzhou is Shenzhenized, and the whole country is Guangdongized" (Cartier 2011, qtd. in ibid., 17).

Shatkin argues that contemporary new cities planned by private developers are "perhaps the purest form of inter-referenced urbanism, as they represent the deliberate whole-cloth adoption of new models of urban design, planning, and governance based on an interpretation of how a global urbanism should look and function" (2011: 79). This might involve copy-pasting, superficially modifying, or substantially adapting anything from architectural aesthetic, to overall urban design, to broader institutions, business models, and master-plans imported from other places. The wellspring of these "best practices" can be as specific as one "model city"—very

commonly Singapore. For example, Singapore is reported to be the "primary source of inspiration" for King Abdullah Economic City in Saudi Arabia (Moser et al., 2015b: 75); the Indonesian new city of Citra Raya is explicitly marketed as a "mini-Singapore," where "public space is adorned with Singapore icons such as statues of the Merlion and Stamford Raffles" (Percival & Waley, 2012: 2878); and the Indian government is reportedly also collaborating with Singapore to build a "Little Singapore" along the Delhi-Mumbai Industrial Corridor.[70] But even beyond Singapore-envy, Douglass & Huang also characterize new cities in Southeast Asia as creating "hyperspaces of hyper-realities that have no reference to locality… to be modern and sophisticated means to be global. All the projects underscore their great pride in their motifs, landscaping, and architectural styles they claim to have imported from other parts of the world" (2007: 13)—for example, the Vietnamese new city called Star World has a rule of "not reiterating any existing urban area in Hanoi;" Na Be New Town, a Vietnamese project by South Korean developers, is branded as a "future-oriented Korean style town;" and Kota Wisata, an Indonesian project run by a consortium of Japanese, Korean, Thai, and Indonesian developers, boasts "five continents" where different districts follow the "themes" of Kyoto, Marseilles, Orlando, Montreal, and Beverly Hills—complete with statues of cowboys, Native Americans, and the Statue of Liberty as public decor (ibid., 14). Similar patterns are what lead Herbert & Murray to go so far as to describe new city projects in South Africa as "experiments in *faux* urbanity" (2015: 475).[71]

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[70] Rajeev Sharma, "Why India may see several 'little Singapore' smart cities in 5 years," *Firstpost*, August 18, 2014. https://www.firstpost.com/business/economy/why-india-may-see-several-little-singapore-smart-cities-in-5-years-1984373.html. In fact, Surbana Jurong—a state-owned consulting branch of Singapore's national Urban Redevelopment Authority—directly exports its expertise in master-planning new cities in various countries across China, Southeast Asia, and Africa, including Andhra Pradesh's new capital city in India.

[71] Though the most extreme examples of straightforward replication are likely to be the "copycat towns" built by developers in China, which create literal copies of famous towns or districts elsewhere in the world, including Paris, Jackson Hole, Hallstatt, Florence, Dorchester, Venice, and several European castle towns.. for both residential and tourism purposes. See: Laurie Chen, "China loves its copycat towns: from a replica of Shakespeare's home to the

Scholars have primarily criticized these inter-referential and emulative practices on aesthetic, sociological, and cultural grounds, arguing that they perpetuate certain homogenous visions and performances of urbanity, modernity, and success, while rejecting local, indigenous, or alternative visions, intelligences, and practices. At a deeper epistemological level, drawing from post-colonial theory, this homogeneity implies a convergence of what people around the world believe the "good city," a "world-class city" or even the "urban experience" means. Master-planning hundreds of new cities by copying the same handful of existing templates moves towards the erasure of vast and diverse possible varieties of urbanism, and the rapid replication of the select few (de Souza Santos, 2015).

To these perspectives, one additional perspective I would raise is that the pattern of homogenization through replication also poses great potential risk from a macroeconomic perspective, in addition to the aesthetic, cultural, and epistemological perspectives taken in the existing literature. As Ong notes, there is a strong "link between economic speculation and urban aspiration. Speculative discourses draw together the building of impressive urban structures and the imagination of a city's global future" (2011: 18). It is critical to remember that for certain new cities, such as Gu'an, their raison d'être is not solely to be an urban environment that people want to live in, but to be an economic engine that competes with other such engines in the global economy. As such, they are master-planned not only in terms of their physical form, but also in terms of their industrial composition—which involves private planners and government officials selecting the top three industries that they personally believe are their best bets for growth. Despite the fact that countless studies have emphasized the notorious difficulty

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boulevards of Paris," *South China Morning Post*, October 7, 2018. https://www.scmp.com/news/china/society/article/2167327/china-loves-its-copycat-towns-replica-shakespeares-home

of replicating successful industrial clusters and innovation hubs like Silicon Valley using deductive, "one-size-fits-all"-minded recipes (Phillips & Yeung, 2003; Miao & Hall, 2014; Pfotenhauer & Jasanoff, 2017), predictably, local governments all tend to want the same handful of highly desirable "knowledge economy" sectors—finance, IT, the life sciences, advanced manufacturing, biomedical R&D—regardless of whether they make sense in the context of their region's factor endowment or what their realistic comparative advantage might be.[72] As Bhattacharya & Sanyal observe, "new towns are developed in the image of what Sassen (2001) calls 'global cities'—that is, command centres of a globally dispersed world economy… aligned with the global economy rather than the national economy" (2011: 42)—or even the local economy. Because local governments see new cities as the opportunity to "path-break," to forge a new industrial trajectory for their region, they often neglect to think about the possibility that all new cities may be doing exactly the same thing they are.

What happens when new city planners and leaders create not only aesthetic replicas of other cities, but also economic and industrial replicas? What would happen if all new planned cities concentrated in the same "sexy" sectors because they were all, in uncoordinated fashion, copying the same handful of desirable economies? As Wu (2016b) and others have found, these dynamics of homogenous prioritization and industrial over-concentration are already playing out between existing municipalities throughout China: "Local governments in the region pursued similar industries they deemed profitable. As a result, the industrial structures of the cities became rather similar. For example, most cities in the YRD [Yangtze River Delta] aimed to develop export-oriented industries, based on the successful development of Suzhou and Wuxi. Eight out of 16 cities in the YRD selected petro-chemical industries, 11 selected automobile

[72] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018.

parts manufacturing, and 12 selected IT and communication equipment. Almost all cities along the Yangtze River, coastal Jiangsu and Hangzhou Bay proposed to develop similar export-oriented industries and thus competed for raw materials in the same market." (2016b: 1141). Wu notes that in the absence of regional coordination and diversification, competing cities race to the bottom in the same markets, which leads to environmental degradation, excessive rural-to-urban conversion, and the fragmentation of regional governance (ibid).

New cities are at risk of following in this pattern, and over-competing with each over finite resources in sectors that it never made sense for them to have in the first place. Due to their economic homogeneity and lack of industrial diversification, cities planned on the basis of a few select "new economy" sectors may later face the same post-industrialization and "shrinking city" problems we see in older cities today. If 11 out of 16 cities in the Yangtze River Delta have already chosen to specialize in auto parts manufacturing, and some high proportion of "new industry" cities are planned to specialize in autonomous vehicle manufacturing, how many of them will be like Leipzeig, Germany, and how many of them will be like Detroit, Michigan, fifty years from now? As Herzberg (2017) put it, "If you get the economic theme right—and I think the one who got it best was Alexander the Great, because some of his cities still stand today and are now very successful—then a new city will last for millennia. But if you don't get it right, they will disappear."[73]

[73] Qtd. in Shepard, 2017.

History and Theory: From Control to Coordination

In the previous section, I described the case study of Gu'an New Industry City, and the new questions it raises as well as the new light it sheds on key debates in critical urban studies. In this section, I compare the Gu'an-CFLD model to those of historical planned cities to show conceptual differences from the past in terms of its purpose (*why* it was created) and its planner *(who* created it). What explains this evolution? What led private developers in China to build "new industry cities" in this way today? I argue that contemporary new planned cities built for economic development rely on planning processes of private *coordination*, in contrast to planned city models in history that relied on processes of state *control*. I then walk through a theoretical framework of why, in the context of this evolution, the rise of private planners such as CFLD might provide value from an economic development perspective.

In History: The Key Role of Control

While many aspects of contemporary new city creation may be unprecedented, the activity itself is ancient. Humans have planned and built new cities throughout history to serve a variety of purposes and through a variety of forms—ranging from Alexander the Great's Alexandria (332 BCE) and British imperialist cities like New Delhi (1911) as bases for exerting military and colonial power; to cities like Kyoto (8th century CE), Washington DC (1791), and Canberra (1913) as new imperial and political capitals; high modernist cities like Brasilia and Chandigarh in the mid-20th century as symbols of national and post-independence identity; to the Garden City Movement (1800s) and British and Singaporean New Town Movements (1940s-70s) for rehousing populations in the wake of industrialization and post-war reconstruction. Of course, none of these complex developments can be attributed to a single factor or cause, nor are

they mutually-exclusive. New planned cities, like all cities, are multi-causal and multi-factoral, and over time, all cities that were once "new and planned" evolved to serve a variety of people and purposes that cannot be separated from the original intentions of their planners.[74] That said, prominent narratives from planning history (drawn primarily from Western/Northern literatures) suggest that the starting impetus for creating cities in the past have fallen roughly into the following categories of "primary intended function:"

Primary Intended Function	*Examples in the Past*
Political Capital Relocation	- Baghdad, Abbasid Caliphate in 762 - Kyoto, Japan in 794 - Washington DC, USA in 1800 (Kohler & Scott, 2006) - Canberra, Australia in 1927 (Gordon, 2002) - Abuja, Nigeria in 1991 (Abubakar, 2014)
Geopolitical Control	- Alexandria, Egypt in 332 BCE - Palmanova, Italy in 1593 (De la Croix, 1960) - New Delhi and British colonial cities in India (Home 2013); Imperialist cities in Africa (Njoh, 2009; Home, 2015), and the Middle East (Elsheshtawy, 2004)
Social/Design Experiment	- Le Corbusier's Ville Radieuse, Frank Lloyd Wright's Broadacre City, and other (unbuilt) high-modernist utopias of mid-20th c. (Fishman, 1977; Pinder, 2005) - Royal Saltworks of Arc-et-Senans, France by Claude-Nicolas Ledoux in 1779 (Vidler, 2006) - 19th century American company towns (Crawford, 1995).
Political Symbolism	- Chandigarh, India in 1960 (Prakash, 2002) - Brasilia, Brazil in 1960 (Vale, 2008) - Chicago, 19th c. City Beautiful movement (Hall, 2014)
Population Rehousing	- 19th c. Garden City in the UK and abroad (Miller, 2002) - Mid-late 20th c. New Town movements in the UK, Singapore, and Hong Kong (Wang & Yeh, 1987).

Figure 8

[74] Thanks to Brent Ryan for his characterization that new cities are not a new idea, and that they are multi-causal and multi-factoral.

At a high level, I would argue that the common denominator behind these five primary functions is that they were primarily political and social functions, which could be fulfilled—and these cities created—through state *control* of capital resources (or in contexts of military conquest or imperialism, state-like control). This includes the assembly of large parcels of assembled and upgraded land, the installation of connective infrastructure (roads, ports, airports), the marshalling of funding and labour for construction (either paid or unpaid, voluntary or coerced), the endowment of political centrality (designating it as the national or regional capital), the relocation of state-controlled jobs to provide economic anchoring (government agencies, political and diplomatic offices, military forces), and the legal or legislative creation of "demand" for the new planned city—for example, passing laws requiring residents to switch to housing stock that meets certain standards in newly built residential "new towns," or requiring public administrative services like tax collection or judicial proceedings to take place in the newly built capital. In other words, these types of new cities did not truly face the question of *If you build it, will they come*? because the state did not need to rely primarily on the market to fill the new cities once they had built them. For the most part, they could move government jobs, the military, or their citizens to take up economic activities there through non-market force.[75]

Of course, there was also a category of "economic" planned cities in history that were primarily created for the purpose of industrial production.[76] Scores of new industrial towns were

[75] This is a simplification for conceptual clarity – all urban agglomerations, no matter how they were initially activated by the state, create and require spontaneous, bottom-up activity in order to thrive. And on the other side, many new "market-driven" cities created as economic engines today also rely (to varying extents) on state power to move SOEs, government functions, and public jobs as first movers or anchor jobs for the region. In addition, new political capitals and administrative headquarter cities continue to be created today just as in the past (for example, see Tongzhou, China; Abuja, Nigeria; or Sejong City, South Korea).

[76] Of course, these kinds of "intentional" narratives are also marked by the absence of cities that may originally have been designed, built, and populated for a certain purpose, but then "failed" to achieve that purpose or was outcompeted by another region, and then "disappeared" from the record or became a little-known place. For example, as Cronon (1991) notes in his study of the boosterism and speculation that brought Chicago into existence as "the great metropolis of the Midwest," there were dozens of similarly advertised "cities out of swampy air at

built under the command economies of Soviet Russia and Maoist China as part of their rapid industrialization plans—for example, Magnitogorsk, the first planned city under Stalin's rule, which was built around the Magnitogorsk Metallurgical Complex in the 1930s and became one of the world's largest steel plants in the 20th century, known as the "steel heart of the motherland" (Kotkin, 1997); or the model socialist city of Daqing, built around the Daqing oil fields in northeastern China, which became the most profitable state-owned enterprise and single largest source of state revenue for the People's Republic from the 1950s to the 1980s (Hou, 2018). Even in China's post-reform period, the government planned, financed, and built over 1500 national and provincial-level industrial manufacturing parks—special economic zones with financial incentives reserved for factories to cluster at the edges of existing metropolitan areas—since the 1990s; this has constituted one of the state's key strategies for building up China's manufacturing base over the past few decades, with parks contributing about 10% of China's GDP and a third of the national FDI, and producing spillover consumption needs that have created hundreds of "edge cities" surrounding their industrial cores (Zheng et al., 2017).

However, just as with the other five types of primary function, even these "economic" planned cities were created primarily through state control over capital inputs—land, subsidies, and labour mobility—rather than through market forces. The decisions of where to locate them, what activities would take place inside them, and when to build them were all made by the central government, which also had the power to directly fulfill these designated purposes by either relocating labour and jobs (for example, both Magnitogorsk and Daqing were constructed, inhabited, and operated by industrial workers who had been forcibly resettled there) or in the case of industrial parks, by using heavy state subsidies to create an artificially competitive region

dozens of other sites on the shores of the Great Lakes. Some of those places—Buffalo, Cleveland, Toledo—went on to become major cities; most did not" (34).

(by giving manufacturers free or very cheap land to establish their factories and easy access to distribution infrastructure, making them relatively location-agnostic). For these reasons, I would group this "economic" function with the other historical functions of planned cities, in terms of relying primarily on state *control* for their creation and sustenance. These primary intended functions of new cities in history—as intended, planned, built, and controlled by a central state—might be summarized in the following conceptual function:

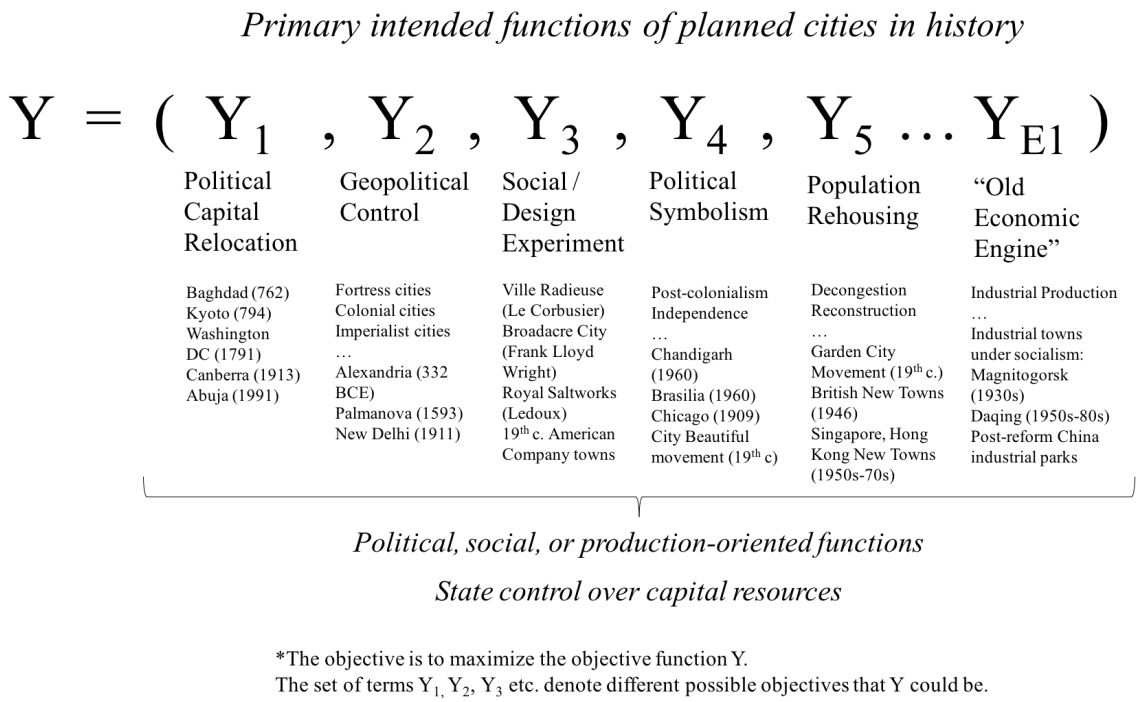

Figure 9

As the examples above show, the 20th century was an era full of new planned cities of this type—those intended to fulfill political, social, or production-related functions, and created through state control of capital resources. However, since the closing decades of the late 20th century, there have been important shifts in the nature of the global economy that have greatly

changed what the "purpose" of a city is perceived to be. Scholars have described this transformation a thousand different ways: a shift from the Fordist system of the Industrial Age, which had been driven by labour and resource-intensive mass manufacturing of material outputs, to the "post-Fordist," "post-industrial" (Sassen, 2001), "post-modern" (Hardt, 1999), "information economy" (Castells, 1989), or "knowledge economy" (Drucker, 1969) of the Information Age, which is driven by innovation, globalization, digital and information technologies, and human and intellectual capital. In conjunction with these shifts, theorization on the economic role of the city also transformed, with the rise of ideas such as "knowledge-based urban development" (Knight, 1995), which harnesses knowledge resources as the basis for sustainable local development; "technopoles" (Castells & Hall, 1994) that focus on "technologically innovative, industrial-related production [such as] technology parks, science cities, technopolises, and the like" (8); "global cities" (Sassen, 2001) that emerge as powerful primary nodes in the global economic network; as well as seminal theories of "urban entrepreneurialism" (Harvey, 1989), "clustering" (Porter, 1990), the "new economic geography" (Krugman, 1991), the "triple helix" model of innovation (Etzkowitz & Leydesdorff, 1995), and "the rise of the creative class" (Florida, 2002), which sought to explain the patterns behind successful new industrial urban agglomerations, such as IT and venture capital in Silicon Valley and Tel Aviv, pharmaceuticals in Cambridge (US), software and biotech in Cambridge (UK), tech outsourcing in Bangalore, hardware in Shenzhen, semi-conductors in Hsinchu, microchips in Suwon, defense in Dulles, machine learning in Toronto, and many others. Cities at large came to be understood as the economic engines and idea generators of the new innovation-based economy—or as urban economist Ed Glaeser titled his book (2011), *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*.

At the same time in China, there was also the monumental transition from a centrally planned socialist economy under the Maoist era (1950s-1970s) to the socialist market hybrid economy under Deng Xiaoping's "reform and opening up" period (1978 through the 1990s, evolving into its much more privatized present form), which led to the decline of centrally-planned development and state-owned entrepreneurship, and enormous economic growth through the expansion of the private sector and markets (Naughton, 1995; Oi, 1995; Li & Tang, 2000; Lin 2002). As part of this decentralization, the local government transformed from being an executive agent of the central state into a competitive "entrepreneurial actor similar to the industrial firm," which constantly sought out sources from which to squeeze out place-based growth, which formed the basis for political promotion (Wu 2007: 717). A critical part of this process became upgrading their local employment base from "old economy" sectors to "new economy" sectors, and active city planning as a means to those ends—or as Wu notes, "The issue of competitiveness [became] a major imperative for city planning. The aim of making a strategic plan is not to control development, but rather promote urban development" (ibid., 719).

With the force of these shifting winds, the kinds of new planned cities that governments wanted to create—and the new economic functions they were intended to fulfill—also changed. As Shatkin describes in his historical account: "New town development is not new to Asia – the development of government-sponsored complexes incorporating residential, commercial, and other functions was a central element of planning in Singapore and Hong Kong from the 1960s onward. Industrial new towns and large-scale housing estates were also prevalent in India, China, and South Korea" (2011: 80). What differentiated the new wave of new city projects was that they were intended to be "spaces of global command and control functions, high-technology production, residence and consumption of globalized elites, and the provision of amenities

targeted toward these elites," such as "technopoles, cyberports, aerotropoli, enterprise zones" (ibid., 81). Similarly, Bhattacharya & Sanyal describe recent Indian new cities as "very different from those set up during the planning regime, either as new administrative capitals (Chandigarh, Gandhinagar, Bhubaneswar) or industrial towns (Durgapur, Rourkela, Bhilai)" in that "the new towns are developed in the image of what Sassen (2001) calls 'global cities,'" and that this "new role of global cities must be contrasted with their earlier role as centres of national production" (2011: 42). In China, new city making shifted from "industrial parks where single-function industries dominated in most cases…which resulted in many deficiencies such as the waste of land resources, serious land fragmentation, low land output efficiency, and shortage of supporting functions" (Cheng et al. 2018: 02), into "New-Style Urbanization"—the latest official state development strategy under the recent administration of premier Li Keqiang—which intends for new cities to promote the "rationalization" of industry by prioritizing service sectors as the new engine for growth (Looney & Rithmire, 2016), and encourages private sector actors to take a leading role through public-private partnerships (Cheng et al. 2018).

To summarize, these trends might be re-conceptualized as several important shifts from the "old economic engine" (Y_{E1}) to the "new economic engine" (Y_{E2}): First, there was the shift from the planned city as the site of state-directed industrial production—which was controlled largely through non-market mechanisms—to its role as the host of a "knowledge-economy cluster" competing in the global economy, which would need to attract high-skill sectors, productive firms, and talented workers on a voluntary basis in the free market. As part of this shift, the primary planners of new cities changed hands from national governments that centrally allocated resources for these cities to be built, to decentralized and "entrepreneurial" local

governments that competed against other localities, both for resources from the central state and in the market.

A shift in the economic function of planned cities:

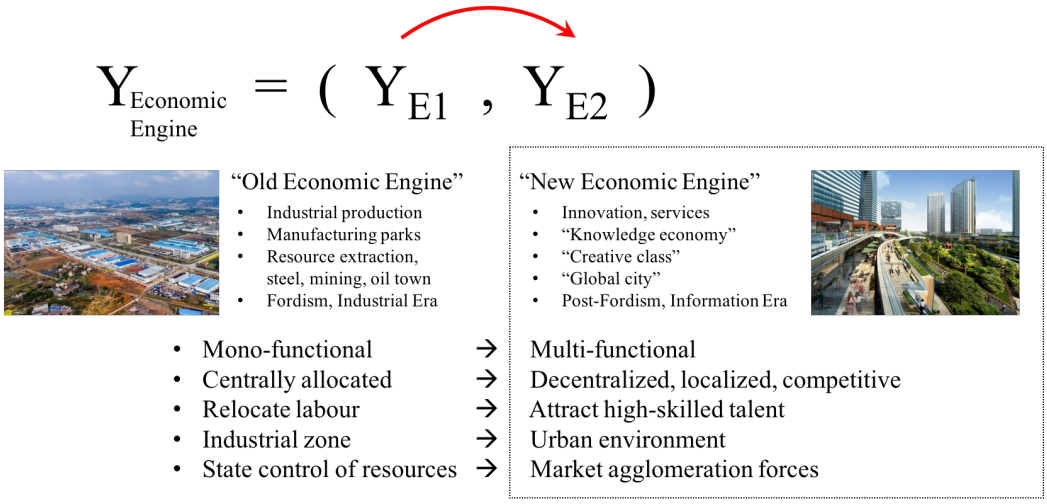

Figure 10

Second, "new economic engine" cities became multi-functional rather than mono-functional: they shifted from being spaces of production, to spaces of production *and* consumption; from primarily industrial (filled with factories but no permanent housing, shopping malls, or schools), to industrial-residential-commercial (the full range of urban amenities). As local governments sought to "upgrade" their economic base through the vehicle of these new cities—moving from the heavy industries of the old economy to the knowledge-based industries of the new economy—this required attracting well-educated white-collar workers, entrepreneurs, creatives, and other "talent" from the rising middle and upper classes. These workers would vote with their feet demanding cities that would allow them to maintain a high quality of life while

being close to their jobs ("live-work-play"), as well as raise their families in clean, consumer-friendly, vibrant urban environments unpolluted by heavy industries.

These shifts required a change in the model of new city-making that governments used. The old model that relied on state control over non-market resources—used throughout history to build cities for political, social, and industrial production-oriented functions—could certainly be used to build out all the physical structures of a new city—wherever, whatever, and whenever the government wanted it to be—but it could not guarantee that people would come to live, work, or play in it once it was built. *Control* could not be used to induce the dynamics of agglomeration, creativity, innovation, and productivity that governments now wanted out of their new economic engines. In light of this transformation in what function new cities were hoped to fulfill—*why* they were being created—a new city-making model, planner, and mode of planning needed to come into play.

A shift in the primary intended function of planned cities:

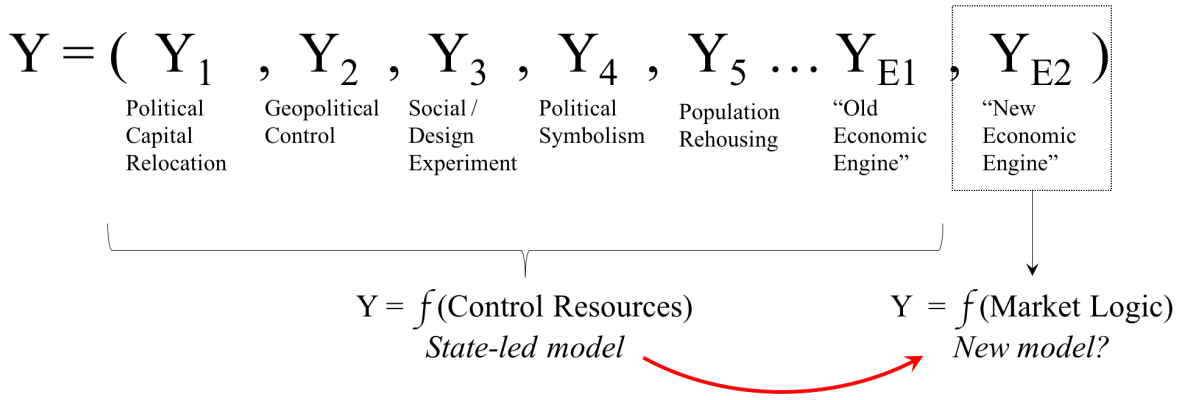

Figure 11

In Theory: The Key Role of Coordination

Looking at this shift from an economic development perspective, one way to understand historical planned cities is through the framework of place-based policies (PBPs). Place-based policies are subsidies or investments which target specific geographic areas, and are allocated in a top-down manner by the state (Neumark & Simpson, 2015; Duranton & Venables, 2018; Glaeser & Gottlieb, 2008). In contrast to "people-based policies" that apply regardless of geography (e.g. welfare checks or tax credits that any citizen within a certain income bracket might qualify for), place-based policies are intended to strengthen a specific region's economy by leveraging its spatial qualities (e.g. federal spending to connect isolated and economically weak regions of the US through the Interstate Highway System). Traditional PBPs include transportation infrastructure, such as highways, high-speed rail and subway networks; preferential business areas, such as special economic zones, enterprise or empowerment zones, or tax-exempt areas; and urban amenities, such as subsidized or renewed housing stock for workers. The theoretical justifications for investing place-based policies in an economically weak region are 1) the direct benefits to people of that region, such as saving them time and transport costs by building them a local high-speed rail station; and 2) the indirect benefit of inducing outside firms, workers, and residents to move to the weaker region by subsidizing their location costs, which is hoped to create positive externalities through agglomeration (market actors becoming more productive through spatially-focused returns to scale in the same concentrated area, than they would be distributed in space).

Borrowing the PBP framework, the process of creating the historical planned cities above is analogous to a government sinking an enormous *bundle* of all possible place-based policies they could muster (large assembled land, utilities and infrastructure, transportation networks,

preferential business policies, new housing stock, subsidized industrial land, government-controlled jobs, as well as public entities like civic and cultural centers) into a place where there was previously nothing. The comparative strength of this city-making model is the state's ability to move these non-market resources around quickly, and effectively concentrate them in a greenfield location all at once, to trigger a jump from zero to sixty.[77] In this way, a site could be transformed from an empty expanse to a new political capital, a new military fortress town, a new residential town, a new steel or factory town, or industrial park town in a matter of years.

While economists have assessed that lone or "unbundled" PBP programs in the past—such as the Enterprise and Empowerment Zone policies in the UK and US during the 1980s and 1990s, which mainly provided tax relief for businesses within designated impoverished regions—did not create much net growth (Glaser & Gottlieb, 2008; Busso et al., 2013, Neumark & Kolko, 2010), in the case of "bundled" PBP programs—such as state construction of industrial parks and the resulting "edge cities" in China in the late 1990s and early 2000s—the ability of the Chinese government's "managed hand" to concentrate capital resources in one place generated significant productivity gains and positive spillovers to their vicinity, in about 70% of cases (Zheng et al., 2017), and were associated with a 20% increase in municipal GDP ten years after the opening of the park (Alder et al., 2016). This bundling is what allowed governments in the past to use the model of "old economic engine" city-making as a means of redistributing resources from rich areas to poor areas within their country—which may have helped further

[77] Zhang Shufeng, the current CEO of CFLD, echoes this idea of bundling: "What we need most is not 'replacing of parts', but 'building of cars as a whole'. Currently, if PPP is applied only to a single project to solve such problems as a bridge, a road, a park, or a sewage treatment plant, the optimal effect of PPP cannot be brought into play. What we need most now is a PPP model that uses market forces to promote high-quality development. That is, a explorational PPP model to promote comprehensive urban development." Qtd. in "Zhang Shufeng: Explorational PPP Helps China's Urbanization Enter Metropolitan Era," CFLD, March 27, 2019. http://www.cfldcn.com/en/detail.html?id=21

goals of political stability (Wallace, 2014) and balancing social equity in places with large regional disparities, as well as spur growth in national industrial production. As Wu observes, "China has been an authoritarian state since 1949… the state was concerned with regional inequalities through policies, but increasingly the focus has shifted to growing cities as the drivers for national development (2016b: 1137).

However, the comparative weakness of this state-led model is that it is not governed by market logic. It depends solely on the discretion of the central planner in deciding 1) *Where* to invest the bundle of PBPs, 2) *What* economic activity to foster through the bundle of PBPs, and 3) *When* to invest the bundle of PBPs. Place-based policies, by definition, require expensive and contentious trade-offs between location choices—if region A receives these benefits, region B does not. If region A is economically weaker than region B, it may stand to benefit the most from receiving these investments from an equity perspective; however, if region A is *too* weak for secondary investment, firms, and workers to follow and flourish even after the public investments are sunk, those investments might be considered "better spent" on region B even if region B is already stronger, as the investments are likely to generate more positive spillovers there. In addition, if region A's existing factor endowment would enjoy great synergy with specialized sectors A, B, or C, but not D, E, or F, but this knowledge is unknown or not taken into account, the central planner might waste resources by attempting to nurture the latter rather than the former in region A. And, as with any major investment, timing is everything.

These are extremely difficult decisions for any central planner to make because of the problem of knowledge—they have little to no knowledge of what PBPs make the most sense in each region, no way of foreseeing the counterfactuals *ex ante*, and hence, little rigorous basis for preferring one place over another, one kind of PBP-stimulated economic activity over another, or

timing to invest now or later. As Zheng et al. (2017) found, even though Chinese state-directed industrial parks produced positive spillover benefits on average, about 30% of them failed to do so—which means nearly one in three centrally planned "old economic engines" seeded this way turned out to be a waste of resources (turning into "ghost parks"). In addition, Kahn et al. (2018) show that these misallocations are partly explained by cronyism, whereby politicians attempt to strengthen their loyalty base within the party by gifting scarce resources—such as multi-billion dollar industrial parks—to selectively help the regions where their former classmates, colleagues, or hometown compatriots are serving in office. As Kahn et al. put it, "While the Chinese Communist Party may be willing to bear some efficiency cost to achieve social stability through lower inequality, the misallocation cost triggered by rewarding political connections is a pure loss of social welfare" (2018: 5). These weaknesses of the state-led model of new city-making—through their *control* over capital resources, i.e. through their allocation of bundles of place-based policies—are thus not just ineffective, but also potentially quite harmful in causing massive misallocations. City-making solely through this state-led model has the potential to cause entire new city projects intended to become "new economic engines" to instead become "ghost towns" that have diverged too far from market logic to be redeemed.

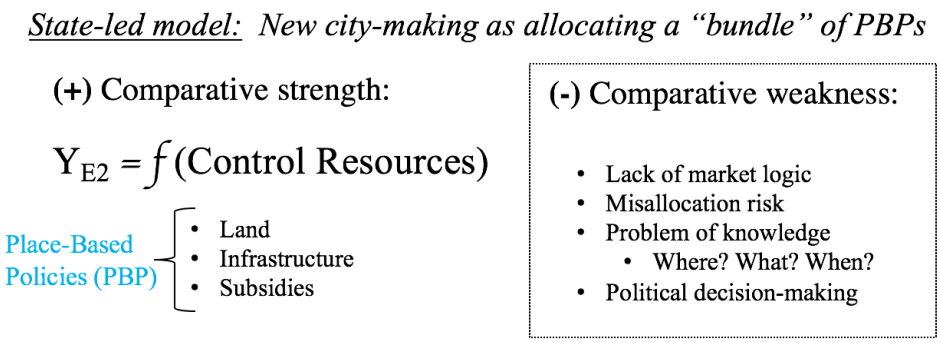

Figure 12

That said, on the other end of the planning vs. markets spectrum, a "new economic engine" city would not materialize out of thin air either, if the market were left to its own workings. The comparative strength of the laissez-faire, market-led model of urban agglomeration is that firms, workers, and private investors will only allocate resources if the *where*, *what* and *when* of it meets their needs[78]—in this sense, there is much less risk of resource misallocation due to the problem of knowledge or political cronyism under centralized state control. However, the comparative weakness of this model is that market actors suffer from a coordination problem. Because firms and workers are making their location decisions only based on their individual cost-benefit analyses—not considering the potential positive externalities from agglomeration they might reap if they were coordinating with the thousands of other firms that are complementary to them in the market—it would be extremely difficult for distributed firms to collectively decide to form a new cluster somewhere else, even if they would all stand to gain from doing so.

Relatedly, market actors also suffer from a "first mover" problem: first, because the burden of trying to actively coordinate across firms would be disproportionately borne by any individual actors that might "volunteer" to do this (which would raise their costs and make them less competitive relative to other actors); and second, because the first firm to move to a newly-built urban area or a newly proposed industrial cluster faces much greater risk than the ones that follow (*What if I build it, and I go, but the rest don't come?*), no one market actor would be willing to make the first move to do so. In addition, even if such cross-firm coordination were to take place between enough market actors to form a critical mass for agglomeration, this coalition of firms would still need to front the enormous capital resources to either carve out a new area

[78] Assuming rational economic choice, where market actors are weighing the costs and benefits of their actions and optimizing for profit growth.

within an existing city to house their new cluster—the prospect of which is "unimaginable in cities featuring pre-existing durable structures" and "'Not In My Back Yard' (NIMBY) opposition" (Zheng et al. 2017: 102)—or acquire enough greenfield land and everything else required to build out their own "new city" from scratch, in which case they would inevitably require the intervention, approval, or involvement of the state in some form.[79]

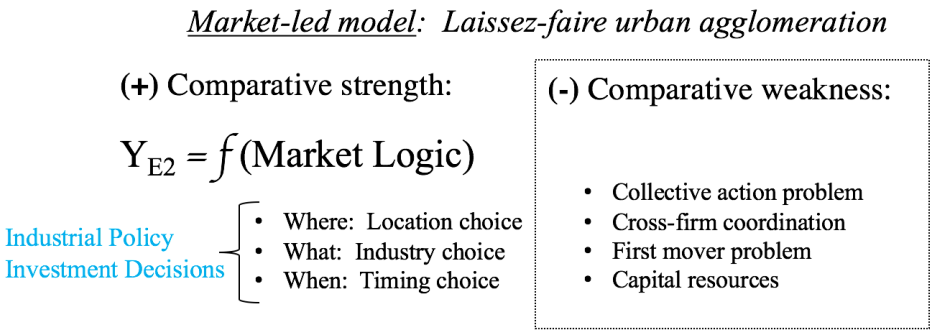

Figure 13

A useful analogy to illustrate this coordination problem is the suburban shopping mall (as referenced in Zheng et al., 2017). The idea is that each individual store that wants to open for business in the suburbs would theoretically prefer to be in an agglomeration with other stores—a shopping mall—over being on its own by the side of the highway. This is because being part of the same mall produces positive externalities for all the stores inside it by virtue of spatial concentration, such as: capturing a convenience premium from consumers by lowering their search costs; saving on shared overhead costs such as maintenance, advertising, and facilities like public restrooms, food courts, and truck offloading docks; learning new product ideas and

[79] The recent experiences of the "seasteading" movement illustrate the difficulties faced by private market actors in trying to form a new urban agglomeration of their own entirely without state support or involvement.

competitive strategies from being in close proximity with rivals; and enjoying lower prices for auxiliary services that can serve all the stores in bulk. In particular, small stores benefit from the presence of large anchor stores (such as Sears, Costco, Home Depot, etc.) in the same mall, because these anchor stores draw customers not only to themselves, but also to the smaller, more obscure stores that the same customers would be willing to visit only because they are nearby. However, the coordination problem is that even though each individual store would ideally like to be part of a mall, not one of them would be willing to personally take on the task of coordinating all the stores in the suburbs to start one, nor the risk of being the first one to move into an empty mall complex, without the guarantee that all the other stores will join them.

If this is the situation that all stores in the "market" of the suburbs are facing, the owner (or "central planner") of the shopping mall is incentivized to take on the task of coordinating between them. The owner would contact all the stores that might be interested in agglomerating together in this area, recruit them to the mall by assuring them they would be moving in together with other attractive stores as neighbours, and then in a top-down manner, arrange them in the optimal spatial combination that would bring in the most customer traffic and maximize sales (for example, making sure complementary businesses are located next to each other inside the mall—such as a gym, a smoothie shop, and a Nike store). In particular—as empirically shown by the work of Pashigan & Gould, 1998, and Gould et al., 2005—they would solve the "first mover" problem by first offering subsidized rent to the large anchor stores. If these "big fish" bite and agree to move into the mall given the lower location costs, the owner can then use their entrance as a bargaining chip to recruit the "small fish" (lesser known stores) to the mall as well. If, through the shopping mall owner's actions as a coordinator, the mall becomes more than the sum of its parts—that is, if the stores enjoy more sales in the mall than if all the same stores were

to be distributed and on their own in the suburbs—the owner is also compensated for their coordination services by capturing a premium in rent revenue from their tenants.

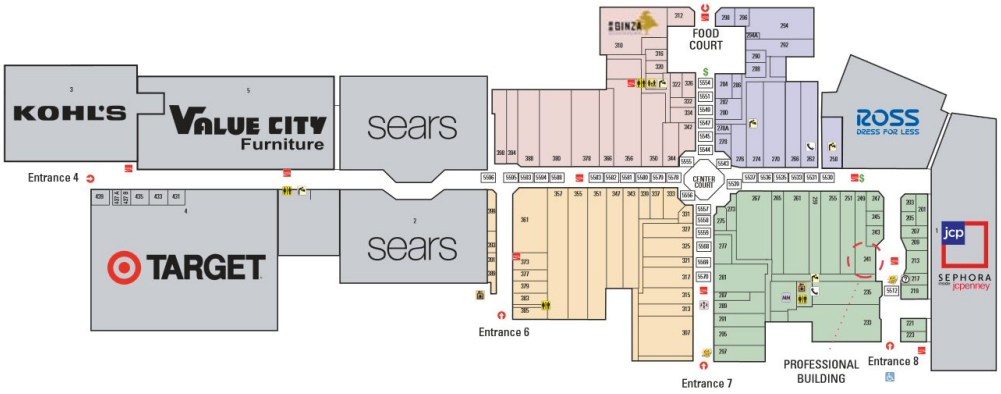

Figure 14: The "shopping mall" as an anology for a new planned "economic" city

Similarly, the role of the central coordinator in a new planned city is theoretically justified by their potential capacity to create more than the sum of the parts—both in terms of capital inputs (land, infrastructure, subsidies) and market actors (firms, workers, private investment)—that they can coordinate. In the case of contemporary "new economic engine" city projects in China like Gu'an, the "managed hand" of the county government and the coordination services provided by private planners work together to act as the equivalent of the shopping mall owner. Together, they can solve land assembly problems (because the local government can acquire urban land at low cost, and the developer can upgrade it), finance upfront capital expenditures that individual private firms could not afford (using low-cost loans provided by state-owned banks for local governments, and access to private capital on the part of developers), and provide credible signals for the future prospects of the new city by making public commitments and prioritizing "place-making" from an early stage—for example, by announcing the "concept" and priority industries that the city will specialize in, publicizing

project timelines and targets, and building out prominent public goods such as public parks, man-made lakes, downtown main streets, and exhibition halls filled with miniature models and master-plans of the new city—well before starting to build residential or industrial zones.[80] According to interviews with real estate developers, setting these expectations and illustrating the planned vision for the new city is critical, because location choices for both firms and households are major long-term decisions involving large sunk costs; thus the "tone" that the leaders of the new city project set is critical for inspiring confidence about its future prospects.

In addition to these tasks, the novel part of this planning process is the role of the central coordinator in recruiting productive firms from priority sectors. Like shopping mall owners, central coordinators directly reach out to certain desirable "big fish" (large firms or entities that can act as anchors) and offer to subsidize their relocation costs or real estate purchases, then use them as leverage to coordinate "small fish" entities (SMEs or firms in complementary sectors) that follow the big fish into the new city to enjoy agglomeration benefits—sometimes even arranging "high-synergy" consortia of firms and negotiating combo package deals with them in advance of deciding which local municipality would be best to locate this new cluster. And because, like the owner of a shopping mall, the central coordinator's profits are tied to the performance of the firms within their new city project, they are incentivized to continue cultivating the eco-system of firms and attending to their needs, to ensure a long-term flow of returns from their good performance over time. If these central coordinators of new city projects designed to be "new economic engines" do their jobs well, the firms within their projects become more productive there than they would be distributed elsewhere, and both the firms and the coordinators are rewarded for their coordination efforts through greater profits.

[80] Interview with CFLD analyst in Shanghai, January 2019.

Convergence

In summary, I have sought to draw from history and theory to answer the question of *why* we now see the rise of private real estate developers entering the risky business of master-planning new cities, particularly in China. This question is motivated by the thought that regardless of whether this development is a good or bad thing in normative terms, there must be a reason why it is happening—a reason that goes beyond the broad characterizations of "neoliberalism," "deregulation," and "profit-seeking" that are prevalent in the critical literature on new planned cities. In fact, rather than resulting from the retreat of the state from directing the course of urbanization—and the rise of private planners to exploit this regulatory vacuum—I argue that a transformation in *why* the state wants to build new city projects—their intended primary function—has led to an accompanying shift in *who* is able to successfully build them, and thus a new kind of master-planner that has emerged to fulfill this desired function.

I interpret the historical record to show that unlike planned cities in the past that were created primarily for political, social, and industrial production-oriented purposes, contemporary planned cities are intended to serve as competitive engines of growth in the new, global "knowledge-driven" economy. This change in intended function led to a shift in the model by which these "new economic cities" could be created: from one where the state could build and populate new cities using its centralized *control* over capital resources and non-market mechanisms, to a decentralized and competitive model that relied on the *coordination* of private firms, workers, and investors in the market forming a new agglomeration. This new type of planned city still required the state's involvement (the top-down allocation of a bundle of place-based policies concentrated in one place) in order to achieve rapid physical build up from a greenfield state. However, it also needed to follow market logic that could not be centrally

planned or controlled by the state (due to misallocation risks that arise from the problem of knowledge, and from political cronyism). But at the same time, individual market actors could not form a new agglomeration on their own either, due to classic coordination and first mover problems. Because of this, there arose a gap between the state-led and market-led models of new city-making, where both state failures in misallocation and market failures in coordination needed to be resolved.

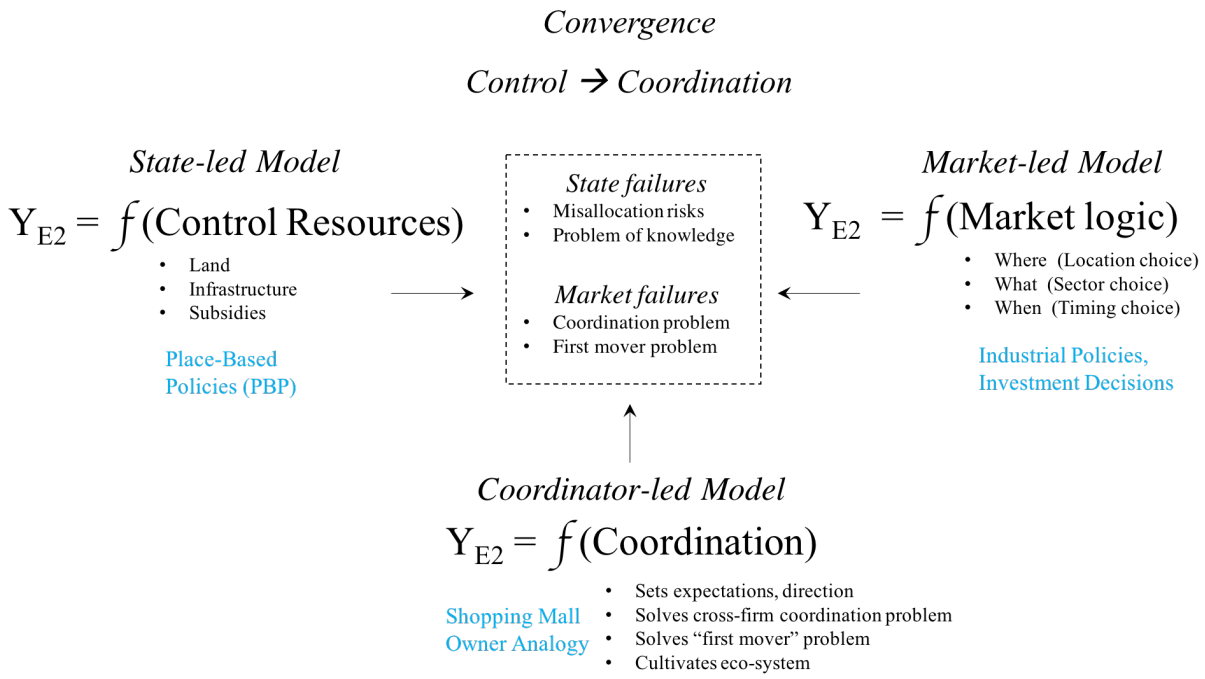

Figure 15

In other words, in order to successfully create the kind of new planned city that would become an economic engine in the new global economy, there needed to be a *convergence* of many elements: state control of resources (place-based policies), investment and industrial decisions that aligned with and attracted free-moving firms and workers (market logic), and most importantly, coordination between these entities and resources (the work of a "shopping mall owner"). In this sense, one might describe contemporary new planned "economic" cities as

requiring processes of *coordination*, in contrast to historical planned cities that that required processes of *control*. In this situation, the role of the central coordinator provided a set of valuable services that neither the state nor the aggregate of individual market actors had access to on their own. This added value creation is what theoretically explains the entrance of "private planners"—such as private real estate developers with vast corporate connections—to play the role of central coordinator in the city-making process.

In Reality: Who Fills this Role?

It is important to note that while the process and value of coordination is requisite to this model, the *role* of the coordinator does not necessarily have to be filled by private real estate developers, the way it was filled by CFLD in the case of Gu'an New Industry City. It is possible for a local government that launches a new city project to not only provide all the capital resources, but also act as the central coordinator without hiring the services of a private planner—for example, in the case of Zhengdong New District in Henan Province, the economic development agency of the neighbouring Zhengzhou government directly interfaced with desirable firms and anchor entities to recruit them to their new city;[81] similarly in the case of Pangyo Techno Valley in South Korea, a special "expert committee" formed by the provincial government of Gyeounggi province was responsible for negotiating which IT, bio-tech, and R&D entities would be brought in.[82] Large tech firms such as Alibaba, FoxConn, and Huawei are also building out smaller-scale "headquarter villages" centered around their own operations. Whether a local government decides to hire a private planner to act as the central coordinator or not depends on their capacity to undertake these tasks, which has significant consequences for

[81] Interviews with Zhengdong New District government officials, June 2018.
[82] Interviews with cluster experts and planners in Gyeounggi-do provincial government, December 2018.

the geographic distribution of where private coordinators operate (a dynamic I return to in the next chapter, under the sub-heading *Where?*).

In interviews, investment associates at several large Chinese real estate developers report that the initial reason why they entered the "new economic city" making arena was because older cities presented fewer development opportunities than they used to ten years ago, during China's "golden decade" of booming residential real estate. Land near or within existing cities had skyrocketed in value, with major cities seeing increases of 200% to 500% between 2012 and 2017.[83] Even with the added expenses of building out new cities from scratch, greenfield land in peripheral areas could lower overall developer costs. However, this also required them to "invest more to increase the value of the land beyond the residential level by adding new facilities, industrial uses, and catering to residents moving in," according to a manager at Nanfung Group. "Demographics and demand have changed: new city projects are consumption and high-income oriented, with holistic urban environments, clean air, and green space. Those are the kinds of projects governments are offering land for developers to build."[84]

Developers would face difficulty winning land in competitive auctions otherwise: local governments reportedly refuse to grant developers the lease rights to build lucrative residential properties unless they come combined with a "high-end" industrial development component as well, even though industrial zones are lower margin products for developers. For example, in 2016, one of the largest developers in China, Country Garden, announced plans to invest more than 100 billion RMB ($14.5 billion USD) in one hundred new towns over the following five years, in which the developer promised to build business incubators for high-tech startups

[83] "Property Index across 70 Major Chinese Cities in July 2017." Qtd. in "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.
[84] Interview with author at the MIT Beijing New City Forum, November 2018.

alongside residential complexes; a few months later, another large company, Greentown China Holding, agreed to tie their residential projects with advanced agricultural businesses in one hundred towns of their own across the country.[85] This pressure on developers to extend into "new economy" industrial development is, in turn, likely due to pressure the central government is exerting on localities amid growing concerns with China's speculative housing markets: in 2016, the Ministry of Housing and Urban-Rural Development, the National Development and Reform Commission, and the Ministry of Finance issued a joint mandate ordering local governments to "closely link new property projects with local economic development" and calling for "refocusing local economies in about 1000 communities nationwide by promoting businesses tied to tourism, logistics, high-tech manufacturing, education, and traditional Chinese cultural activities by 2020."[86]

In the face of these new demands, developers saw the opportunity of a new market they could enter if they developed expertise in new industries preferred by the state, which would also serve to differentiate themselves from more mainstream competitors. As a representative from Nanfung Group put it, "the rise of technology allows private developers to get more involved with 'non-traditional' real estate business, because that's what local governments want expertise in. For example, governments that start new city projects all want technology like bio-tech, eco-tech, etc., because these are also more attractive to residents and companies. Developers that have that expertise can out-compete traditional developers."[87] Some developers were uniquely well-positioned to fill that space at that moment: for example, those that were the real estate branches of larger conglomerates (such as China Resources Land, part of the SOE called China

[85] "Once-Poor County Builds New Model for Property Development," *Caixing Global*.
[86] Ibid.
[87] Interview with author at MIT Beijing New City Forum, November 2018.

Resources Group, which has branches in seven industries including consumer products, healthcare, energy services, urban construction and operation, technology and finance, and is made up of 2,000 business entities within those sectors[88]) had accumulated wealth (due to its involvement in the previous building boom) as well as connections to industry and government. Other entities like TUSincere Holding Group—an industrial and urban development company derived from Tsinghua University—capitalized on their access to basic scientific research to build and operate over 300 science parks pairing academics with technologists in an eco-system of entrepreneurial resources.[89] A senior executive of TUS Holdings explains that this specialized edge in academic tech transfer was key for their business: "Right now in China, it has become very difficult to do a purely real estate business… real estate companies everywhere are now trying to convert their business from pure real estate to science and technology development. You must tell a good story to the government, you have to come equipped with success stories and achievements. The idea of the science park makes for a good story, which becomes good bargaining power with the government."[90] In addition, TUS emphasizes its ability to bring in high-quality primary, middle, and high schools to their urban developments, again by collaborating with Tsinghua University; this helps them attract talented workers to their "science cities," who then chose to stay and raise their families there over the long term.

Due to this turn of events, private developers have become far more than real estate or construction experts; as they continue to hire biology PhDs, partner with elite universities, and invest in their own startups, they are increasingly becoming governments' go-to consultants for ideas on how to jump on the latest technologies, firms, and industries.

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[88] "Company at a Glance," China Resources Land, accessed May 22, 2019. https://en.crc.com.cn/whoweare/companyataglance/
[89] Interview with author, June 2018.
[90] Ibid.

Conceptual Framework and Planning

In the previous section, I drew from planning history and economic theory to argue that the master-planning model behind contemporary planned cities shows two fundamental differences from planned cities in the past: their intended function as economic engines in a global knowledge economy (*why*), which leads governments to form deep partnerships with private sector planners (*who*), which bring about a convergence of state controlled place-based resources, the free investment decisions of market-driven actors, and coordination between all of these entities. In certain cases in China, such as with CFLD in Gu'an, these coordination roles have been filled by private real estate developers that market themselves as industrial development experts as well as urban master-planners, and work in these capacities for low-capacity local governments under shared "ownership" contracts, for as long as 50 years.

If the previous sections have focused on the theoretical *why* and *who* of this phenomenon, in this section, I focus on the practical *how*. Drawing on interviews with major Chinese real estate developers that follow this "new industry city" master-planning model—including staff at the CFLD Industrial Research Institute in Beijing and managers with experience on the Gu'an project—I submit a conceptual framework for organizing the major parts of their empirical city-making process. These planning practices go beyond what is normally required of private actors in traditional PPPs—sharing risk, filling funding gaps, efficient project execution—and require these developers to act as industrial policy-makers and corporate recruiters, who comprehensively shape the economic development trajectory of the new city. In doing so, their decisions are driven not just by what is most economically "rational," but also by social and political considerations—such as what state-firm and developer-firm relationships they can leverage in their vast networks of connections—which they consider to be an essential aspect of

doing urban development business in China. I apply my framework to the case of Gu'an New Industry City to illustrate these planning practices and political-economic dynamics at work, then discuss the new opportunities and risks they pose.

Conceptual Framework

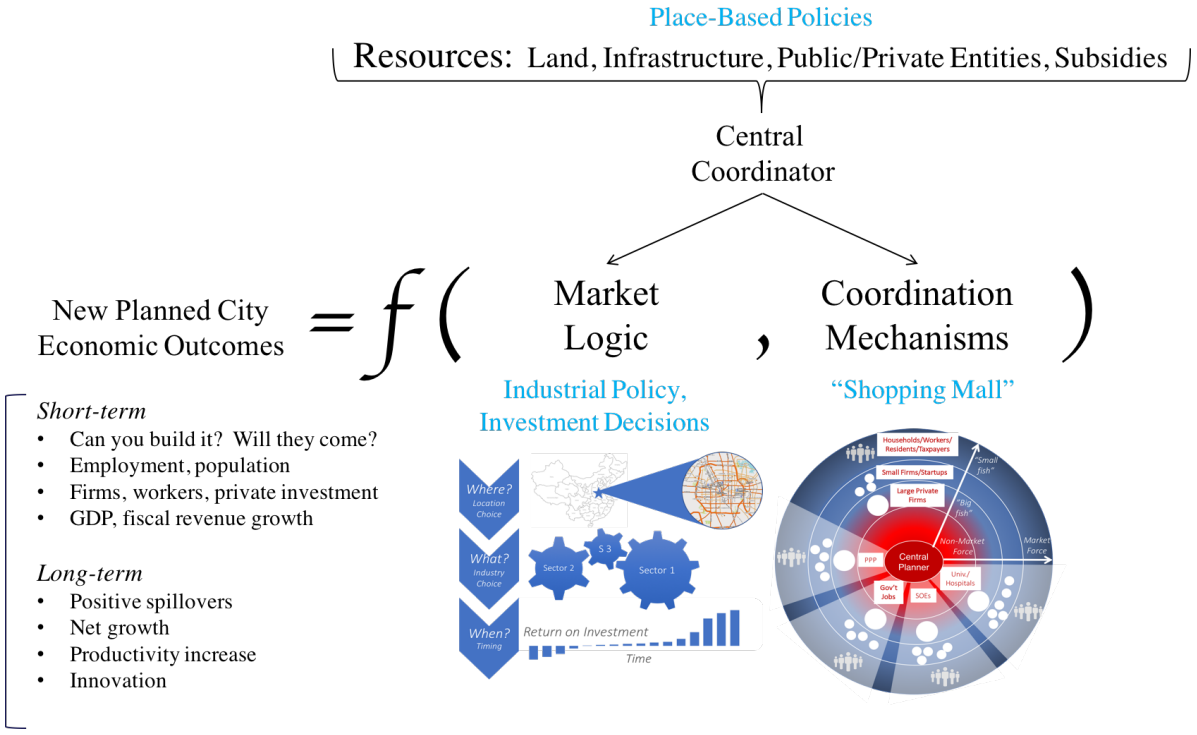


Figure 16

From the perspective of the central coordinator at the very start of planning a new city, their objective is to produce desirable economic outcomes in both the short-term and long-term. They have certain resources they can marshal—land, infrastructure, public and private entities, subsidies—but their constant challenge is figuring out how to best coordinate these resources in order to generate the highest synergies between them. I separate their planning process into two parts: *Market Logic* and *Coordination Mechanisms*. First, no matter who occupies the role of the

central coordinator in a new city project—whether the central government, local government or a private planner—they must make industrial policies and investment decisions that make sense to the market. Beyond the initial "subsidy shock" provided by the central coordinator's first investments in infrastructure construction and preferential relocation policies—or if the coordinator is a government entity with the power to forcibly relocate public sector or SOE entities, beyond their initial transplants—the medium to long-term growth of the city depends on its self-sustaining ability to attract further private investment, firms, and workers on its own merits. The central coordinator must therefore adhere to market fundamentals no matter how well-capitalized or politically-connected they are, and seek to invest their bundle of resources (land, financial subsidies, infrastructure, private firms, public and semi-public entities) at the right place at the right time for the right sector. Second, they must then devise coordination mechanisms by which to seed the new city with its "first movers," and collectively co-locate firms that would enjoy complementary and symbiotic proximities with each other—acting as though they are the "owner" in the aforementioned "shopping mall analogy."

Market Logic

From the very start, the central coordinator must make market-driven decisions along three key dimensions: 1. *Where? 2. What?* and *3. When?*

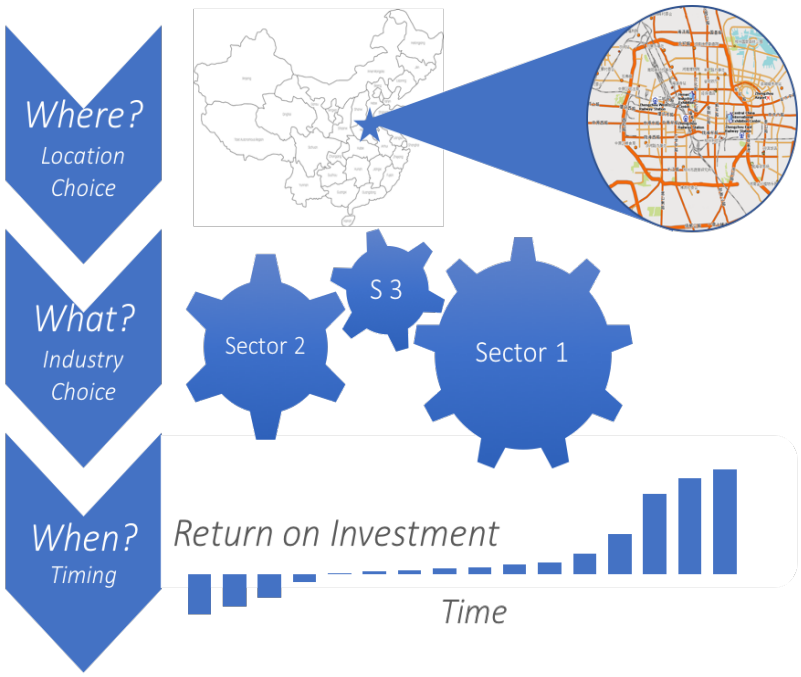


Figure 17

Where? Location Choice

When asked what the single most important factor for a "successful" new planned city is, real estate developers acting as private master-planners of such projects repeat the old adage, *location, location, location*.[91] Whereas local governments that seek to build new cities must do so within their locality, and are thus bound to its pre-existing fundamentals and features, private planners are footloose. As an analyst at CFLD put it, "CFLD would never choose a weak location, and will always go to the strongest location."[92] Noting that nearly all cases of "failed" new cities-turned-ghost cities in China were planned by local governments, rather than private sector planners, the analyst emphasized that no matter how much confidence CFLD might have in their own industrial development and coordination capacities, "the planner can only plan and

[91] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018.
[92] Interview by author in Shanghai, January 2019.

build; we cannot make an economic miracle outside of market fundamentals."[93]

However, the stronger the economic fundamentals of the location, the trickier it is to find large greenfield areas that balance proximity and price. The site needs to be close enough to a strong existing urban and industrial center to be able to attract firms willing to move their business there (as well as workers and residents willing to live there), but also far enough away to have significantly lower land prices—allowing planners to offer cheap property as an incentive to move out of the big city, and to cut the cost for themselves of building everything from scratch.[94] In addition, being close to the high concentration of existing industrial activity in first- or second-tier cities makes it easier to capture their spillovers when they expand, as residents increasingly seek urban life without the negative externalities associated with existing mega-cities in China. CFLD prefers peripheral sites located around 50 to 80 kilometers from one of three established "industrial epi-centers" in China: the Beijing-Tianjin belt in the northeast, the Yangtze River Delta on the central coast, and the Pearl River Delta in the south[95]—these three regions cover less than 3% of China's landmass, but contribute over a third of the country's GDP and house almost a fifth of its population.[96]

Strategically, CFLD also takes advantage of administrative and political boundaries that cut across these high-potential peripheral regions. For example, Gu'an county was only 50 km away from the heart of Beijing, but it lay outside of the Beijing metropolitan border on the Hebei side—this meant that it enjoyed all of the location benefits of real proximity to Beijing (as the crow flies), but the land was actually owned and controlled by a much poorer, low-capacity

[93] Ibid.
[94] Interview by author of an industrial park manager at Fosun Group, in Shanghai, January 2019.
[95] Interview by author with a CFLD analyst, in Shanghai, January 2019.
[96] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business

county government. In cases like these, public infrastructure like roads and subway lines may sometimes just end at the border of Beijing. According to a CFLD researcher, this is because county governments tend to focus their resources on developing whatever built up areas they have in the centre of their county, rather than capitalizing on the edges—even if the edge arguably has better fundamentals from being closer to an existing mega-city.[97] CFLD almost always targets these county-level governments as public partners: they have the legal right to distribute state resources and make significant fiscal and budgetary decisions, but they also lack the capital, capacity, and connections to undertake major development projects alone. CFLD's offer of providing private upfront investment, industrial expertise, and corporate networks is thus a high value proposition in these contexts, even at a 45% commission rate.

However, this emphatically does not apply in other contexts. For example, according to several analysts at CFLD, it would be almost impossible for CFLD to win a contract from the Shanghai municipal government to develop a peripheral new city within its borders, because the Shanghai government (like many other district-level governments) is far richer, more experienced, well-staffed, and flush with corporate connections than CFLD could dream of. In these cases, the strong municipal government has no need for a private developer's master-planning services. The strongest industrial clusters in the Shanghai region are already state-owned, and corporate demand for space in these parks is so high that Shanghai can afford to handpick which firms gets in, strictly monitor what specific economic activities they do, and evaluate their performances over a one-year "rental-only" trial period before offering them more permanent space.[98] Similarly, the government of Chongqing is reportedly very powerful and well-connected, which means that a company like CFLD must "bring even more prestigious

[97] Interview by author with a CFLD analyst, in Shanghai, January 2019.
[98] Ibid.

political or market assets to enter that market."[99] There are also strong regional differences: developers report that northern local governments near Beijing are "relatively passive" and lack industry connections, whereas local governments in southern China are wealthier, "know what they want," and have more experience with state-led development ventures, such as the China-Singapore Suzhou Industrial Park in Jiangsu Province or the massive growth of SEZs in the Pearl River Delta.[100] Thus CFLD's expertise is also less valuable in the south than in the north.

This results in an interesting geographic distribution of privately-planned new cities in China, as developers cannot enter the strongest regional markets and will not bother with the weakest; they specifically close the gap in areas with strong economic fundamentals and weak local governments. However, some developers think that the conditions that made Gu'an a perfect opportunity for CFLD—the combination of rapid land appreciation in the Beijing-Hebei area without accompanying public sector fiscal strength and development capacity in the early 2000s—will be harder to replicate in other places and other times. As one real estate expert put it, "nowhere in China is there a place so close to a metropolitan area where land and housing prices were very low and then enjoyed a sharp rise in a short period of time, fueled by urbanization."[101]

What? Industry Choice

Once a location has been set (although sometimes, developers may work the other way around, and scout out promising locations for a combination of anchor firms they have already committed to "place"), the next most important question becomes what industries should be

[99] Interview by author with researchers at CFLD's Industrial Research Institute in Beijing, January 2019.
[100] Interviews by author with investment associate at CR Land (June 2018), researcher at CFLD Beijing Institute (January 2019), and CFLD analyst in Shanghai (January 2019).
[101] Qtd. in "Once-Poor County Builds New Model for Property Development," *Caixing Global*.

prioritized in that location. In recent years, explicit strategies of "smart specialization" (Foray et al., 2009; 2011)—or the idea that not every region can do all things in all industries, and should therefore specialize in domains that build on their existing strengths in order to make the most of returns to "scale, scope, and spillovers" (Crespo et al., 2017)—have been adopted in places like the European Union. As Crespo et al. note, there is now "increased awareness about the need to be selective or smart when it comes to refocusing the regional economy. However, the million-dollar-question is: which technological domains should policy makers support?" (ibid., 7). This question may be both an extra opportunity and an extra risk to planners of new cities: on the one hand, as there are few (if any) existing strengths in the immediate area of a greenfield site, this opens up many possible industrial pathways for planners to choose. On the other hand, as there are few existing strengths, there are few resources to build on and little information to guide *which* pathway to choose.

Although CFLD's early industrial research for Gu'an was originally outsourced to consultants like McKinsey, the company now employs over 5,000 people (with 1,400 holding master's degrees or higher) in its in-house Industrial Research Institute in Beijing.[102] About 300 of these people (reportedly cluster experts from renowned national development zones, senior managers from Fortune 500 companies, consultants, project managers from various industries, former government officials, as well as PhD-holders from various sciences, such as biology) form their internal industry research and planning team, which "monitors global economic trends and maps the future of cutting-edge sectors, providing in-depth research for industry development and planning."[103] This research reportedly involves analyzing global, national, and

[102] "About CFLD," 2017 Beijing Marathon, accessed May 21, 2019. http://beijing-marathon.oc.chinarun.com/html/page-8197.html
[103] "Industry Cluster," CFLD.

regional industrial trends (focusing only on "high-level" sectors and understanding their size, required skill sets, projected growth, and structure); mapping the presence of relevant companies throughout the country and province, as well as regional factors for innovation (business policies, knowledge bases, education, workforce, financial flows, historical or cultural treasures) and factors for production (natural resources, water sources, climate, energy).[104] Other analyses use publicly and privately-acquired big data (such as remote sensor data, satellite data, nighttime lights, cellphone usage, public transportation, flights, transactions, consumption, commuting times, demographic changes) to draw a composite picture of "where the invisible city center or corridor actually is" in a region of interest, and what activities it consists of. These maps representing notions of density, relationships, and direction are then layered together to form a "comprehensive score" or "index" of what industries are likely to flourish in what places.[105] The Industrial Research Institute asserts that although other firms and government agencies in China attempt to do similar studies, CFLD is the only one of its kind with such a "systematic and scientific" process.[106]

However, industry choice is still a politically-motivated decision. Another CFLD analyst based outside the Industrial Research Institute clarified that even if the above procedures are rigorously followed to begin with, the developer still has to please the government that hires them in the end.[107] After generating several "long lists" of both locations and industries that CFLD wants to pursue, they then approach local governments to see what they would be willing to support, and this aspect is ultimately "weighted most heavily."[108] Thus in order to maximize

[104] Presentation by industrial researchers at CFLD Industrial Research Institute in Beijing, January 2019.
[105] Ibid.
[106] Ibid.
[107] Interview by author with CFLD analyst in Shanghai, January 2019.
[108] Interview by author with high-level manager at CFLD Industrial Research Institute in Beijing, January 2019.

their chances of winning local government approval for a project, CFLD tends to make it easy for them to fulfill their own KPI, by suggesting priority sectors that align with the Communist Party's latest national development strategies (such as China's 2025 Intelligent Manufacturing strategy).[109]

Figure 18: McKinsey consulting materials on which sectors Gu'an should prioritize, going from the "long list" to the "top three"[110]

For example, materials documenting CFLD's early deliberation process for deciding

[109] Interview by author with CFLD analyst in Shanghai, January 2019.
[110] Material shared with the author by a CFLD analyst.

Gu'an's pillar industries show a "long list" of potential sectors that also fall under national focus areas: aviation, aerospace, rail transit equipment, offshore engineering equipment, intelligent manufacturing, marine equipment, construction machinery, mining machinery, automotive parts manufacturing, premium apparel, new generation IT, bio-medicine, new materials, smart grids, new energy vehicles, and high-end equipment manufacturing.[111] Out of this long list—after additional analyses of South Beijing's factor endowment, international case studies of comparable clusters, and any local comparative advantages that may apply—CFLD narrowed it down to a short list of three pillar industries for Gu'an New Industry City: advanced display manufacturing, aerospace and aviation, and biomedical R&D.[112]

To zoom in on one pillar, CFLD's decision to cultivate advanced display manufacturing (LCD, OLED screens) capitalized on the fact that Chinese makers in this sector had been rapidly gaining global market share since the early 2000s, and aggressively building out new domestic fabrication facilities (or "fabs") to expand their production capacity. However, as an industry, they relied on state support to invest in these capital expenditures—rising Chinese panel makers like BOE, China Star, and Visionox (as well as foreign manufacturers like Samsung and LG that based their manufacturing in China) sought out cheap land and subsidies that would lower the cost of building new fabs.[113] Local governments owned the most important input, land, and were often willing to subsidize these makers in order to reap the political benefits of association with this cutting-edge sector, as well as the higher local GDP and tax income they generated—for example, the Guangzhou, Ordos, and Chongqing governments negotiated with Foxconn, BOE,

[111] Planning document prepared by McKinsey for Gu'an's industrial development, 2013.
[112] Ibid.
[113] David Hsieh, "Market Insight: Display Dynamics - The rise of public private partnership (PPP) companies in China," *IHS Markit Technology,* November 16, 2017, https://technology.ihs.com/597088/display-dynamics-the-rise-of-public-private-partnership-ppp-companies-in-china.

and HKC, respectively, to award them special industrial zones and mining rights in exchange for locating their next generation LCD and OLED fabs in their region.[114] However, local governments like Gu'an were not necessarily aware of the existence of these makers or what they wanted—CFLD could thus act as an intermediary for this particular sector, and think about "the whole ecosystem, not only the panel maker… they solicit display component manufacturers, logistic companies, materials makers, and even equipment or tool makers to invest in the same area. The broader perspective keeps the whole zone intact and competitive," as one industry analyst put it.[115]

In addition, Gu'an's relative proximity to Beijing allowed makers to connect with R&D resources in the capital: for example, Visionox (the first Chinese manufacturer to develop OLED technology, and the first in the world to produce full-screen bendable and foldable AMOLED displays) reportedly agreed to locate in Gu'an partly because it had originated from Tsinghua University's OLED Technology Group, and benefited from access to the basic research Tsinghua continued to do on new materials and display technology.[116] On this foundation, CFLD was able to build out the chain: it selected and successfully solicited BOE Technology Group (a leading panel R&D and manufacturing company) as an anchor in 2006, then with that playing card, drew in more than 30 companies upstream from BOE's supply chain, such as Linde Group, Tianmahui LED, ROIT, and MagicMed.[117] After a ten-year period of constructing their first plant complex, BOE decided to expand its production capacity in Gu'an, investing an additional

[114] Ibid.
[115] Ibid.
[116] "A Milestone for CFLD Industrial Clusters: The Launch of China's First 6th-generation Fully Flexible AMOLED Production Line," *LED Inside*, May 17, 2018. https://www.ledinside.com/news/2018/5/the_launch_of_chinas_first_6th_generation_fully_flexible_amoled_production_line.
[117] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.

3 billion RMB [$400 million USD] in 2016.[118] Other display makers, such as Eternal Material Technology, Yeolight, and Visionox filled out the cluster, which can now meet the display demands of over 100 million intelligent terminal devices and is valued at over 100 billion RMB [$14.5 billion USD].[119]

When? Timing Choice

Even with highly promising location and industry choices in front of them, the central coordinator must also weigh the cost of development today (which may be cheap, but more fraught with unknowns about the future of the region) versus development in the future (which may be more informed, but also potentially more expensive). In addition, macroeconomic and demographic factors—such as the supply of urban housing relative to population growth and movement—must be considered decades in advance, given the long project timelines of new planned cities. Planners and government leaders are also realizing that even with solid fundamentals, new cities in general can take decades to become fully inhabited, much less fully "vibrant." For example, Zhengdong New District, a new city project in Henan province, was depicted as a "ghost city of new towers with no residents, desolate condos and vacant subdivisions uninhabited for miles and mile and miles" by the US news program *60 Minutes* in 2013, along with similar comments from *Business Insider* and the *Daily Mail*.[120] However, just two years later in 2015, the city was logging a population of over 1.4 million.[121] All of these aspects of a new city's development timeline and life cycle present considerable risk factors for

[118] "Once-Poor County Builds New Model for Property Development," *Caixing Global*.
[119]"A Milestone for CFLD Industrial Clusters: The Launch of China's First 6th-generation Fully Flexible AMOLED Production Line," *LED Inside*.
[120] Qtd. in Wade Shepard, "Banishing the ghost," *South China Morning Post*, May 26, 2015. https://www.scmp.com/presented/topics/go-china-zhengzhou/article/1802853/banishing-ghost
[121] Interviews with Zhengdong New District officials, June 2018.

private planners creating new cities.

In CFLD's usual project timeline—although they approach local governments with a preliminary roster of "interested" companies in hand when first cutting a deal for a new city—it usually takes at least five years for these companies to actually land; for example, the PPP contract for Gu'an New Industry City was signed in 2002, but companies only began arriving in large numbers in 2007.[122] Until then, CFLD must go without positive cash flow from their industrial development service fees, during which time it must also front its largest expenses to lay the groundwork and "core" of the new city as well. Interestingly, in the first three years, this core primarily consists of an attractive central park or man-made lake ("Happiness Harbour" in Gu'an), a downtown main street and plaza, and an exhibition hall showcasing the master-plan, 3D models, and projected construction targets of the new city—these non-revenue generating land uses serve the purpose of advertising housing and industrial sites before they have even been built, and building confidence in potential homebuyers, firms, and investors who may want to enter in the future.[123] Only once housing begins selling (between years five to ten of the project) does CFLD recoup enough cash to start investing in the industrial parts of the New Industry City in earnest. As one journalist described it, "If the whole of CFLD were to be compared to an egg, then the Industrial Development Group is the egg yolk, residential housing is the egg white, and residential sales will provide nutrients and protection for the industrial egg yolk. In order to hatch chickens, it is also inseparable from the sun and rain, that is the development of other parts of the city, such as schools, hospitals, hotels, exhibition halls, and

[122] Credit Suisse, "China Fortune Land Development," Asia Pacific/China Equity Research, October 21, 2014. https://research-doc.credit-suisse.com/docView?language=ENG&source=ulg&format=PDF&document_id=806437040&serialid=5zOBUBkWaxndZiKzj%2BbXKRndkyjbYKUljysGtVK86j0%3D.

[123] Interview by author with CFLD analyst in Shanghai, January 2019.

other supporting facilities."[124] In this analogy, the "egg whites" must come before the "yolk" in order for the yolk to be "fertilized," and are therefore built out in advance, although they are pure expenses that do not bring in direct revenue.

Other real estate developers note that every sensible PPP contract is designed to expand the project in a phased and step-wise function—developers starting with small plots of land at the core and radiating outwards—and that each company writes in its own risk management and exit strategies in case of failure at any step.[125] In fact, part of the appeal of a five-decade "ownership" (in quotations) contract is its dynamic flexibility *without* the burden of full ownership. Private planners like CFLD are not *buying* the land use lease rights to 60 sq. km of greenfield land from the Gu'an county government over a 50-year period—in other words, "land banking," which is practiced by most traditional developers to reserve their right to develop land in the future once development pressure heats up, but buy it when it is cheap—but rather entering into an arrangement with the local government that allows them huge autonomy over how, when, where, and to whom this land will be parceled and allocated (including to themselves) over a 50-year period. This allows a private master-planner like CFLD to act more like a government than a developer in terms of timing: they can choose to auction off land to others when they wish, or tacitly keep it off the shelves to maintain option value (without needing to lock up the capital normally required to hold land reserves a developer does not immediately use), until they identify specific parcels they want to develop themselves, at which point they can then easily obtain them thanks to their special relationship. Financial companies like Fitch Ratings and Credit Suisse have assessed that "CFLD's business is unique and there are

[124] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.
[125] Interview by author with representative from Hong Kong Land, November 2019; Interview by author with CFLD analyst in Shanghai, January 2019.

no similar peers," and is thus subject to less volatility from the real estate market (but instead uniquely subject to policy risks from changes to their relationship with governments).[126] Indeed, other prominent developers in the real estate industry—such as Vanke and Country Garden—try to minimize the amount of time they are involved with any given project, rather than stay to oversee its development for half a century: for example, Country Garden's strategy is to build and sell housing as fast as humanly possible, because the financing cost of holding onto land is extremely expensive and highly risky in market downturns; the CEO infamously demands that architects finish the entire project design the same day a plot of land is purchased (a process that normally takes three months, or forty days for standardized projects), and pushes for half-year turnarounds on entire projects, all in order to rapidly recycle capital.[127]

Of course, the flip side of CFLD's long project life cycle is that things change over fifty years. For example, Gu'an was originally planned to host a stadium that would be the home base for the Hebei China Fortune FC football club, but this was scratched from the master-plan shortly after the project began.[128] They arguably received a much deal in the end—in 2013, the Chinese State Council approved the construction of Beijing's second international airport, and located it at the border of Beijing and Hebei province, only about 12 kilometers away from Gu'an New Industry City.[129] This allowed CFLD to prioritize aviation and aerospace-related sectors as its second pillar industry—over ten years after the first master plans had been drawn—and attract offices of the Chinese Aerospace Science and Technology Corporation, the Chinese

[126] Credit Suisse, 2014; Fitch, "China Fortune Land Development Rating," Fitch Ratings, March 27, 2019. https://news.futunn.com/stock/6602415?src=3.
[127] Interview by author with CFLD analyst in Shanghai, January 2019; Ko Tin-Yau, "Why Country Garden boss is obsessed with project devt speed," *EJInsight,* April 19, 2018, http://www.ejinsight.com/20180419-why-country-garden-boss-is-obsessed-with-project-development-speed/.
[128] CFLD urban planning exhibit in Gu'an New Industry City, visited November 2018.
[129] Ibid.

Aerospace Science and Industry Corporation, and the State Key Laboratory of National Aerodynamics, along with over forty affiliated institutes and businesses.[130] This example illustrates the central coordinator's challenge in weighing different industrial choices, as many things evolve dynamically over time, rather than remaining static, well-defined trade-offs.

Coordination Mechanisms (How?)

Upon making major investment decisions and industrial policies of *Where, What,* and *When*, the central coordinator must then act as the owner of their metaphorical "shopping mall," and begin coordinating the movements of the public and private entities they want to seed their new city with. Returning to the question of *If you build it, will they come?*—there appear to be three prominent pathways through which the central coordinator tries to compel people to come:

1) A sub-national government (or in some cases, the national government, as in Xiong'an New Area) acts as the central coordinator, and directly reaches out to firms in the market. This usually works best if there is already strong market demand to move into the city regardless of the coordinator's abilities, such that the government does not need to actively pursue firms in the market through their relationships.
2) A sub-national government acts as the central coordinator, and uses state control to forcibly move public and semi-public entities into their city. This usually works best if the government body has considerable political power (as was the case in Zhengdong New District, China, where the government managed to move the headquarters of the provincial government of Henan, a provincial-level industrial park, and several top universities).

[130] Ibid.

3) A private developer acts as the central coordinator on behalf of a weak local government, and interfaces with private firms in the market. This usually works best if the developer has a large network of corporate contacts (for example, if they are the real estate branch of a larger state-owned enterprise or conglomerate, such as China Resources Land, which is part of China Resources Group), or if they have specific experience in building specialized types of new planned cities (such as TUSincere, with its relationship to Tsinghua).

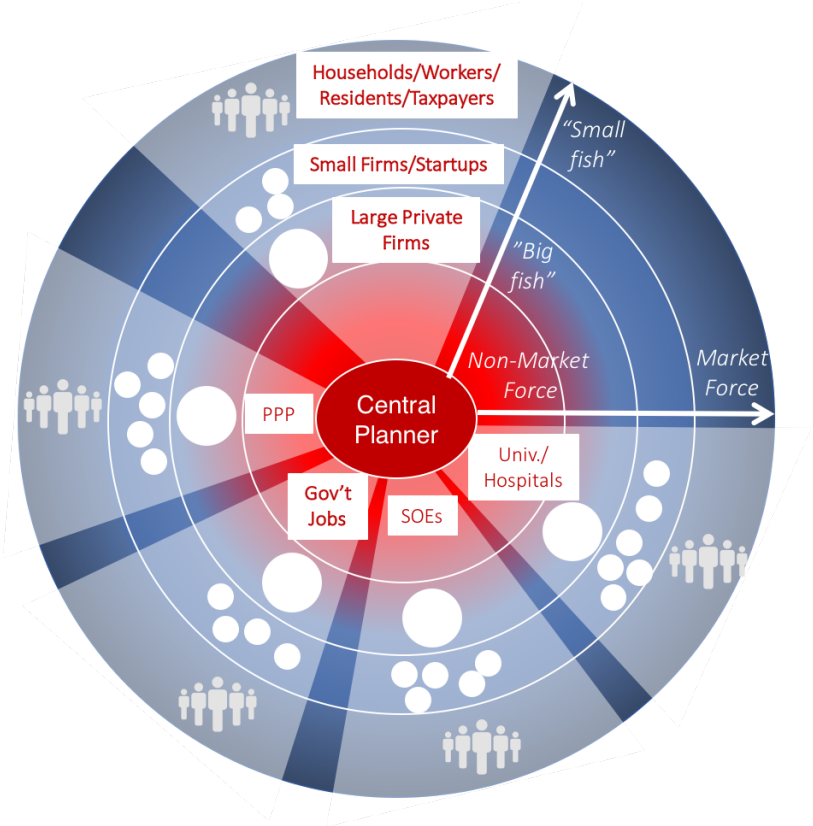


Figure 19: Coordination Mechanisms

In the case of Gu'an, following the third pathway as a private coordinator, CFLD does not have much "non-market force" with which to mandate the movement of government jobs, branches of state-owned enterprises, public universities or hospitals, or national research

institutes into the new city. They must instead go straight to the market and try to find a "big fish"—an anchor firm that "smaller fish" firms will follow, which in turn bring workers and residents—through their own relationships and recruitment process, and reel them in using "market force" (such as benefits from clustering, business services, and below market-rate land).

The bulk of CFLD's industrial research department—over 3,700 employees out of the total 5,000—is a "corporate solicitation branch" dedicated to this work. The team (which CFLD calls "global hunters of promising innovative sectors" and "matchmakers" between firms and new cities[131]) is primarily responsible for cultivating the developer's corporate networks, keeping tabs on leading firms in target sectors, and inviting them for relocation to CFLD's many new city projects when needed. They also maintain a massive database that lists the operational, supply chain, and input resource needs of close to one million domestic companies, which helps the team make effective solicitations to their corporate contacts.[132]

One CFLD analyst explained that through these resources, CFLD will often identify a longer list of potential "big fish" than is actually needed; in the end, they usually go after one large company (such as Visionox in the advanced display manufacturing sector; and Beidou, a satellite manufacturer, or a state-owned entity like the National Aerospace Center in the aerospace sector), and are very selective about the quality of these firms, prioritizing those that are willing to bring large amounts of fixed investment and pay high taxes to Gu'an (CFLD's sources of payment).[133] For these highly desirable "flagship" or "first-tier" firms, CFLD will conduct negotiations wherein they (with the approval of the local government) might offer the

[131] "CFLD in Numbers," CFLD, accessed May 21, 2019. http://www.cfldcn.com/en/numbers.html; Interview by author with CFLD analysts in Shanghai and Beijing, January 2019.
[132] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.
[133] Interview by author with CFLD analyst in Shanghai, January 2019.

firm anything from steep discounts on land, to tax breaks, subsidized housing for employees, or office space in one of CFLD's startup incubators.[134] Analysts describe this process as confidential, highly negotiable, one-on-one deal-making—a black box—rather than the more standardized public process by which state-owned industrial parks evaluate corporate applications for entry. Like the owner of a shopping mall, once these anchor firms are secured with the equivalent of "lower rent" in the new city, the "smaller fish" firms that follow them are offered higher, more standardized prices, or asked to bid for a plot of land if there is enough competitive demand.[135] For example, once CFLD managed to recruit BOE Technologies (their leading LED panel manufacturer), thirty of BOE's upstream suppliers and partners also relocated to Gu'an to stay close to their major client, but BOE reportedly received the best deal on land.[136]

On top of their solicitation and cross-firm coordination services, CFLD also points to their extensive "business services and operations" team of 300 staff who "manage the needs of companies in our industry cities"—for example, by accelerating fulfillment of their administrative tasks (such as tax registration, patent applications, legal and financial consulting), negotiating with the local government for policies that accommodate their preferences, customizing infrastructure and facilities to their specs, sourcing talent and supply inputs, giving SMEs growth advice from industry experts and accelerators, and connecting them to financial institutions, incubators, and capital sources—as an essential strategy for landing a "big fish" flagship firm.[137] For example, when an important potential client, Eternal Material Technology (a large OLED manufacturer) raised concerns about cleanroom manufacturing standards, CFLD brought in experts from its existing aerospace clients to help satisfy their specific technical

[134] Planning process presentation at CFLD Industrial Research Institute in Beijing, January 2019.
[135] Interview by author with CFLD analyst in Shanghai, January 2019.
[136] Ibid.
[137] "CFLD in Numbers," CFLD.

needs, whereas rival industry towns had only offered them land and tax subsidies.[138] EMT executives later confirmed that this dedication to service helped secure their investment.[139]

However, running counter to the coordination strategy of targeting big fish in order to attract the small fish, senior managers at the CFLD Industrial Research Institute argue that in certain sectors, it is just as important to cultivate a pool of small fish—startups, incubators, accelerators, research institutes—in order to attract the big fish, particularly in industries where large leading players expand through acquisitions of innovative startups, or by investing in distributed sources of basic science or R&D.[140] CFLD calls this the "tech transfer" model of firm recruitment, whereby CFLD leverages its connections with universities and research institutes to identify opportunities to commercialize academic findings, incubates these ventures in a CFLD accelerator, and then invests directly in them as newly-formed startups based in a CFLD new industry city.[141] CFLD claims working relationships with over 30 institutes of higher education—such as Tsinghua University, the Chinese Academy of Science (CAS), and the Harbin Institute of Technology—through which they have built collaborative institutions in Gu'an, such as the Pilot Trial Incubation Base for Tsinghua scientists, the Harbin Industry Technology Research Institute, as well as post-doctoral positions for CAS researchers.[142] Through their presence in Gu'an, as well as their proximity to Beijing—arguably the center of science and technology innovation in China—CFLD hopes to position Gu'an as the tech

[138] "CFLD's Gu'an New Industry City: A New Kind of Public-Private Partnership," E-House China & Wharton School of Business.
[139] Ibid.
[140] Planning process presentation at CFLD Industrial Research Institute in Beijing, January 2019.
[141] Ibid.
[142] "Industry Cluster," CFLD.

commercialization center for new innovations coming out of Beijing, as well as a thriving cluster for its established pillar industries.[143]

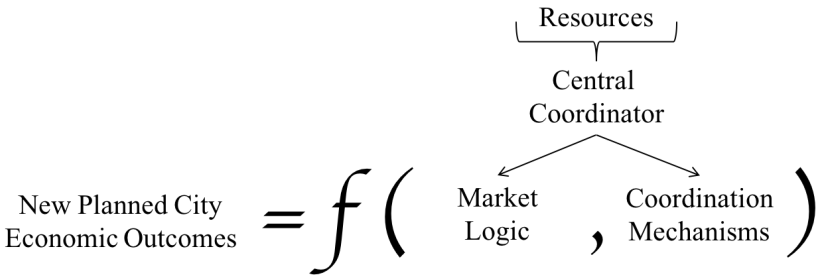
Synthesis

In this section, I have described the practical decisions and mechanisms that a private planner like CFLD faces in the process of creating a project like Gu'an. However, Gu'an is considered one of the most notable, prototypical "success stories" in the world of Chinese city-making, and such a singular case study is obviously limited in the insights it can generate about "how to build a new city as a new economic engine" in general. For example, when I asked a project manager about what they thought were Gu'an's biggest success factors, they pointed to their strategic location choice, pick of promising industries, opportune timing, and valuable ancillary services to firms as the top contributors.[144] However, this does not help to explain why some new city projects fail to achieve the same results, or what would potentially happen if this strategy were to be scaled across hundreds or thousands of new cities across the world.

Another way to frame this question is to ask, what are the relationships between the different variables—resources, market logic, and coordination—and what are their relative value-adds to any given new city project? We might imagine that having control over resources 'R' (land, subsidies, infrastructure, capital) is a constant that is required to physically build-out a new city anywhere and anytime. But on top of this base, the convergence of *strong* market fundamentals 'MMM' (attractive location, appropriate industry choices, opportune timing) with *strong* coordination mechanisms 'CCC' (capable recruitment of big and small fish and the creation of a new cluster) would provide the most fertile conditions for creating an economically

[143] Ibid.
[144] Interview by author with CFLD analyst in Shanghai, January 2019.

successful new city (= R + MMM + CCC)—for example, what seems to have occurred in the case of Gu'an. On the other end of the spectrum, having control over the same resources 'R,' but *weak* market fundamentals 'M' and *weak* coordination mechanisms 'C' (= R + M + C) would likely provide the worst conditions—perhaps leading to a ghost city with physical structures but no economic or human activity, in a distant corner of inland China.



Relationships between variables?

Value of Coordination	Value of Market Fundamentals	Outcome?
+++	+++	**Strongest scenario**
+	+++	**?**
+++	+	**?**
+	+	**Weakest scenario**

Figure 20

However, the two scenarios in the middle of the spectrum are less clear: what outcomes could be expected in a scenario with strong market fundamentals but weak coordination (= R + MMM + C)—for example, if the Gu'an county government had attempted to build a new industry city on their own, without CFLD's services as a central coordinator, but had chosen the same site, sectors, and timing—or in a scenario with weak market fundamentals but strong coordination (= R + M + CCC)—for example, if a footloose developer were politically forced to

work in an undesirable location or choose an inappropriate industry, or if a local government were fixed in a weak economic area but had strong political and coordination capacities?

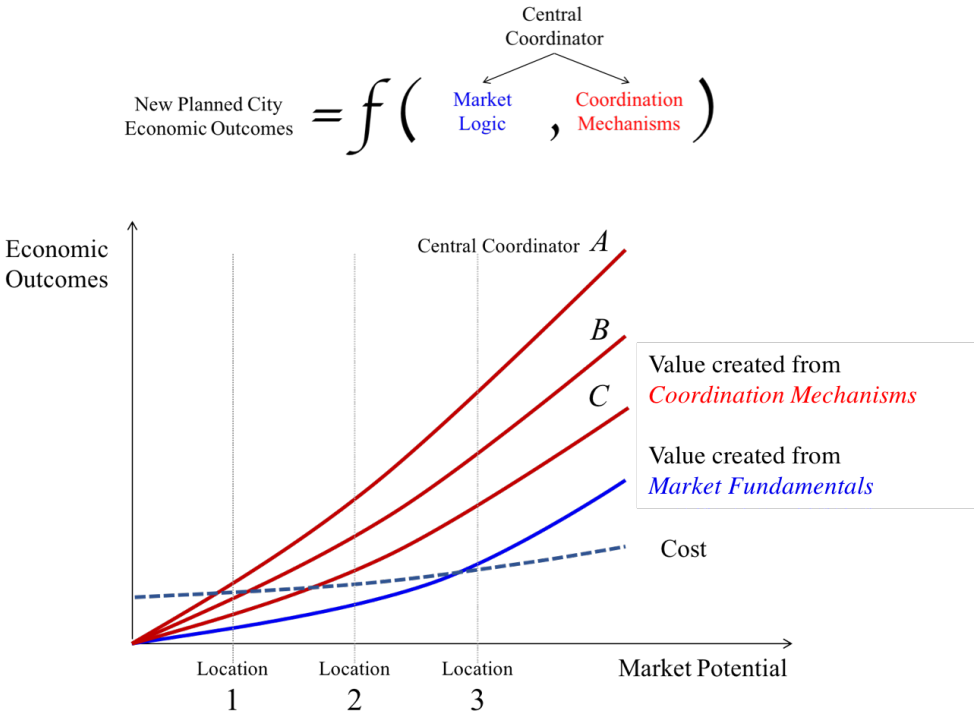


Figure 21

In other words, are these two variables *substitutes*—where "good planning" can compensate for a "bad location"—or *complements*, which only create value in synergy with each other, but do not add individual value in the absence of the other? This question has implications for the geography of where new planned cities could feasibly be started in the future: if we were to learn that the most value came from the coordination efforts of a good central planner—which represent skills that can be researched, trained, improved, and bought—rather than from the market fundamentals of its location, this would greatly expand the range of places where new cities could be built. However, if we were to learn that the value created from a central planner's

coordination mechanisms were at most a small premium sitting on top of the value from a good location's fundamental—if it really is *location, location, location*—then it would greatly constrain the range of places where new cities could be built. These are questions that are beyond the scope of this thesis, and call for much more research and a broader framework by which multiple cases along a spectrum of new city outcomes might be compared and understood.

Conclusion

New Opportunities and Risks

On the upside, it seems that these urban and industrial master-planning strategies—as practiced by private planners within a specific structured incentives system, such as the CFLD-Gu'an PPP—have the potential to create positive-sum economic value. Through their expertise in coordinating a set of available resources into highly productive arrangements, both in a spatial and industrial sense, they ideally expand the pie of economic activity and surplus that is possible to create with that set of resources. Building new planned "industrial" cities in this fashion may thus open up several opportunities for economic development, which the majority of this thesis has been dedicated to exploring: coordination via "the managed hand" of the central planner can resolve state and market failures—successfully solving problems of large-scale land assembly, place-based resource bundling, first mover reluctance, and cross-firm coordination—to encourage complementary firms to cluster together in a timely fashion, in a holistic urban environment where their workers can permanently reside. If they choose the right industries for the right place at the right time, then manage to reel in productive firms within those firms, they can achieve synergy between all the variables, with concentrated firms capturing positive spillovers from agglomeration, and becoming more than the sum of their parts. In addition, a new city founded on the basis of thoughtfully derived, market-driven industrial policy may allow the region to develop in directions that are considered desirable for long-term growth, rather than in an uncontrolled manner favouring short-term income (avoiding a proliferation of high-end residential development only for the wealthiest buyers). In the case of Gu'an New Industry City, for example, interviewees both within and outside CFLD believe that due to Gu'an's location just south of Beijing, the area would have eventually developed one way or another—but with

CFLD's intervention, it may have unfolded with a clearer, more deliberate vision of what that development should look like.

Another opportunity that this mode of city-making may present is a capitalist corrective to national over-investment in new cities with weak fundamentals. Strong political incentives pushing local governments to consistently register high GDP growth, low cost of construction (state-owned urban land, cheap loans collateralized with land, cheap labour), and central stimulation after the 2008 financial crisis led to a breakout of "new city fever" in China, particularly between 2009 and 2012 (Lu, 2011). In addition, due to policy changes in the early 2000s that increased the national quota for rural-urban conversion in inland regions, the majority of new towns that were built were located in middle and western China, most of which are population-outflow areas where the planned population densities of new towns are low, and the distances between new towns and existing urban centers are large (Lu & Chen, 2018). Scholars have observed that in building new cities, local government officials compete to be "the biggest," "the tallest," "the utmost," and "the first," no matter the suitability of these goals for their region (Xue et al., 2013: 228). Most new towns are planned to be centers of high tech, finance, advanced manufacturing, and services, but because they lack the prerequisites for agglomeration, many are at risk of turning into "ghost towns" due to insufficient demand for jobs or housing in these areas (Batty, 2016). Jin et al. (2017)'s quantification of this gap finds that residential districts of new city projects are only about 8.8% as "vibrant" as those in older urban areas.

In sum, the supply of local government-led new cities in China has grown due to political, policy, and fiscal tailwinds, but because they do not adhere to market logic in terms of demand, they fail to attract sufficient population and industry to be self-sustaining and vibrant after their initial construction—or in other words, urbanization of land has outpaced the

urbanization of people and businesses that might actually use it, with a surplus of two years' worth of built-up urban land over the allotted quota (Lu, 2011; Lu & Chen, 2018). Looney & Rithmire point out that since 2009, Chinese investment in urban construction at the macro-level has stayed at 44% of national GDP, compared to 13-16% in the United States, and reaching up to 60% in some regions (2016: 3). In 2016, the National Development and Reform Commission of China warned that local governments had zoning plans for over 3,500 new towns, new cities, or new industrial parks under development, which the NDRC calculated would be enough to house 3.4 billion people, or half of humanity, if fully built.[145] These inefficient investments—misallocations of place-based investments either due to political self-promotion, cronyism, or problems of knowledge—have also led local governments to accumulate high levels of debt, ballooning from less than 3.2 trillion RMB [$462 billion USD] before 2008, to 10.7 trillion [$1.5 trillion USD] in 2010 and 17.9 trillion [$2.6 trillion USD] by 2013 (Lu & Chen, 2018: 14).

Could the increased involvement of private sector planners—primarily as a contractor for economic development-related services, not as a traditional real estate developer—serve as a counter-force to this fever? After all, private planners operate under extremely different parameters than local governments and are bound by different constraints: whereas local governments have a fixed spatial jurisdiction, developers are footloose, which allows them to selectively launch projects only in locations where they think the market fundamentals are strongest, while local governments must work with whatever factor endowment they inherit in their region. Local governments often only have enough land and resources to take one shot at building a new city in their respective regions, whereas successful developers can run multiple projects in multiple regions, which allows them to learn from comparison and iteration across

[145] "Wheel of fortune - China Fortune: the biggest company you've probably never heard of," *Week in China*, July 7, 2017. https://www.weekinchina.com/2017/07/wheel-of-fortune/

projects. And while local government officials and bureaucrats obviously face negative political and professional consequences if their new city project fails to produce returns on investment and accumulates increasing debt, market-driven private developers literally go out of business if that occurs. All of these parameters push private developers towards developing more sophisticated methods for assessing, projecting, and evaluating the success and failure modes of new planned cities than local governments. Indeed, like most Chinese developers, CFLD has recently course corrected in light of China's economic slowdown over the past few years, proactively folding projects in Chongqing, Chengdu, and other western regions to consolidate their efforts near the biggest industrial zones around the Beijing-Tianjin, Yangtze River Delta, and Pearl River Delta regions."[146]

One analyst's take on CFLD's longer-term strategy is that over the next ten to fifteen years, China's overall urbanization rate is expected to grow from 60% to a stabilization point at 70%, which they project will allow about another decade's worth of work in urban development to accommodate 200 to 300 million more expected urbanites.[147] However, as birth rates decline and macroeconomic growth slows, a geographical reckoning—which existing cities will continue to grow, which new industry cities will flourish, and which will lose their population to the former two and shrink—will force developers to be much more careful about which locations they choose to work on in the future. CFLD, which feels that "survival is key" in the coming years—as one senior manager put it, "only those developers who can truly cultivate industry will survive in this huge competition"[148]—is likely to pivot to refurbishing or upgrading existing industrial parks or cities, and gravitate even closer to the orbit of cities with continued population

[146] Interview by author with CFLD analyst in Shanghai, January 2019.
[147] Ibid.; Interview with high-level manager of CFLD Industrial Research Institute in Beijing, January 2019.
[148] Ibid.

inflow.[149] This market-responsive rebalancing would certainly prevent the kind of feverish over-building seen over the past twenty years of China's great building boom.[150] As investment risk is increasingly born by private sector planners, they open up opportunities to increase the quality, not the quantity of new cities built in China.

But having addressed the positive upsides that theoretically justify the role of a private coordinator, there are also significant and unique downsides that they also potentially raise. There are large outstanding unknowns even for a project that (so far, fifteen years in) seems as successful as Gu'an. The main unknown is that despite the 500+ firms, 20,000 jobs, and billions of RMB in revenue brought in through industrial investment, we still do not know whether there was an expansion of economic activities *on net*, or whether those same firms would have been just as or even more productive in other places—in other words, did the creation of Gu'an lead to genuine, positive-sum growth, or simply a zero-sum reshuffling of resources from locations A, B, and C to location G? Even if all the market actors—firms, workers, investors—freely chose to relocate to Gu'an based on their own individual cost-benefit analyses, projecting a certain amount of gain due to positive spillovers from clustering together, there has not been a study of

[149] Ibid.

[150] That said, through a political lens, the Chinese Communist Party may not actually want urban development to be entirely, or even primarily, driven by the market. Political scientist Meg Rithmire argues that "rather than seeing the center as passively reacting to land-hungry local officials" and unable to control new city fever arising from the local level, the CCP could alternatively be deliberately using over-building as a macroeconomic lever, helping Beijing "respond to domestic and international economic shocks and trends and manage expansion and contraction" (2017: 123). An additional political consideration is that the CCP might be willing to risk the excesses of over-building and state misallocations that occur under local government-led new city building, because this process is politically safer for the stability of the regime. Looney & Rithmire argue, "Instead of relying on markets and voluntary migration, the CCP aims to steer the process through its control of land, labor, and capital. If it succeeds, China will urbanize hundreds of millions of people in the next decades without experiencing the social dislocation and political agitation that urbanization historically brings. If it fails, the risks range from simple economic stagnation to political and social upheaval… The risk is that the central and local arms of the state, rather than markets, will determine which cities grow and in what direction. If local economic activity does not also follow the construction, migrants will not be attracted to these areas and they might remain ghost cities. Clearly, the CCP has decided that the risks of these bad investments are more palatable than the consequences of uncontrolled and unmanaged urbanization" (2016: 11).

their actual, realized benefits from agglomeration and the changes in long-term productivity over time. This risk is likely greater for projects where the central coordinator is a powerful government that can "drag" desirable firms to their area using non-market force (for example, by exerting its political influence on SOEs to move there, or by offering land for such low prices, sometimes for free, that firms will open facilities simply as a real estate investment). This is an empirical question that researchers can approach in the future, as the new city matures.

Another major category of risk is due to the political economy of actors involved in creating new cities, and the non-market incentives that still drive much of their behaviour. Even if hiring private planners like CFLD might be a way to make new cities more market-driven and less prone to state misallocation mistakes, there may still be many points at which these new decision-makers will also "play politics," rather than make "purely economic" decisions.

For one, there is the risk that the coordinators will misprioritize industries due to the conflicting desires of their local government clients. Managers at CFLD recount that it is very common for government officials to disagree with their recommendations on which sectors to prioritize in their region, because they optimize for political prestige rather than comparative advantage. "CFLD does a lot of work to convince them and educate them with our research and evidence; almost 90% of the governments we work with have big ideas, but after several rounds of negotiation we need to convince them that their big empty ideas might be useless for their goals," as one analyst stated.[151] A manager at Hong Kong Land, another large developer, noted that it is often hard to balance between the developer's market-driven interest in choosing sectors that are most likely to generate long-term growth (and profit for them), with their political need to cooperate with governments in order to secure land and PPP contracts in the first place—

[151] Interview by author with industrial researchers at CFLD Industrial Research Institute in Beijing, January 2019.

especially because "governments will not accept answers they don't want to hear, sometimes, about what sectors make sense in their city," and only want to consider "high-end" sectors regardless of fit, even though "there are only a few 'top' sectors and a few 'big fish' within those sectors."[152] Another manager at Nanfung Group complained that "all local governments, no matter whether they are first tier or fourth tier, want to have a financial hub in their new city, or a 'cloud-based big data hub'—even though these need a lot of water to generate enough electricity, like in Guizhou province. They need to think of their match with natural resources!"[153]

However, these linkages between industries and existing resources are not well understood by most local governments—those that desire sectors like "cloud-based big data processing" might not realize they lack the water resources for it, while other places that *do* possess so-called "old industry" resources, such as graphite or petroleum, may not be aware of innovative sectors and startups that could make use of these resources as fundamental inputs. According to one consultant, the idea that there is "nothing" to work with in economically weak areas is a false premise: no matter how remote or undeveloped it is, each place has its comparative advantages. That said, a government may not recognize the value of certain resources, while over-valuing others.[154] This tension between private planners and political leaders in deciding industrial policy—whether to follow industrial research based on markets vs. preferences based on politics and priors—raises the risk of industrial homogeneity, over-concentration, over-competition, and races to the bottom, as discussed earlier in this thesis.

Another political economic risk is simply that the relationship between private planners and their government partners may sour over the course of a long-term PPP, which may threaten

[152] Interviews by author at MIT Beijing New City Forum, November 2018.
[153] Ibid.
[154] Interview with the director of a prominent state-sponsored startup incubator in South Korea, December 2018.

the coherency of the entire project. Among all the developers interviewed for this thesis, there was unanimous agreement that policy risk—from sudden shifts in government preferences, turnover of officials, or new mandates from Beijing—was the single largest risk factor in their workflow, and the most important factor determining the success of a project.[155] Even though master planners like CFLD hold significant autonomy in places like Gu'an, even a weak local government still has veto power and can get extremely involved in decision-making at multiple levels. Government officials also operate on a relatively short time horizon, prioritizing the launch of projects within their tenure period over their completion, and this short-termism can lead to scrapped plans and wasted resources (Xue et al., 2013: 228). For example, one developer reported that there have been times where they had to start an entire new city project over again after more than five years of work, because the mayor of the locality changed.[156] An earlier CFLD project in Zhengjiang, Jiangsu province also reportedly failed because the local government simply reneged on their agreement to reimburse CFLD for 600 million RMB that they had already spent on land development.[157] And even while working with a relatively constant, cooperative team of local government officials, the developer may still need to close a project because of policy shifts outside of the locality's control: for example, if the central government sets macro-prudential policies to control housing markets in targeted areas—by setting a ceiling on prices, increasing down payment requirements, or restraining multi-home buyers—or issues fiscal reforms that cut into a local government's budget, developer cash flows may not be enough for the project to survive year over year. In addition, considerable effort and expense may go into avoiding political contentions and stepping on government toes over a

[155] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018.
[156] Ibid.
[157] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.

multi-decade timeline; for example, an analyst recounted that CFLD had originally bought the surrounding land around the Xiong'an New Area site in Hebei many years ago, but when the Xiong'an project was announced by the central government in 2017, the company "voluntarily" returned the land to full state ownership because it did not want to compete with the state.[158]

Dealing with these realities, developers deeply understand that no matter how driven by market logic, or how "systematic and scientific" their master-planning process may be in the ideal scenario, in the end they "always need to please the government, know the political demands on government officials, and help them get promoted based on central government criteria," as one analyst put it.[159] And while all developers operating in China emphasize the need to cultivate good *guanxi*—the intricate system of social networks and influential relationships that informally facilitate business and most other dealings in China—CFLD in particular is renowned for its "extreme" and "mysterious" political and business relationships with the government, and the "B2G" (business-to-government) model it was able to carve out as a result.[160] Journalists report that the company's management advocates a culture of "dancing with policies rather than evading" as well as "studying policies for all employees" in order to impress client governments when they meet to negotiate deals.[161] In addition, as of June 2016, over 3,600 out of CFLD's 5000+ employees were reportedly members of the CCP[162]—this not only brings a distinct ideological colour to the company, but perhaps also allows them to act as policy arbitragers in the industrial real estate market. This was, after all, how Wang Wenxue first entered the business: in 1992, Wang started a hotpot restaurant in his hometown of

[158] Interview by author with a CFLD analyst, in Shanghai, January 2019.
[159] Ibid.
[160] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.
[161] Ibid.
[162] Ibid.

Langfang, Hebei, which became a popular hotspot for local government officials, who tipped him onto the need for renovating government offices and the headquarters of state-owned firms, which became Wang's first foray into real estate development.[163]

In these grey areas, the extent to which any decision in the process of creating a new city is driven by "market logic" vs. "playing politics" is unclear. On the one hand, as a former staff member put it, "CFLD has only one client. And that is the government."[164] On the other hand, as a different staff member stated, "CFLD understands the government but keeps its distance. CFLD has projects in Kyoto. Is it possible for Wang Wenxue to have a good relationship with every county magistrate in China and the world?"[165] Even looking at its internal employee base, a scholar of land development at Renmin University points out that CFLD (and similar large real estate developers) continuously poach academics and former civil servants—especially seasoned urban planners and regional development experts from the central government—to come work for them in the private sector rather than for the state.[166] Thus, despite formally being a private sector enterprise that is publicly traded on the Shanghai Stock Exchange and majority-owned by Wang, CFLD itself as an entity blurs the line between the public and private sectors, as do many other hybrid entities, like SOEs, conglomerates, and oligopolistic firms in the Chinese context.

This reliance on *guanxi* and public-private ambiguity extends to CFLD and other developers' relationships with firms in other industries as well. Developers working in this space in China have been described as match-makers, recruiters, solicitors, site selectors, brokers, and agents interfacing between local governments and firms; put differently, they serve as a kind of two-sided market maker, through which both public solicitations and private

[163] "Wheel of fortune - China Fortune: the biggest company you've probably never heard of," *Week in China*.
[164] "Once-Poor County Builds New Model for Property Development," *Caixing Global*.
[165] "CFLD Boss Wang Wenxue Background," *Caijing Magazine*.
[166] Interview with author at Renmin University, Beijing, July 2018.

applications for firm relocation into new cities are coordinated. According to an industrial park operations manager at Fosun Group, this is what makes the role of the real estate developer unique in China: "It is in the developer's interest to make close friendships with big companies everywhere, so we can look for areas of mutual benefit and win-win. That's the grey area of China."[167] Especially valuable are relationships with large "flagship" companies, because they in turn have their own networks and ecosystems to bring into the developer's fold.[168] It is through this network of relationships that CFLD has introduced a total of almost 1000 companies, funneled over 220 billion RMB in investment, and brought 40,000 jobs to their new industrial cities as of the end of 2015.[169] Importantly, CFLD analysts explain that "lower tier" companies—or those that wish to settle in New Industry City A but do not fit its priority sectors or standards—are not rejected, but often rerouted to a different CFLD project. As one analyst described it, "We can also offer research and consulting to companies, show them that 'this is a good location for you' and help them make such choices; we have so many new industry cities in China, so if a company is not suitable for one, we can introduce them to another."[170]

In these ways, if there is a gradient between contexts where cities compete for firms (sometimes as explicitly as the Amazon HQ2 contest in 2018) and contexts where firms compete for cities (such as the Shanghai municipal government's strict filter on who can enter their state-owned industrial parks), CFLD's two-sided platform illustrates how other, intermediary actors also play a critical role in managing these competitions, somewhere in the middle. By acting like a real estate broker in addition to a real estate developer, CFLD's vast menu of new city sites

[167] Interview of an industrial park manager at Fosun Group, in Shanghai, January 2019.
[168] Interview by author with CFLD analyst in Shanghai, January 2019.
[169] "About CFLD," 2017 Beijing Marathon.
[170] Interview by author with industrial researchers and high-level managers at CFLD Industrial Research Institute in Beijing, January 2019.

waiting to be filled on the one hand, and vast network of companies interested in relocating on the other, give them unusual returns to scale; as a result, they have unusual power to shape the economic geography of corporate location.

In addition, CFLD also directly invests in startups and tech-transfer ventures using their own industrial fund (adding "shareholder" to the long list of other hats it wears). CFLD has established or partnered with over 70 startup incubators in seven countries, including in Silicon Valley, Tel Aviv, Berlin, Seoul, Beijing, Shanghai, and Shenzhen.[171] Again, the logic behind these entrepreneurial activities is always oriented towards filling their pipelines with a steady supply of firms and private investment, with which they can populate their new city projects and derive their industrial development service fees. For example, CFLD's slogan for their incubator in Silicon Valley is "America Incubates, CFLD Accelerates, China Creates"[172]—another iteration of CFLD's search for "win-win scenarios," whereby new US innovations can reach the world's largest market in China, and Chinese new cities can upgrade their industries by importing these ventures from abroad. Other large-scale real estate developers have similar entrepreneurial aspirations: for example, China Resources Land, the real estate branch of the state-owned conglomerate called China Resources Group, also owns an incubator called Run Accelerator that directly invests in startups, as well as recruits them as tenants for their many high-end shopping malls around China;[173] and at least a dozen other developers with incubation and VC capacities

[171] "Industry Cluster," CFLD.
[172] "China Fortune Land Development Gives Boost to Chinese Industry with Technological Innovation," CFLD, February 28, 2014. https://www.prnewswire.com/news-releases/america-incubates-cfld-accelerates-china-creates-247925931.html
[173] Interviews with staff and director of startup accelerator at China Resources Land, summer 2018.

attended the 2018 China Innovation and Entrepreneurship Fair in Guangzhou in order to network with up and coming startups.[174]

However, almost every staff member interviewed who worked in this intersection between startups and real estate observed that developers (including CFLD) rarely have any success as investors, that few of their startups have gone on to create much value beyond their initial fundraising, and that developers have very little concrete expertise in venture capital and entrepreneurship, beyond their possession of corporate and government connections.[175] For example, the managers of Run Accelerator in CR Land admit that "success stories are few, and incredibly slow;"[176] a CFLD analyst shortly dismisses their incubators as "not successful."[177] Given the challenges of urban and industrial master-planning that these developers already face in their main line of work, it is curious that they also choose to cross over into yet another arena—why do they try to be venture capitalists when they are not good at it?

One explanation is that as more and more new industry cities are built, and as existing cities also push to "upgrade" into new economy sectors, China as a whole is running low on its national supply of high-skilled firms and workers to feed all this new demand. Especially for ICT-related sectors—where the most important inputs are talent, funding, and conditions conducive to innovation; not necessarily large-scale real estate for factories with large physical footprints—the game of competitively attracting firms to fill these cities has become more about the quantity of firms in a developer's orbit, not their quality. As a Fosun representative described it, the biggest challenge for developers in China now lies in winning land and project

[174] Interviews with real estate developers at the 2018 China Innovation and Entrepreneurship Fair in Guangzhou, summer 2018.
[175] Interviews with analysts at CFLD and CR Land, 2018-2019.
[176] Interviews with staff and director of startup accelerator at China Resources Land, summer 2018.
[177] Ibid.

contracts from local governments. In negotiations with the government, "the most important part of the MOU is what companies (usually three to ten) are already attached to the developer; the government always want to see the list of companies that the developer is associated with. The main benefit of collaborating with a big company, say FoxConn, is for the developer to be able to show the government that they have this *guanxi*, and get more or better land."[178] Because of this incentive pushing them towards volume, developers are also now entering the VC business in order to increase the number of startups, private investors, and entrepreneurs they can bring to the table when negotiating with local governments, as well as to market themselves as experts in innovative new technologies and sectors that governments lack expertise in.

For example, CR Land's in-house incubator, Run Accelerator, reports that although its actual incubated startups have not been successful so far, it has had more success helping its larger parent company acquire better land deals from governments. When negotiating with the city of Guangzhou, Run Accelerator's presentations about their "cutting-edge" startups, national and international VCs, and "partner network" of more than 1700 corporate entities helped CR Land receive three times the amount of land they had originally bid for, and at a very low price. A CR Land analyst explains that this was because the government officials only cared about "increasing jobs" in a very technical sense, and liked the idea of bringing more startups and incubators into their budding "innovation district"—without asking too many more questions about the growth prospects of the startups themselves.[179] This problem of running out of domestic businesses has also pushed developers like CFLD abroad to South Korea and Japan. For example, the director of a prominent state-sponsored incubator in Korea criticizes CFLD for having aggressively solicited Korean ICT startups to set up shop in their new cities in China,

[178] Interview of an industrial park manager at Fosun Group, in Shanghai, January 2019.
[179] Interviews with staff and director of startup accelerator at China Resources Land, summer 2018.

when "their only target was getting money and land from the government," as he summed it up.[180] "After talking to us for just enough time to be able to document our communications and prove our 'business association' to show the government, CFLD did not actually care about fulfilling a real business contract with us." His observation was that developers and local governments both have a tendency to prioritize quantity over quality, and shallow association over real economic activity; for example, many new cities in China claim to host a branch of large tech firms such as Tencent, Baidu, and Lenovo—however, if one actually visits these branches, many of them turn out to be insignificant operations like sales desks or call centers.[181]

While it is beyond the scope of this thesis to size the extent of this problem—how much money real estate developers are investing into mediocre startups in order to impress governments, how many developers do this, or what the prospects of these startups actually are—it appears that some amount of speculative real estate capital is flowing into entrepreneurial enterprises (either through direct investment or through building out "incubator/accelerator" spin-off branches of developers), without accompanying experience or expertise in selecting or cultivating these startups, or mechanisms for ensuring returns from their performance as healthy businesses. The danger of this unusual political economic arrangement is that CFLD and similar actors may make decisions that benefit their own business, but are unproductive and inefficient for the actual firms they are "placing," and are therefore speculative and risky for the localities they bring them to.

[180] Interview with the director of a prominent state-sponsored startup incubator in South Korea, December 2018.
[181] Ibid.

Closing Thoughts

This thesis began with three simple questions about a complex urban phenomenon: Why is it happening? How does it work? And what are the opportunities and risks it presents? Over the course of attempting to answer these questions concretely—and approach them open-mindedly, from an angle not yet taken by scholars—I have come to ground the story in what may be an exceptional example: the case study of Gu'an New Industry City in Hebei province, China, and the company called China Fortune Land Development that created it. The natural question to close on, then, is *What does all this mean?* Is Gu'an an edge case, the one and only "new planned industry city" of this form, where a combustion of timing, pressure, players, and planning led to exceptional economic outcomes that will never be repeated? Was it a singular moment of urban and industrial arbitrage, at the right place at the right time? Or is it the first use of a powerful new planning paradigm? More broadly, is master-planning new cities as economic engines an intrinsically doomed venture—but one that produces occasional sparklers like Gu'an—or is it an art form and a science that people can learn and improve through experience?

The limits of a single case study, especially a seemingly "ideal" case study, make it difficult to say. Given the huge diversity of political economic and institutional formations, market conditions, factor endowments, types of actors, and ideas that go into making new planned cities around the world, the conceptual framework I present in this thesis would have to be tested by explaining failure cases as well as successes; cases where the central coordinator was a central, regional, or local government instead of a private firm; cases where the private firm was a tech firm rather than a real estate developer; cases where location fundamentals were weak, where they were strong, and many points in between; cases where the premise of universal state-owned land did not hold, and resource assembly was much more challenging—perhaps

even cases where non-profit think tanks in favour of building more new cities sponsor open competitions seeking the best "business plan" for starting a new city (first prize $25,000; second prize $10,000), where they "expect the winning teams to form a company to build a charter city," (as the Center for Innovative Governance Research is now doing).[182] While this comparative research is outside the range of this thesis, anecdotal knowledge of other new city projects suggests that even if the Gu'an scenario itself is rare, the conceptual framework and mechanisms derived from Gu'an's experience can be useful for explaining a broad range of other cases. Gu'an's specific starting conditions and CFLD's capacity to work within them may have placed it on the successful end of the spectrum, but a variety of cases can also be placed at different points on the spectrum put forth by the framework, which can help us get closer to understanding what variables have what impact on the economic outcomes of different planned cities.

In the big picture, of course, all of this is another iteration of the perennial tension between planning vs. markets, top-down vs. bottom, coordination vs. control. This tension is probably the oldest wine in all the new bottles of urban form that have been built through human history. In this sense, real estate developers in China—acting as urban planners, industrial policy-makers, macroeconomists, regional development consultants, project managers, corporate agent-broker-solicitor-site selectors, venture capitalists, and coordinators—are just the latest species of "planner" to attempt to make cities that enrich themselves, and enrich the people who come to them. In many ways, CFLD's actions are not revolutionary; they are variants of strategies used by other actors that fill similar niches under different names—such as the

[182] Center for Innovative Governance Research, "Business Plan Contest," March 13, 2019. https://innovativegovernance.org/2019/05/13/business-plan-contest/?utm_source=Center+for+Innovative+Governance+Research&utm_campaign=f95e6a1eb5-EMAIL_CAMPAIGN_2019_05_20_11_47&utm_medium=email&utm_term=0_fccc97d8cc-f95e6a1eb5-228761493.

economic development branches of strong city governments (for example, Boston's Economic Development and Industrial Corporation (EDIC), which is mandated to help "attract new industry, expand existing industry, and to create jobs and business opportunity" in the city of Boston[183]), semi-public entities designed for cultivating specific industries in a region (such as the Massachusetts Life Science Center, a state-level entity "dedicated to supporting the growth and development of the life sciences in Massachusetts, home to the most verdant and productive life sciences ecosystem in the world"[184]), as well as traditional industrial park operators, real estate developers, and place promotors all over the world.

But perhaps their hybridization—the very fact that they are not squarely private nor public; their inclusion and reach into so many different parts of the business and across so many industries—is what led them to succeed at master-planning such a complex project. As public policy scholar Aaron Wildavsky famously wrote:

> Planning has become so large that the planner cannot encompass its dimensions. Planning has become so complex planners cannot keep up with it. Planning protrudes in so many directions, the planner can no longer discern its shape. He may be economist, political scientist, sociologist, architect, or scientist. Yet the essence of his calling—planning—escapes him. He finds it everywhere in general and nowhere in particular. (1973: 127)

The title of Wildavsky's article was, "If planning is everything, maybe it's nothing." But perhaps the lesson of CFLD's work in Gu'an is that instead of struggling with this largeness, complexity, and protrusion in many directions, it is possible for a planner to lean into a role that does everything, rather than nothing. By playing in the grey space between many different roles, between the big forces of planning and markets, between governments and companies, perhaps CFLD created new value (as well as new risks) that could only come from this embrace of multi-

[183] "BRA History," Boston Planning and Development Agency, accessed May 21, 2019. http://www.bostonplans.org/about-us/bra-history.
[184] "Investing in the State of Innovation," Massachusetts Life Science Center, accessed May 21, 2019. http://www.masslifesciences.com/about/

dimensional planning. This thesis has worked to show that although such planning actors are not easily categorized and are off the map in many ways, they should be studied and folded back into our theoretical understanding of what planning (especially top-down, comprehensive, master-planning in its strongest forms) can and cannot do.

Obviously, there are many important problems not addressed in this thesis: questions of governance and public accountability; the ethics of social displacement, equity, and access; the environmental impact of greenfield construction; or the lived experience of residing in a new city as an urban environment, to name just a few. These are the critical normative issues that have occupied many scholars on this subject, and for good reason. But with the approach I have taken, I hope to bring attention to the fact that regardless of how much academic critique is levelled at these new city projects, unless they are sympathetic to the practical problems of planning that their creators face, they may not have much impact on how new cities are ultimately formed. As Datta raises:

> Most of the new cities we examine… are still present in the drawing board or in construction sites. Measuring their 'success' or 'failure' then remains a theoretical, empirical, and methodological challenge… as cities without citizens, they cannot be studied through the ethnographies of everyday urban life that characterise the rich urban sociologies on megacities of the global south. How to examine these new cities when they are still largely present in national growth policies, on the drawing boards of planners, on the webpages of IT consultancies, in glossy reports of growth coalitions, and in the desires and aspirations of citizens? How can we study a 'thing' that has not yet fully materialised, lived in? How do we imagine their contribution to the combined urban futures in the global south? (2017: 6-7)

My answer to this challenge would be that instead of viewing the new planned city as a difficult object of study, more of our focus should be on the processes, procedures, and practices of planning that go into its making, rather than its finished or unfinished form. As Manuel Castells said, a city is "not a place but a process" (1996)—this is especially true of new cities, where we do not yet have the ability to measure its growth, walk through its streets, or talk to residents that

have lived there for generations. In order to usefully study new cities as "works in progress," we must therefore look beyond the architectural idioms, corporate rosters, branding concepts, and copy drawn from promotional materials circulated by the state, and try as much as possible to get inside the heads of the policy-makers, planners, and project leaders who are making decisions on the ground. Instead of viewing them solely in the abstract and from the outside from our position as critical scholars, we can think of what practical frameworks, tools, and models could be fashioned to help us understand their decisions, and help *them* make better decisions.

A remarkable part of my research for this thesis was the frequency with which real estate developers, urban planners, and government officials in charge of new planned cities lamented the lack of academic research that was relevant to their work. The head urban planner of Zhengdong New District worried that there is a "lack of study in the basics of the city: we know a bad city when we see one, but if we are trying to make one, what is the goal, what is 'good?'"[185] Many developers pointed at the "big gap" in tools that integrate spatial and economic planning together.[186] A senior executive at TUSincere admitted that despite their own achievements, they were "not very happy with the way new city development is being done; we need a more scientific method."[187] Industrial park developers from Mexico at the World Real Estate Forum eagerly sought out mathematical models of knowledge complexity, sector relatedness, and regional diversification, in order to have any idea of what industries they should themselves prioritize in their expanding parks.[188] Perhaps most tellingly, summary reports from the KAEC CityQuest Forum—likely the only conference in the world that brings together

[185] Zhengdong New District urban planner, interview with the author, June 2018.
[186] Interviews by author with large Chinese real estate developers at MIT Beijing New City Forum, November 2018.
[187] Interview with author at MIT, June 2018.
[188] Conversations at World Real Estate Forum, June 2018.

representatives from new city projects across continents to exchange knowledge and share their experiences in new city-making—give the following warning:

> In terms of design, training programs for creating new cities do not exist and no guidebook or template has been written for investors, designers and builders. Failures and successes of master-planned cities have not yet been catalogued and analyzed by scholars so there is an ever-present danger of repeating mistakes that other cities have made and of wasting resources in the process of discovering what works and what does not (2013: 26).

Thus in this new world of new cities—which are being built at rapid scale, scope, and spread, with or without knowledge of what consequences they will bring, with or without the approval of critical scholars—the importance of *mens et manus* should not be forgotten.

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