City Branding in China's Northeastern Region: How Do Cities Reposition Themselves When Facing Industrial Decline and Ecological Modernization?

Meiling Han [1,4], **Martin de Jong** [2,3,4], **Zhuqing Cui** [1], **Limin Xu** [1], **Haiyan Lu** [2] (iD) **and Baiqing Sun** [1,*]

1   School of Management, Management Science and Engineering, Harbin Institute of Technology, Harbin 150001, China; Meilinghanalice@gmail.com (M.H.); 15046009637@163.com (Z.C.); xlm219@126.com (L.X.)
2   Faculty of Technology, Policy & Management, Delft University of Technology, 2628 CD Delft, The Netherlands; W.M.deJong@tudelft.nl or Meilinghanalice@gmail.com (M.d.J.); H.Lu-2@tudelft.nl (H.L.)
3   School of International Relations and Public Affairs, Fudan University, Shanghai 200433, China
4   Erasmus School of Law, Erasmus University Rotterdam, 3062 PA Rotterdam, The Netherlands
*   Correspondence: Baiqingsun@hit.edu.cn

Abstract: The past decade has seen a surge in the use of city branding, which is used to attract specific target groups of investors, high-tech green firms and talented workforce and reflects a desired shift from old, polluting manufacturing industries to new, clean service industries. Previous studies in the Chinese mega-city regions Pearl River Delta, Yangtze River Delta and Jing-Jin-Ji (region around Beijing and Tianjin) have shown that branding practices of primarily service and innovation oriented cities are largely in line with existing industrial profiles while those which are predominantly manufacturing oriented wish to present themselves as more service and innovation driven. In this contribution, city branding practices are studied in China's three Northeastern provinces Heilongjiang, Jilin and Liaoning which face structural decline because of the presence of many outdated resource-based and heavy industries. The gap between existing profile and branding choices appears not systematic as in China's leading economic regions. Northeastern cities focus more on combining primary, secondary and tertiary industrial patterns than on displacing manufacturing with services. The tertiary sector in these provinces is more administrative and public sector oriented and generates lower value added; it is therefore not significantly more attractive than the primary and secondary ones.

Keywords: city branding; city label; city brand identity; developmental pathways; ecological modernization; North East China

1. Introduction

The past decade has seen a dramatic surge in the use of city branding practices by local governments around the world. In the drive to attract investors, businesses, talented workforce and profusely spending visitors they go to great lengths to convey positive self-images to the outside world and hope to obtain a variety of economic returns in exchange. Chinese cities are no exception to this rule. Some put themselves on display as global cities [1], others organize significant international events to get into the spotlights, such as sports events and large-scale exhibitions [2], while nearly all significant cities and even a great many districts build copious planning exhibition halls to share their urban development achievements with the broader community [3]. Few if any visitors have doubts on the speed and perseverance with which their infrastructure and urban development projects have progressed over the past thirty years or so.

Given China's continued aspirations to record annual economic growth of over 6.5% and combine this with an improvement in its environmental performance, 'ecological modernization' appears by far to be the most attractive course of future economic development [4–6]. Ecological modernization is generally defined as continued economic growth with reduced harmful environmental emissions and/or reduced consumption of natural resources by making a transition from a manufacturing and physical production oriented to a knowledge-driven and service oriented economy. This industrial transformation is not an automatic transition; it goes hand in hand with intense rivalry among municipalities and districts in attracting green, clean, innovative and high-tech service industries within their borders. A key tool municipalities use to boost their attractiveness is city branding [7]. City branding refers to the application of self-profiling and 'imagineering' practices by cities to enhance their positive visibility and loyalty among stakeholders relevant to their economic success [8,9]. They do this by highlighting their attractive features, cloaking themselves in and associating themselves with fashionable terminology and using images and logos to be remembered. They have also stepped up their use of a great variety of attractive city labels, such as eco cities, low carbon cities, smart cities, knowledge cities, resilient cities and many more [10]. Each of these concepts reflect a desired shift in the direction of ecological modernization where social, economic and ecological gains are presumed to come nicely together. Earlier studies in the application of city branding among cities in the face of ecological modernization focused on polycentric regions such as Rhine-Ruhr in Germany and Randstad in The Netherlands [11] and the three Chinese Mega-City Regions Pearl River Delta, Yangtze River Delta and Jin-Jin-Ji [12–14]. From these studies, it appeared that city branding practices were quite commonly used but that cities with a strong tradition in manufacturing and heavy industry were reluctant to present themselves as such and preferred to dress up as service or innovation cities even if this seemed barely realistic in the eyes of their stakeholders. A negative interpretation would lead observers to believe that city branding was all in all an activity in green-washing rather than true industrial transformation. Cities where the service and knowledge industries had already become dominant in recent years proved decidedly happier with their profile and their branding was more in line with geographic and industrial realities.

Since these previous studies focused on centrally located and economically leading regions, knowledge of city branding practices in underprivileged areas where cities dominated by heavy industry, agriculture and resource extraction is scant. The aim of this contribution is to examine what the city branding patterns in these lesser developed regions in China looks like. More specifically, we ask ourselves what city branding strategies are deployed by cities in the North-East of China the attractiveness of which to investors, high-tech forms and talented workforce is low and which face economic and population decline and struggle to maintain their natural resources and environmental quality. How do these city branding practices match their geographic and economic profiles and what are the policy ramifications of these choices?

To answer the above questions, the remainder of this article will proceed as follows. Section 2 will present define and operationalize the concept city branding as it is used here. It will (1) offer a set of leading definitions and conceptualizations as they exist in the literature and (2) clarify the methodological approach to city branding practices in China's Northeast. Section 3 provides a general geographic, demographic and economic description of China's Northeastern region and shows the challenges it is facing. Sections 4 and 5 provide an overview of and analyze how a selection of 34 cities in the provinces of Heilongjiang, Jilin and Liaoning brand themselves. More specifically, these refer to their use of (1) city brand identities: positive self-descriptions containing their essential features and (2) city labels: attractive terminology by which local governments convey an appealing green and/or high-tech impression of their own cities. We also examine to what extent these brand identities match the industrial and geographic features of the cities involved. Section 4 does this for the city brand identities, Section 5 for their use of city labels related to ecological modernization. Section 6 wraps up this article with conclusions, compares the findings here with those of the previous studies and sketches a future research agenda.

2. City Branding: Theory and Methodology

At face value, city branding shows resemblance to city marketing, a term that was much *en vogue* in the 1980s and 1990s. However, closer inspection shows that marketing essentially refers to a heightened sense of awareness of target group wishes in the short and medium term, while branding is more strategic and long-term oriented and has a strong aspect of loyalty to it [15]. Vanolo has defined city branding as a complete set of activities aimed at establishing and maintaining a positive city image and conveying this information to different target groups via materials and events at various scales [16]; all of this to gain competitive advantages over other cities. In other words, while city marketing can for instance support Harbin in knowing more about its various stakeholders in and around the city and act on this knowledge, city branding can help it in letting these stakeholders know more good things [16] about Harbin which can translate into a long-term commitment to engage in and collaborate with it. Dinnie emphasizes other aspects in his definition; he sees a city brand as a unique, multi-dimensional blend of elements, which provides the city with culturally grounded differentiation and relevance for its target audiences [17]. Most authors in the field are in agreement that place branding, of which city branding is a specific subset, is more complex in nature than product branding, because cities are truly multi-dimensional entities evoking a great variety of impressions and associations depending on people among whom and circumstances under which they are evoked [18]. One general message addressed at different groups of stakeholders with potentially conflicting interests and expectations can lead to trouble, making it necessary to convey partially different (but not contradictory) messages to those various target groups [19–21]. City branding has more in common with the corporate branding that large companies and holdings with many different product lines engage in. This hints at the importance of distinguishing target groups and/or stakeholders and addressing them in different ways; at their turn, they hopefully reflect the brand message in the same way in their own communication, a sign that they support it and act in accordance with it.

The city brand dimension of particular relevance here is that of urban and industrial greening and transformation, the stakeholders for which are investors, corporations, talented workforce and real or potential residents of the city. A salient feature appearing in the literature on city branding relevant to urban transformation towards ecological modernization is the tension between a city's current social, economic and geographic features (its existing profile) and its self-image based on high-brow future ambitions (its desired brand). Generally speaking, cities have (1) a historically based cultural, social and economic legacy which colors them, (2) a present social and economic profile with a specific composition of the population and collection of dominant industries and (3) a set of policy ambitions and chosen policy measures for the future. If present situation and future ambitions deviate from each other too strongly without stakeholders being able to grasp how this gap can be closed, credibility of a brand suffers from this (perceived) inconsistency [16,22]. On the other hand, if the realization of future ambitions can be seen as a continuation and enhancement of an evolving developmental path spiced up with a peculiar historical and cultural background the brand will appear both attractive and credible. Therefore, local governments able to align current profile with future wishes, following up with concomitant implementation and convincing relevant stakeholders to echo their brand in ways consistent with their own are likely to bridge the gap between existing profile and desired brand and realize their long-term goals for urban transformation.

In this study, the focus is specifically on economic city branding, which takes place in the context of urban and industrial development policy and is reflected in development plans. This is different from what is often understood as city branding as a targeted process in which labels, slogans and logos are established which are subsequently broadly advertised across the media [23]. We utilize an analytical framework on urban developmental pathways that explicitly relates to urban and industrial profiles cities have and examine how their existing geographic profiles compare with their desired brands and pathways [9,13]. The alignment of past traditions, status quo and future ambitions is examined by comparing city branding practices adopted by cities with their urban and industrial developmental

pathways. In the analytical framework we adopt, a city's branding practice constitutes the dependent variable and a city's geographic position (regional, national and international importance) and stage of urban economic development (primary, secondary or tertiary industries dominant in their production) is the independent variable. Depending on their score for the independent variable 'geographic position', we surmise that cities will respond differently to the challenges of ecological modernization, reflected in the score on their dependent variable 'branding practice'. Table 1 below, adopted from [14] where this approach was first introduced, shows the different possible pathways that follow from various geographic positions.

Table 1. Urban developmental pathways (adopted from de Jong et al. 2018).

Stage of Economic Development/Position within the Region	Primary Sector Dominates	Secondary Sector Dominates	Tertiary Sector Dominates
Regional orientation	PATHWAY 1 Eco-tourism (accommodating manufacturing)	PATHWAY 2 Advanced, low carbon manufacturing	PATHWAY 4 Knowledge and culture-oriented services
National orientation	Non-existent	PATHWAY 2 Advanced, low carbon manufacturing	PATHWAY 4 Knowledge and culture-oriented services
International orientation	Non-existent	PATHWAY 3 High-tech innovation	PATHWAY 5 Global advanced producer services

A total of five possible pathways can be distinguished (see de Jong et al. 2018) [14] of which only three appear in China's Northeast:

Pathway 1: Cities retain substantial agricultural or resource extraction activity and, consequently, benefit from significant open and green space within their large territory. At the same time, they have a weak basis in knowledge development. They, therefore, can be expected to choose to attract 'clean' low-tech industries, such as eco-tourism, while also inevitably remaining open to accommodating manufacturing industries so as to complement economic activity where green industries do not generate sufficient employment. We would expect their brand identities to reflect these characteristics. Predicted city labels are eco city, tourism city, modern agricultural city and livable/green city, because these are all within the range of developmental options available to pathway 1 cities.

Pathway 2: Cities are of regional or national importance. In terms of economic activity, material processing and manufacturing dominate, although cities seek to shift to more advanced, less carbon-intensive industries. They may be incentivized to do so through relevant national policy initiatives, which becomes reflected in their city branding identities. Corresponding city labels in line with their developmental possibilities are advanced manufacturing city, low carbon city and smart city.

Pathway 4: Cities herein are of regional or national importance. A majority of the population work in trade and service industries; and cities aim to consolidate their position as service industry hubs by offering attractive space and facilities for knowledge-intensive production coupled with cultural facilities. Cities on this pathway 4 can, given their range of developmental options, be expected to deploy a relatively generic brand identity centered on their service industry aspirations, with typical city labels likely to include service city, innovation city, livable/green city and tourism city.

We argue that cities with credible city branding strategies show awareness of the pathway they are on and reflect this in their use of brand identities and labels. In order to examine the branding practices of cities in China's deprived Northeastern corner, a number of methodological and operational choices have been made.

- Since the number of cities in the three provinces Heilongjiang, Jilin and Liaoning is manageable, we selected all 34 cities. For each city, branding practices were mapped at two levels. We examined both (1) the city brand identity, which can be seen as a city's general self-image in which it includes its essential features and (2) its use of city-labels in connection with urban ecological modernization. This selection of city labels finds its origin in earlier work [10,24] where various different city labels were identified but then adapted to terminology as it prevails in the Chinese policy context [13,14]. These labels are sustainable city, smart city, innovation city, resilient city, tourism city, eco city, low carbon city, livable city, advanced manufacturing city, service city and modern agricultural city. There is evidence that some of these city labels, such as the sustainable city and the smart city should in fact be conceptualized in multi-dimensional ways [25,26]. In order to cover the variety of interpretations under each city label, we considered these various dimensions or aspects as variations under one theme, the general city label. When relevant similar terms related to but slightly deviating from the city labels were found, these were subsumed as variants under the most suitable city label.

- For the data collection regarding the dependent variable 'branding practices', local plans offered the most reliable documents to establish city branding choices. Interviews with policy makers would have evoked mostly subjective signals depending on the responding official, investment figures in projects or programs say little about branding and government websites may be neither complete nor easy to compare with one another. There were three credible plans that could act as sources for data collection: Social and Economic Five Year Plans (FYPs), Urban Master Plans (UMPs) and Land Use Plans (LUPs). The 13th FYPs and the most recent UMPs proved to be of unqualified significance for the topic at hand [12,13]. Since LUPs turned out to be too operational to serve for branding purposes, these were excluded. To establish a city's brand identity, the introduction, conclusions and summary of the selected plans were scanned for the most suitable phrases and descriptions. To find the most popular city label for each city, a total frequency count was made of all city labels throughout the selected plans to identify the ranks of the most popular ones in each city.

- For the data collection regarding the independent variable urban economic development stage, a selection of relevant statistical data was collected: (1) land area; (2) permanent population; (3) three dominant industries; (4) GDP per capita of the permanent population; ratio of primary/secondary/tertiary sector as (5) percentage of GDP and (6) percentage of working population. While land area, permanent population and GDP per capita provided relevant background information, the value for urban developmental stage was determined primarily based on the ratio primary/secondary/tertiary sector as percentage of the working population. However, where the gap between two sectors was narrow, the ratio primary/secondary/tertiary sector as percentage of GDP and dominant industries were used for a nuanced picture. If the indicators pointed in different directions, we chose as the value for this independent variable a combination of two stages. For instance, in the case of Suihua, only 4.94% of the working population works in the primary sector but nearly 40% of GDP is generated there and wholesale and retail represent the dominant industries in terms of workforce. This led us to characterize Suihua as a city in both urban stages 4 and 1 (4/1). See Table 2. The data collection procedure on which this contribution is based on a methodology initially developed in earlier work [12,13] and fully elaborated in [14].

3. A Brief Profile of China's Deprived Northeastern Region

The Northeastern provinces in China (the 'Northeast') have the disposal of rich natural resources and have played an important role in China's national economic development. After the foundation of new China, the Northeast enjoyed full support from the central government under the planned economy. Among the 156 priority construction projects of the whole country, the northeast accounted for 52 [27]. Before 1990s, the Northeast were a relatively developed region in China and its most important industrial base. However, compared with the rest of the country, in the past 15 years, the Northeast's economic development has markedly lagged behind. GDP and industrial added

value as a proportion of the national total score dropped by nearly 15% and 20% from the beginning of Reform and Opening Up period to less than 10% now. In October 2003, the Central Committee of the Communist Party of China and the State Council issued several notices on the strategy of revitalizing the old industrial bases in the Northeast and clarified the guiding ideology, principles, tasks and policy measures for the implementation of the revitalization strategy. The implementation of the revitalization strategy seemed to generate a positive effect, because as can be seen in Figure 1, the GDP in the Northeast climbed more rapidly than the national average from 2003 to 2013. Since then, however, the roles have been reversed again.
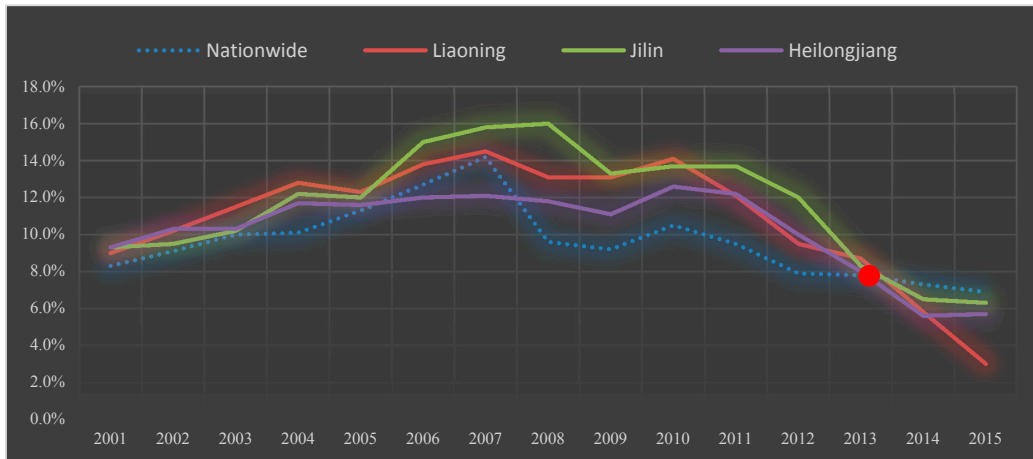

Figure 1. GDP growth rate of the three provinces compared to the national level.

The Northeast includes the provinces Heilongjiang, Jilin and Liaoning. See Figure 2. Below, short profiles are given of each province and its key cities.
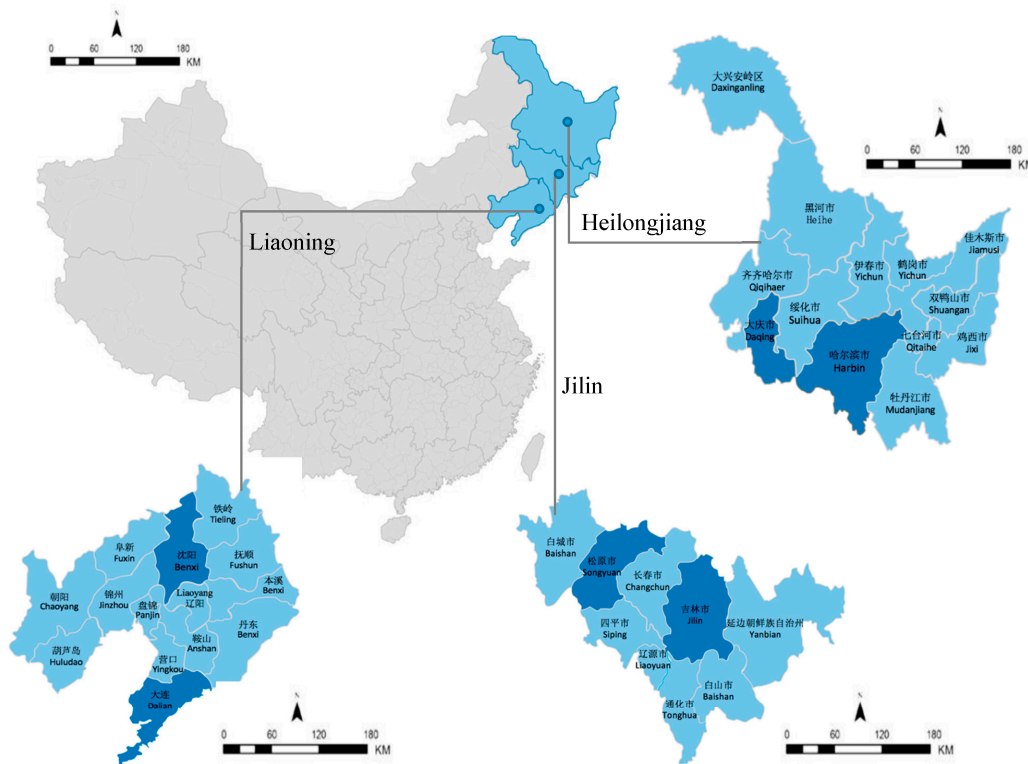

Figure 2. The location of Liaoning, Jilin and Heilongjiang Provinces and their cities.

3.1. Liaoning Province

Liaoning is the only coastal province in the Northern China. Among the three Northeastern provinces, it covers the smallest land area (148,000 km^2) and has a population of 43.778 million. Its GDP in 2016 was 2866.90 billion RMB, almost the sum of Jilin and Heilongjiang together. Liaoning is one of the important old industrial bases in China. Equipment manufacturing industry and raw material industry are relatively developed [28,29]. It includes 14 cities: Shenyang, Dalian, Anshan, Fushun, Benxi, Panjin, Huludao, Dandong, Jinzhou, Yingkou, Fuxin, Liaoyang, Tieling and Chaoyang. Shenyang and Dalian are vice provincial level cities.

Shenyang is an important advanced equipment manufacturing base and national historical city in the Northeast [30]. Since as far back as the New China (PRC) was founded, Shenyang had been regarded as one of the key areas for national economic development and focused on the development of heavy industry [31]. After decades of development, its industrial legacy includes the auto, pharmaceutical, chemical, aeronautical and metallurgy industries. Dalian is Liaoning province's second city. Petrochemical industry is one of its pillar industries. Its industrial added value accounts for about a quarter of its total industrial added value and contributed substantially to Dalian's economic and social development [32].

Most of other cities in the region have manufacturing as their dominant industry. For instance, Anshan, is famous for its iron and steel industry, Panjin because of its oil and petrochemical industry, while Yingkou is the first open port in the modern history of the Northeast. Many of the smaller cities realized a substantial share of their economic growth by the rise of the real estate industry (Table 3).

3.2. Jilin Province

Jilin province is both an important industrial base and strong in agriculture. The manufacturing industry is well developed and its pillar industries include auto, petrochemical, processing of agricultural products and commercial satellite production [33,34]. Jilin covers a total area of 187,400 m^2, with a population of 27.533 million and its GDP amounted to 1406.31 billion in 2015. Jilin province has jurisdiction over Changchun (vice provincial city and provincial capital), Jilin city (2nd city in size and former capital), Siping, Songyuan, Baicheng, Liaoyuan, Tonghua, Baishan and Yanbian Korean Autonomous prefecture.

Changchun was the earliest auto industry and film production base in the New China. Unlike other cities in Jilin province, the tertiary sector in Songyuan is well developed [35]. Other cities, such as Siping and Baicheng, conversely have more people working in the primary industry (Table 4). Baicheng is known as a large commodity grain base city at the national level. Yanbian has the largest contingent of ethnic Koreans and is one of the major timber producing areas in China. It is the only autonomous prefecture in the Northeast, enjoying strong self-governance. Therefore, its statistic data cannot be found in the yearbook. This explains why data on its '1/2/3 as working population' is missing in Table 4. Other small cities in Jilin province have undergone economic restructuring based on removing traditional, resource consuming industries and realizing advanced and high-tech industries. However, manufacturing continues to be the lion's share in their economic structures.

3.3. Heilongjiang Province (HLJ)

Heilongjiang is another base for heavy industry in China but it also has substantial shares in its agricultural production and resource extraction. High-end manufacturing, aerospace, machinery, petroleum, coal, wood, agriculture and animal husbandry are its key industries [36–39]. The region's total land area covers 473,000 km^2 and it has a population around 40 million. According to the Heilongjiang provincial statistic report, in 2016 Heilongjiang realized a GDP of 1538.61 billion RMB [40]. There are 12 prefecture level cities in Heilongjiang, including Harbin, Qiqihar, Jixi, Hegang, Shuangyashan, Daqing, Yichun, Jiamusi, Mudanjiang, Heihe, Qitaihe and Suihua.

Harbin is a provincial capital city, also the Northeast's third largest city in terms of household population. Initially, Harbin's economic structure consisted mainly of light industry such as food and textile but after the establishment of the New China (1994), it became a heavy industrial base [41]. Another big city, Daqing, also known as oil city, counts petroleum and petrifaction among its pillar industries [42]. It ranks first in per capita GDP in Heilongjiang province (see Table 2).

Compared to Liaoning and Jilin province, agriculture in Heilongjiang accounts for a higher portion of its economic activity. Yichun has the largest Korean pine virgin forest in the world; Heihe is an important commodity grain base and green food production area in China; Suihua and Hegang, located in the Songnen and Sanjiang plains, also have a high percentage in the primary sector (see Table 2).

The above descriptions and tables of the three Northeastern provinces, a few conclusions can be drawn on the independent variable 'geographic position' of their cities.

- Only two cities in Heilongjiang are unambiguously on pathway 1 (Yichun and Heihe), while two more have important features of pathway 1 (Hegang and Suihua).
- A great number of cities are on pathway 2, especially the less central and populous ones.
- A great number of cities are on pathway 4, especially the centrally located, most populous and economically vital ones. However, not in all cases does being on pathway 4 imply higher levels of prosperity. This depends strongly on which industries are represented in the tertiary sector. If public management, security and social organization are the dominant industries as in various cities in Heilongjiang, these tend to have low value added. This picture matches earlier findings for cities in Hebei province, showing similar evidence that the tertiary sector consisted of less economically advantageous economic activities [14]. If tertiary sector activity is mostly in trade, logistics and commerce or high-tech innovation, as in parts of Jiangsu and Zhejiang, it generates far higher levels of GDP per capita.
- There are also many cities with characteristics of both pathway 2 and 4.

Table 2. Key geographic and economic data and developmental pathways of HLJ Province (2015).

City in Heilongjiang Province	Land Area (km²)	Perm. Pop. (10,000 Persons)	Three Dominant Industries	GDP/Cap Permanent Pop. (RMB)	1/2/3 as GDP (in %)	1/2/3 as Working Pop. (in %)	Regional Position	Urban Stage	Pathway Following Geographic Position
Harbin	53,100	961.37	Manufacturing (34.4%) Real Estate (15.2%) Wholesale and retail trades (8.6)	59,027	11.69/32.39/55.92	3.41/33.31/63.28	NAT	3	4
Qiqihar	42,469	549.39	Manufacturing (29.0%) Agriculture, forestry, animal husbandry and fishery (18.4%) Transport, Storage and Post (14.2%)	24,430	24.13/31.04/44.83	16.89/27.13/55.98	REG	3	4
Jixi	22,531	181.70	Manufacturing (20.1%) Mining (21.1%) Real Estate (17.2%)	28,222	36.43/25.96/37.61	26.46/32.73/40.82	REG	3	4
Hegang	14,679	105.61	Manufacturing (24.9%) Real Estate (23.6%) Mining (11.7%)	24,981	35.19/29.88/34.93	27.01/39.17/33.82	REG	2/1	2/1
Shuangyashan	22,619	147.43	Real Estate (18.4%) Manufacturing (18.1%) Transport, Storage and Post (18.0%)	29,237	38.22/22.77/39.01	4.35/40.81/54.83	REG	3	4
Daqing	21,219	275.48	Manufacturing (52.4%) Management of Water Conservancy, Environment and Public Facilities (9.4%) Agriculture, forestry, animal husbandry and fishery (9.2%)	110,113	6.53/64.88/28.59	0.65/50.54/48.81	REG	2	2
Yichun	32,800	121.19	Production and Supply of Electric, heat, Gas and Water (16.4%) Construction (15.9%) Manufacturing (15.4%)	20,414	42.93/18.67/38.40	53.65/14.70/31.64	REG	1	1
Jiamusi	32,704	237.55	Manufacturing (28.6%) Transport, Storage and Post (20.9%) Real Estate (16.3%)	35,069	33.07/22.01/44.92	11.76/26.72/61.52	REG	3	4
Qitaihe	6221	83.11	Mining (26.1%) Manufacturing (24.9%) Real Estate (10%)	24,823	16.09/36.78/47.13	3.93/60.38/35.70	REG	2/3	2/4
Mudanjiang	38,827	262.00	Manufacturing (37.9%) Management of Water Conservancy, Environment and Public Facilities (13.7%) Real Estate (9.1%)	47,356	17.08/35.81/47.11	15.04/31.32/53.64	REG	3	4
Heihe	68,340	168.00	Agriculture, forestry, animal husbandry and fishery (23.5%) Manufacturing (17.6%) Transport, Storage and Post (11.1%)	26,575	48.32/15.17/36.51	48.91/12.50/38.59	REG	1	1
Suihua	34,873	548.50	Manufacturing (27.5%) Agriculture, forestry, animal husbandry and fishery (22.6%) Transport, Storage and Post (14.7%)	23,095	39.77/26.26/33.97	4.94/29.92/65.14	REG	3/1	4/1

Table 3. Key geographic and economic data and developmental pathways of Liaoning Province (2015).

City in Liaoning Province	Land Area (km²)	Perm. Pop. (10,000 Persons)	Three Dominant Industries	GDP/Cap Permanent Pop. (RMB)	1/2/3 as GDP (in %)	1/2/3 as Working Pop. (in %)	Regional Position	Urban Stage	Pathway Following Geographic Position
Shenyang	12,860	730.41	Manufacturing (37.2%) Real Estate (25.8%) Transport, storage and post (8.5%)	87,734	4.69/47.77/47.53	0.20/44.75/55.05	NAT	3/2	4/2
Dalian	12,574	593.56	Manufacturing (28.5%) Management of Water Conservancy, Environment and Public Facilities (25.6%) Real Estate (20.1%)	110,682	5.86/43.31/50.83	0.36/48.42/51.22	REG	3/2	4/2
Anshan	9255	346.05	Manufacturing (55.9%) Real estate (13.1%) Wholesale and retail trades (5.1%)	64,710	5.84/47.19/46.97	0.54/51.89/47.56	REG	2	2
Fushun	11,272	215.76	Manufacturing (49.8%) Real estate (13.3%) Management of Water Conservancy, Environment and Public Facilities (8.5%)	58,597	8.06/48.87/43.07	1.59/52.49/45.92	REG	2	2
Benxi	8411	151.21	Manufacturing (35.0%) Real estate (14.0%) Information transmission, software and IT software (13.1%)	67,656	5.75/51.43/42.81	0.29/52.87/46.84	REG	2	2
Dandong	15,290	238.15	Manufacturing (30.9%) Transport, storage and post (26.3%) Real estate (14.6%)	40,850	15.91/40.91/43.18	2.11/40.02/57.86	REG	3	4
Jinzhou	10,047	302.56	Manufacturing (50.2%) Real Estate (14.9%) Transport, storage and post (5.4%)	43,207	15.92/42.85/41.23	3.12/39.72/57.16	REG	3/2	4/2
Yingkou	5242	232.62	Manufacturing (52.6%) Real estate (11.9%) Management of Water Conservancy, Environment and Public Facilities (9.3%)	61,925	7.32/48.05/44.63	0.25/41.20/58.55	REG	3/2	4/2
Fuxin	10,355	189.47	Manufacturing (25.6%) Real estate (24.9%) Management of Water Conservancy, Environment and Public Facilities (8.8%)	29,491	22.51/38.21/39.28	1.67/45.24/53.09	REG	3	4
Liaoyang	4788	178.96	Manufacturing (46.7%) Real estate (16.7) Mining (8.2%)	55,674	7.06/55.27/37.67	1.64/46.50/51.85	REG	3/2	4/2
Panjin	4065	129.54	Manufacturing (25.8%) Real estate (25.7%) Transport, storage and post (15.2%)	87,351	9.64/53.48/36.89	35.66/38.35/25.98	REG	2	2
Tieling	12,985	300.38	Manufacturing (33.1%) Real estate (30.6%) Management of Water Conservancy, Environment and Public Facilities (15.1%)	27,885	27.68/31.79/40.53	6.84/41.42/51.74	REG	3	4
Chaoyang	19,698	340.90	Manufacturing (30.8%) Real estate (17.9%) Mining (13.9%)	28,852	25.81/30.37/43.82	0.84/31.40/67.76	REG	3	4
Huludao	10,414	280.10	Real estate (53.3%) Manufacturing (23.6%) Transport, storage and post (6.1%)	28,176	14.49/41.14/44.37	1.13/49.62/49.25	REG	2/3	2/4

Table 4. Key geographic and economic data and developmental pathways of Jilin Province (2015).

City in Jilin Province	Land Area (km²)	Perm. Pop. (10,000 Persons)	Three Dominant Industries	GDP/Cap Permanent Pop. (RMB)	1/2/3 as GDP (in %)	1/2/3 as Working Pop. (in %)	Regional Position	Urban Stage	Pathway Following Geographic Position
Changchun	20,594	753.83	Manufacturing (42.6%) Wholesale and retail trades (10.0%) Construction (7.7%)	73,324	6.21/50.11/43.69	0.98/48.26/50.75	NAT	3/2	4/2
Jilin	27,711	426.24	Manufacturing (39.6%) Agriculture, forestry, animal husbandry and fishery (11.0%) Wholesale and retail trades (8.1%)	56,076	10.55/45.42/44.03	2.48/46.45/51.06	REG	3/2	4/2
Siping	14,382	326.41	Manufacturing (40.6%) Agriculture, forestry, animal husbandry and fishery (26.5%) Wholesale and retail trades (5.8%)	37,714	25.73/43.34/30.93	4.06/29.62/66.32	REG	3	2
Liaoyuan	5140	120.80	Manufacturing (53.6%) Agriculture, forestry, animal husbandry and fishery (8.4%) Wholesale and retail trades (7.3%)	59,855	8.38/57.43/34.19	1.98/55.34/42.68	REG	2	2
Tonghua	15,612	221.10	Manufacturing (45.3%) Wholesale and retail trades (11.1%) Agriculture, forestry, animal husbandry and fishery (9.8%)	45,171	9.23/51.14/39.63	1.57/56.09/42.34	REG	2	2
Baishan	17,505	125.37	Manufacturing (53.7%) Agriculture, forestry, animal husbandry and fishery (9.4%) Wholesale and retail trades (6.9%)	53,136	9.33/56.71/33.96	10.99/39.15/49.86	REG	3/2	4/2
Songyuan	21,089	278.07	Manufacturing (39.6%) Agriculture, forestry, animal husbandry and fishery (17.8%) Wholesale and retail trades (8.7%)	58,841	17.41/44.07/38.52	7.88/45.61/46.51	REG	3/2	4/2
Baicheng	25,759	196.67	Manufacturing (43.4%) Agriculture, forestry, animal husbandry and fishery (17.4%) Wholesale and retail trades (7.1%)	35,571	16.89/45.53/37.58	11.03/21.46/67.51	REG	3	4
Yanbian	43,300	213.60	Manufacturing (45.2%) Wholesale and retail trades (11.3%) Agriculture, forestry, animal husbandry and fishery (8.9%)	43,165	8.53/49.84/41.63	N/A	REG	3	2/4

4. City Brand Identities in China's Northeastern Region

After mapping the geographic positions of the cities in the North-East and thus establishing the developmental pathways they are on, we now look at the dependent variable: their city branding practices. In this section, the city brand identities will be examined. In the three tables below (Table 5 for Liaoning, Table 6 for Jilin and Table 7 for Heilongjiang), we show city, pathway following geographic position (derived from Tables 2–4), brand identity description as found in Five Year Plan or Urban Master Plan and desired pathway, i.e., pathway as implied by the expressed city brand identity. Concordance of actual pathway and desired pathway implies that city branding occurs in line with geographic profile and is thus 'on path', while divergence between the former and the latter implies a city's wish to be or become different from what it is now ('off-path').

Table 5. Developmental pathways and brand identities for cities in Liaoning.

City in Liaoning	Pathway Following Geographic Position	Brand Identity Description (Source)	Desired Pathway
Shenyang	4/2	To promote the construction of a comprehensive hub city for a Northeastern financial center and enhance the strength of the city, the construction of Shenyang as the national service, based in the northeast, Northeast Asia national center city; adhere to the new road to industrialization, intensive development and rational distribution and the construction of Shenyang as the advanced equipment manufacturing base with international competitiveness. (UMP)	4/2
Dalian	4/2	Give full play to the advantages of the reform, opening up and independent innovation and realize the development goals of economic development and social harmony, cultural prosperity, resource saving and environment friendliness, to build Dalian as a city with well-grounded infrastructure, high-end industrial clusters, as well as strong radiation and a service function as Northeast Asia's International city. Urban development goal is divided into regional center, entrepreneurial base, ecological city and coastal city. (UMP)	4
Anshan	2	Adhere to the principle of scientific development, build an environment-friendly city; adhere to the principle of intensive conservation; build a resource-saving city; adhere to the principle of multi regulatory cohesion, build a comprehensive central city; adhere to the principle of fairness and harmony and build a harmonious livable city. (UMP)	2
Fushun	2	To fully implement the requirements of new-type urbanization, taking production city and consumption city transformation as the basic orientation; to explore the new industrialization as the leading mode of the four modernizations, to enhance the comprehensive functions of the city, with local cultural characteristics, green and low carbon efficient urbanization and city construction mode, realize the city's urban and rural development. After 2020, Fushun will be called the national industrial base of low carbon industry, vitality and livable regional central city and ecological tourism city. (UMP)	2
Benxi	2	Change the concept of development, innovation and development model in Benxi overall revitalization of the old industrial base as the theme, to promote reform and opening up, take a new road to industrialization; urban and rural development, optimizing the ecological function, constructing harmonious Benxi, promoting comprehensive economic and social development, coordinated and sustainable development of Benxi, to achieve the overall revitalization of old industrial bases. (UMP)	2
Panjin	2	Give full play to Panjin's unique ecological environment, oil and gas resources, agricultural infrastructure and traffic advantages, continue to explore the implementation path of new industrialization, new-type urbanization, building Panjin into economic prosperity, (. . .) to become a demonstration zone for urban and rural integration development and an international ecological tourism and livable city, Northeast Asia's base for petrochemical and fine chemical industry and manufacturing base for domestic petroleum equipment and marine equipment, the emerging port city in Northeast China. (UMP)	2/1

Table 5. *Cont.*

City in Liaoning	Pathway Following Geographic Position	Brand Identity Description (Source)	Desired Pathway
Huludao	2/4	An important central city in Western Liaoning, an important node city connecting the northeast and North China, focuses on the construction of an ecological, sustainable and livable city with industry, port and tourism as the main body in the Bohai rim region. (UMP)	2/4
Dandong	4	to build Dandong a main channel, regional logistics center and industrial port and an important tourist destination in the northeastern region. Strive to turn Dandong into a border development area and pilot area for ecological livable city revitalization in Northeast China. After 5 years of efforts, Dandong will take the lead in realizing the overall revitalization of the old industrial base by 2025. (13th FYP)	4/2
Jinzhou	4/2	The aim of city development is to focus on science and education; to improve residents' living environment in the old districts; develop high level financial assurance, catering and recreation, as well as business and administrative management; improve the public service facility and infrastructure. Industrial regions combined with industrial restructuring, gradually transfer the unsuitably located industries from the old districts to other places according to their functional properties. Build a ruralized suburban eco-system. Build an eco-city of the 21st century. (UMP)	4
Yingkou	4/2	Seize the opportunity to revitalize the old industrial base of Northeast China and promoting the development and construction of a coastal economic belt in Liaoning province. Build the city of Yingkou into a modern port industrial city, a coastal group city, an ecological livable city and a digital city, with beautiful environment, distinctive features, developed economy, affluent life and coordinate urban and rural areas. (UMP)	4
Fuxin	4	Fuxin city is an important central city in western Liaoning and eastern Mongolia. It is a model city of "resource exhausted cities," which is based on advanced manufacturing and cultural tourism. (UMP)	2/4
Liaoyang	4/2	To improve the information infrastructure and build a smart city in terms of core platform and government service applications. By 2018, intelligent applications in services that benefit to citizens and industrial transformation continue to expand. By 2020, the informatization of the whole region will be realized, which will effectively support Liaoyang to create a national historical and cultural city, a modern agricultural demonstration area and one of the diversified industrial centers in central and southern Liaoning province. Basically build a new pattern of industrialization, informatization, urbanization and agricultural modernization integration and synchronous development. (UMP)	4/2/1
Tieling	4	With Scientific Outlook on Development as the goal, accelerating the development, promoting the revitalization of the old industrial base and building a harmonious Tieling as the theme, to optimize the economic structure, change the mode of economic growth as the main stream, to enhance the level of urbanization and industrialization as the focus; to build Shenyang Tieling industrial corridor as the carrier and taking reform and opening up and independent innovation as the driving force. (UMP)	2/4
Chaoyang	4	The overall planning determines the nature of the city as the central city of the Bohai economic circle, the border area of Liaoning, Hebei and Mongolia, the city of famous prehistoric cultural heritage sites, history and culture, the political, economic and cultural center of Liaoyang. The overall development target is to turn it into Bohai's economic circle, a central city in the Liaoning, Hebei and Mongolia border area and an emerging cultural tourism city. (…) further improve the city function, create the best entrepreneurial and living environment, enhance the economic strength of Chaoyang City, as well as the city's charm and happiness index. (UMP)	4

Table 6. Developmental pathways and brand identities for cities in Jilin.

Jilin	Pathway Following Geographic Position	Brand Identity Description (Source)	Desired Pathway
Changchun	4/2	Follow the strategy of sustainable development, industrialization, urbanization and agricultural modernization, enhance the city's comprehensive radiation ability; change the mode of economic development, continue to expand the traditional industries, the development of strategic emerging industries; increased efforts to open up and build a platform for international economic and cultural exchanges and cooperation, Changchun will be transformed into a green, livable city with a developed economy, social harmony, scientific progress, resource conservation and be an environment-friendly green livable city. (UMP)	2/4/1
Tonghua	2	To promote the economic development mode from extensive to intensive and promote comprehensive coordinated and sustainable development of the Tonghua economy, society and environment. To build Tonghua into economic prosperity, social harmony, ecological quality, distinctive characteristics of the eastern part of Northeast regional center city and livable city. (UMP)	2/4
Liaoyuan	2	Liaoyuan is a regional central city dominated by strategic emerging industries and textile industry in the southern part of Jilin Province. (UMP) In order to realize sustainable development, construct a smart city and realize the transformation and development of Liaoyuan, the structural optimization should take the leading industries, the advantageous industries and the strategic emerging industries as the focus, change the mode of economic growth, actively innovate the methods of attracting investment and realize sustainable development. (FYP)	2/4
Jilin	4/2	Promote the construction of a well-off society in an all-round way, accomplish the task of revitalizing the old industrial base and realize the upgrading of the industrial structure of economy. Building a well-off society and revitalizing the old industrial base to complete the task, (…) Highlighting the advantages of urban natural and human resources, integrating urban history and modern culture, strengthening the characteristics of riverside landscape city, Jilin city will be built into a tourist cultural city, a new industrial base and ecological livable city. (UMP)	2/4
Siping	2	The overall goal of Siping city development is to maintain the rapid and steady economic growth, promote the urban development as well as urban and rural coordination with the characteristic industrial development. Furthermore, Siping will be built as an important transportation hub in Northeast, an important industrial base in Jilin Province, the provincial center of the southern city, as well as a livable city. (UMP)	2/4
Baishan	4/2	Baishan will continuously strengthen, co-ordinate the Ecological Urbanization and new rural construction, to achieve regional integration as well as urban and rural integration development. Its final goal is building a livable and beautiful mountain forest city and a famous tourist city in Changbai Mountain. (13th FYP)	4/1
Songyuan	4/2	National base for the petrochemical industry, sub-central city of the Hachang city group and center of Jilin province; transport hub and logistics center in the border area of Jilin, Heilongjiang and Inner Mongolia; important base for business meetings, sports, leisure and tourism; central innovative core area of Jilin province and important city in the western ecological region; International food safety zone and national base for grain and livestock production and processing; important demonstration base for wind, solar and other renewables. (UMP)	4/2/1
Baicheng	4	Taking the electric power industry as the champion, focusing on its revitalization and development. Change the city's single focus on industry, strengthen the function of trade, finance and information services. Actively develop the service industry, cultural education, real estate and other economic systems, to promote its economic development, to turn Baicheng into an economic, export-oriented, multi-functional and modern central city to promote economic prosperity and develop Baicheng's towns and cities. (UMP)	4
Yanbian	2/4	To build an industrial system with advanced processing, manufacturing and high-tech industries as the main body. Dunhua as the sub-central city in the west of Yanbian, is a strategic node of the Changjitu forerunner area, a transportation hub in eastern Jilin province, an important node connecting the Changji and Yanlongtu city groups. Make Erdaobaihe Town a reception center for Changbai Mountain International Tourism, Changbai Mountain specialty production, an important node city at the ecological axis of eastern Jilin Province, a famous tourism city.	2/4

Table 7. Developmental pathways and brand identities for cities in Heilongjiang.

Heilongjiang	Pathway Following Geographic Position	Brand Identity Description (Source)	Desired Pathway
Harbin	4	Harbin, the capital of Heilongjiang Province, is an important central city in Northeast China, an important manufacturing base, a famous historical and cultural city and an international famous ice and snow cultural city. Harbin aims to build a resource-saving and environment-friendly society and build a well-off society in an all-round way. (UMP)	4/2
Qiqihar	4	Qiqihar will be built into a base for advanced equipment manufacturing, green (organic) food industry, ecological tourist attractions, a historical and cultural city with ecological civilization, prosperity and happiness, innovation and entrepreneurship, a livable city. (13th FPY)	4/1/2
Jixi	4	Jixi is an important energy base in China, one of the regional centers in southeastern Heilongjiang province. Jixi aims to become a livable beautiful home with a strong comprehensive economic strength, high ecosystem carrying capacity and cultural soft power in the eastern part of Heilongjiang. (13th FPY)	2/4
Hegang	2/1	Hegang city is one of the central cities in the northeast of Heilongjiang Province and also the national energy city. Hegang relies on abundant mineral resources and energy industrial advantages and further vigorously develops trade, tourism and other industries. Gradually, Hegang will be built into an area with economic prosperity, social civilization, a beautiful environment, with local characteristics of the modern city. (UMP)	2/4
Shuangyashan	4	Shuangyashan will become a resource type city model of scientific development and a harmonious ecological garden city. The identity is to be the important coal base in Northeast China, an important center city in eastern Heilongjiang province and a livable ecological garden city. (UMP)	2/4
Daqing	2	From resource city to integrated city, self-service city to regional central city, mining city to ecotype city. Build a modern city with high and new technology and follow the principle of sustainable development and intensive development. (UMP)	2/4
Yichun	1	Yichun is located in the Northeast Asia and an important trade channel and node. The city will be constructed as a harmonious, vigorous and modernized livable forest ecology city. (UMP)	1/4
Jiamusi	4	Jiamusi is the center city of northeast Heilongjiang, also an important hub along the Mongolia-Russia 'Longjiang Silk Road' economic corridor. The city landscape of Jiamusi is to become a livable, trade, tourism and international regional center city in eastern Heilongjiang and even Northeast Asia. (13th FPY)	4
Mudanjiang	4	Mudanjiang will be turned into a trade city connected with Russia and Northeast Asia, become a regional center city with strong radiation force and cohesive force. It will be a landscape garden city with ice and snow features in the northern cold area and a scenic resort with certain influence. (13th FPY)	4
Heihe	1	Heihe is in the middle of Heilongjiang Province, (. . .), an important transport hub and logistics base in the province, green industry and base for modern agricultural services, an ecological livable city. The city aims to become a modern agricultural demonstration base, the supply of raw materials and processing base, an important hub in the national open border and the cooperation with Russia, an important ecological area near the Hinggan Mountains area. (UMP)	1/2/4
Qitaihe	2/4	Based on the actual transformation of coal resource-based cities, adhere to the comprehensive gradual transformation mode. Change the mode of development and promote economic restructuring as the main focus, to enhance the ability of sustainable development as the core, to improve the livelihood of the people as the fundamental starting point and end point, closely rely on scientific and technological progress and innovation (. . .) actively cultivate alternative industries, efforts to explore the characteristics of Qitaihe's road to urban transformation. (FYP)	2/4
Suihua	4/1	Upgrade the key industries in the city, to promote the construction of an ecological and economic forestry city as the main stream. In order to establish a relatively complete ecological system and a well-developed forestry industry system, stress the comprehensive reform of agriculture, speed up the adjustment of animal husbandry structure, as well as put efforts to enhance the comprehensive production capacity. (13thFYP)	1/4

While some brand identities such as those for Panjin, Yingkou, Liaoyang and Chaoyang are very specific and colorful, what generally stands out in Liaoning is that there is no significant desire among cities to shift from manufacturing to services as such. Most cities brand themselves in line with their

geographic profile and to the extent that there is divergence between actual and desired pathway, changes are not away from industry and agriculture towards services but towards an integration of pathways 2 and 4 or 1, 2 and 4 at the same time and to become eco-friendly. Some cities stay on pathway 4, some stay on pathway 2 but most in fact wish to have features of two or three different pathways at the same time.

The table for the cities in Jilin demonstrates the same trends as the one for Liaoning: cities do not systematically deviate from their actual pathway but yearn for diversification in their economic activity and often for the integration of manufacturing with services and the rural with the urban leading to a higher and more ecological quality of life. Baishan and Yanbian, for instance, both have manufacturing and services features but in their branding, pay ample attention to integrating the rural and the urban and attractiveness as a tourist resort.

Heilongjiang clearly shows the most diverse picture with cities appearing in all different possible pathways and combinations thereof. This is already true for the actual pathways but even more distinctly so for the desired pathways where obviously combinations of pathways 1, 2 and 4 appear frequently. Here perhaps even more the coupling of various industrial sectors and rural and urban integration stand at the forefront of proclaimed future development en repositioning.

5. City Labels in China's Northeastern Region

In Section 4 we compared developmental pathways according geographic position with desired pathways as expressed in city brand identities. This was the first indicator for city branding practices; in this section we use city labels as a second indicator. In Tables 8–10, we do this by presenting city, pathway following geographic position (derived from Tables 2–4), most frequent city label in the 13th FYP, most frequent city label in the most recent UMP, overall dominant city label and desired pathway, i.e., pathway as implied by the most frequently used city label. Concordance of actual and desired pathway implies that city branding occurs in line with the geographic situation and is thus 'on path', while divergence between the former and the latter implies that wish to be or become different from what they are now ('off-path').

In the above table on Liaoning's cities, we again observe that the gap between actual pathways and desired pathways is limited. Cities on pathway 2 overwhelmingly claim to be and/or become advanced manufacturing and/or low carbon cities, with some attention also paid to innovation and service, while those on pathway 4 do the exact opposite. Mixed cities with pathway 2 and 4 also exist. A special category found in China's Northeast but not in any previous studies is that of the 'administrative progress city'. Administrative progress reflects a change in the government's administrative system to make the economy more efficient, including SOE reform, opening up urban governance and administrative reform. Administrative progress is of critical importance for cities to revitalize their economy. This label cannot be unambiguously connected with any particular pathway but presumably reflects the desire to modernize public services which especially in this part of China are still provided by public-owned enterprises which have a reputation of being inefficient and lacking in innovativeness and customer-friendliness.

Findings for the smaller number of cities in Jilin are not markedly different from those in Liaoning. We see a broad convergence between actual and desired pathways, no specific preference to evolve a more service-oriented profile per se and in Changchun and Tonghua the appearance of the administrative progress city. The 'administrative progress city' represents a unique brand label of cities in the northeast. Service, smart and low carbon cities are the most popular city labels, presumably to deal with pressing environmental problems. It is intriguing to see that both Baishan and Yanbian are located near famous Changbai Mountain. However, while Yanbian focuses much of its branding on it, Baishan pays more attention to low carbon and services, with tourism city appearing just twice.

Table 8. Developmental pathways and brand labels for cities in Liaoning.

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Shenyang	4/2	Advanced manufacturing city 18 Service city 16 Low carbon city 10 Innovation city 8	Service city 14 Advanced manufacturing city 9 Low carbon city 3	Service city 30 Advanced manufacturing city 27 Low carbon city 13 Innovation city 8	4/2
Dalian	4/2	Service city 25 Innovation city 20 Advanced manufacturing city 11 Tourism city 7	Service city 15 Tourism city 6 Advanced manufacturing city 3	Service city 40 Innovation city 20 Advanced manufacturing city14 Tourism city 13	4
Anshan	2	Advanced manufacturing city 19 Low carbon city 5 Innovation city 4	Advanced manufacturing city 8 Innovation city 5 Administrative progress city 6	Advanced manufacturing city 27 Innovation city 9 Administrative progress city 6 Low carbon city 5	2
Fushun	2	Advanced manufacturing city 19 Low carbon city 27 Smart city 8	Advanced manufacturing city 7 Tourism city 6 Eco city 5	Advanced manufacturing city 26 Low carbon city 27 Smart city 8 Tourism city 6 Eco city 5	2
Benxi	2	Advanced manufacturing city 12 Tourism city 8 Eco city 8	Advanced manufacturing city 9 Tourism city 7 Low carbon city 8 Eco city 7	Advanced manufacturing city 21 Tourism city 15 Eco city 15 Low carbon city 8	2/4
Panjin	2	Advanced manufacturing city 23 Service city 6	Service city 3 Advanced manufacturing city 3 Tourism city 2	Advanced manufacturing city 26 Service city 9 Tourism city 2	2
Huludao	2/4	Low carbon city 14 Administrative progress city 10 Advanced manufacturing city 9 Smart city 6	Low carbon city 9 Advanced manufacturing city 3	Low carbon city 23 Advanced manufacturing city 12 Administrative progress city 10 Low carbon city 9 Smart city 6	2
Dandong	4	Service city 12 Advanced manufacturing city 6 Tourism city 3 Smart city 3	Service city 5 Tourism city 2	Service city 17 Advanced manufacturing city 6 Tourism city 5 Smart city 3	4
Jinzhou	4/2	Smart city 11 Tourism city 11 Advanced manufacturing city 9 Service city 9 Innovation city 6	Service city 2 Advanced manufacturing city 2	Smart city 11 Tourism city 11 Advanced manufacturing city 11 Service city 11 Innovation city 6	4/2

Table 8. *Cont.*

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Yingkou	4/2	Service city 20 Smart city 10 Advanced manufacturing city 7 Innovation city 5	Service city 3 Advanced manufacturing city 2	Service city 23 Smart city 10 Advanced manufacturing city 9 Innovation city 5	4/2
Fuxin	4	Advanced manufacturing city 7 Tourism city 3 Innovation city 3	Service city 6 Innovation city 2	Advanced manufacturing city 7 Service city 6 Innovation city 5 Tourism city 3	4/2
Liaoyang	4/2	Service city 8 Advanced manufacturing city 5 Tourism city 4	Smart city 27 Service city 11 Modern agricultural city 5	Smart city 27 Service city 19 Modern agricultural city 5 Advanced manufacturing city 5 Tourism city 4	4/2/1
Tieling	4	Service city 18 Innovation city 8 Advanced manufacturing city 8	Service city 9 Advanced manufacturing city 5 Tourism city 3	Service city 27 Advanced manufacturing city 13 Innovation city 8 Tourism city 3	4
Chaoyang	4	Service city 16 Smart city 9 Tourism city 7 Innovation city 4	Tourism city 10 Service city 9	Service city 25 Tourism city 17 Smart city 9 Innovation city 4	4

Table 9. Developmental pathways and brand labels for cities in Jilin.

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Changchun	4/2	Advanced manufacturing city 48 Administrative progress city 15 Low carbon city 9 Service city 9	Low carbon city 7 Livable city 4 Tourism city 4	Advanced manufacturing city 48 Low carbon city 16 Administrative progress city 15 Service city 9 Livable city 4 Tourism city 4	2
Tonghua	2	Low carbon city 20 Advanced manufacturing city 11 Administrative progress city 10	Advanced manufacturing city 9 Service city 8 Livable city 4 Tourism city 4	Low carbon city 20 Advanced manufacturing city 20 Administrative progress city 10 Service city 8 Livable city 4 Tourism city 4	2

Table 9. *Cont.*

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Liaoyuan	2	Advanced manufacturing city 22 Innovation city 4	Advanced manufacturing city 18 Livable city 5	Advanced manufacturing city 40 Livable city 5 Innovation city 4	2
Jilin	4/2	Service city 23 Tourism city 17 Advanced manufacturing city 17 Modern agricultural city 7	Tourism city 12 Advanced manufacturing city 13	Advanced manufacturing city 30 Tourism city 29 Service city 23 Modern agricultural city 7	4/2/1
Siping	2	Service city 19 Advanced manufacturing city 13 Smart city 8 Tourism city 7	Service city 20 Advanced manufacturing city 5 Innovation city 3	Service city 39 Advanced manufacturing city 18 Smart city 8 Tourism city 7 Innovation city 3	4/2
Baishan	4/2	Service city 6 Innovation city 2 Tourism city 2 Low carbon city 2	Low carbon city 8 Service city 5 Smart city 3 Innovation city 2	Low carbon city 10 Service city 9 Smart city 3 Innovation city 2 Tourism city 2	4/2
Songyuan	4/2	Service city 19 Innovation city 9 Advanced manufacturing city 7	Service city 19 Tourism city 6 Innovation city 2	Service city 38 Innovation city 11 Advanced manufacturing city 7 Tourism city 6	4
Baicheng	4	Service city 16 Resilient city 5 Low carbon city 4 Innovation city 3	Service city 9 Smart city 4 Low carbon city 2	Service city 25 Resilient city 5 Low carbon city 6 Smart city 4 Innovation city 3	4
Yanbian	4/2	Service city 26 Tourism city 12 Eco city 5 Innovation city 4	Service city 35 Tourism city 6 Advanced manufacturing city 4 Innovation city 4	Service city 61 Tourism city 18 Innovation city 8 Eco city 5 Advanced manufacturing city 4	4

Table 10. Developmental pathways and brand labels for cities in Heilongjiang.

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Harbin	4	Service city 30 Eco city 27 Advanced manufacturing city 24 Tourism city 21	Tourism city 16 Eco city 12 Advanced manufacturing city 9 Service city 9	Service city 39 Eco city 39 Tourism city 37 Advanced manufacturing city 33	4/2
Qiqihar	4	Tourism city 15 Eco city 12 Service city 10 Modern agricultural city 8	Tourism city 10 Eco city 6 Advanced manufacturing city 4	Tourism city 25 Eco city 22 Service city 10 Modern agricultural city 8 Advanced manufacturing city 4	4/1
Jixi	4	Advanced manufacturing city 22 Modern agricultural city 17 Service city 14 Tourism city 13	Service city 3 Livable city 7	Advanced manufacturing city 22 Modern agricultural city 17 Service city 17 Tourism city 13 Livable city 7	2/1/4
Hegang	2/1	Service city 16 Innovation city 13 Advanced manufacturing city 8 Tourism city 7	Service city 7 Advanced manufacturing city 4	Service city 23 Innovation city 13 Advanced manufacturing city 12 Tourism city 7	4/2
Shuangyashan	4	Eco city 11 Advanced manufacturing city 9 Service city 9 Tourism city 8	Eco city 9 Advanced manufacturing city 5 Tourism city 4	Eco city 20 Advanced manufacturing city 14 Tourism city 12 Service city 9	2/4
Daqing	2	Low carbon city 25 Advanced manufacturing city 12 Administrative progress city 11 Innovation city 9	Low carbon city 53 Smart city 35 Advanced manufacturing city 21 Service city 18	Low carbon city 78 Smart city 35 Advanced manufacturing city 33 Service city 18 Administrative progress city 11	2/4
Yichun	1	Eco city 22 Tourism city 10 Smart city 9 Livable city 8	Modern agricultural city 9 Advanced manufacturing city 8 Tourism city 8	Eco city 22 Tourism city 18 Modern agricultural city 9 Advanced manufacturing city 9 Livable city 8	1/2 /4

Table 10. *Cont.*

City	Pathway Following Geographic Position	Brand Label as in 13th FYP	Brand Label as in UMP	Overall Dominant Brand Label	Desired Pathway
Jiamusi	4	Service city 20 Eco city 17 Modern agricultural city 11 Tourism city 7	Service city 6 Eco city 5 Tourism city 2	Service city 26 Eco city 22 Modern agricultural city 11 Tourism city 9	4/1
Mudanjiang	4	Service city 3 Tourism city 2	Tourism city 10 Eco city 6 Service city 3	Tourism city 12 Eco city 6 Service city 6	4
Heihe	1	Eco city 24 Modern agricultural city 18 Service city 17 Tourism city 13	Tourism city 5 Modern agricultural city 4 Service city 3	Eco city 24 Modern agricultural city 22 Service city 20 Tourism city 18	1/4
Qitaihe	2/4	Advanced manufacturing city 9 Low carbon city 4 Eco city 3	Advanced manufacturing city 19 Livable city 4	Advanced manufacturing city 28 Low carbon city 4 Livable city 4 Eco city 3	2
Suihua	4/1	Service city 8 Advanced manufacturing city 5 Tourism city 4	Low carbon city 6 Service city 6 Advanced manufacturing city 4	Service city 14 Advanced manufacturing city 9 Low carbon city 6 Tourism city 4	4/2

The table presenting the findings for cities in Heilongjiang clearly demonstrates that the share of tourism and agriculturally oriented cities is higher than in Liaoning and Jilin. This explains the higher incidence of terms such as eco city, modern agricultural city and tourism city. Nonetheless, the broad picture, again, is that cities choose brand label which are largely 'on path' albeit that they often strive for industrial diversification and integration of rural and urban too thus aiming to build bridges between the various industries. Finally, it appears that none of them wish to be on pathway 1 alone: a match with 2 or 4 is always made.

6. Conclusions

Amidst rising levels of material wealth and falling levels of environmental health in China, national and local governments and other stakeholders pay ample attention to the quality of urban development. In order to attract investors, industry respectful of the natural ecology and talented labor, all to deal with the challenges of ecological modernization, improving the image of the city is a crucial task. While cities in the more prosperous parts of China and especially the globalized ones such as Beijing, Tianjin, Shanghai, Hangzhou, Shenzhen, Guangzhou and Hong Kong have set successful examples in city branding, many lesser ones are struggling with their industrial transformation. What do relatively deprived resource-based and heavily industrialized cities with low economic growth figures do? In this paper, we selected all 34 cities in three Northeastern provinces of the country, examined what regional and industrial profiles they had, how they branded themselves and to what extent profile and branding were in line with each other. We used the theoretical and methodological framework on ecological modernization related developmental pathways as developed in [14].

For city branding to be credible and successful, it is imperative that stakeholders relevant to its implementation support it and communicate the same message to the outside world. The evidence in this contribution shows that the provinces of Liaoning, Jilin and Heilongjiang have many cities dominated by heavy manufacturing (pathway 2) or public-sector dominated services (a low value-added edition of pathway 4), while a few have most people working in agriculture (pathway 1) or combinations of 2 and 4. Most cities choose to brand themselves in line with the actual developmental pathways they are on and can thus be called "on-path". Some of them do this in quite well-reflected and sophisticated ways, such as Liaoyang in Liaoning province, which leans on but further elaborates its manufacturing profile by fleshing out its brand identity to one evolving into a comprehensive smart city with all this entails. The choice for city labels in conformity with this (smart city, advanced manufacturing city, low carbon city) also reflect this tendency. Other examples include Baishan and Yanbian in Jilin province, which seek various ways to combine their attractive location for tourism with manufacturing functions and Heihe and Suihua in Heilongjiang which strive to combine their resource-based and agricultural origins with a complete portfolio in which elements of the primary, secondary and tertiary sectors are combined and integrated. On the other hand, cities with less convincing brand identities are characterized by the adoption of vague and politically correct phrases that offer little developmental direction, such as Anshan in Liaoning province which says it will 'adhere to the principle of scientific development, build an environment-friendly city; adhere to the principle of intensive conservation; build a resource-saving city; adhere to the principle of multi regulatory cohesion, build a comprehensive central city; adhere to the principle of fairness and harmony and build a harmonious livable city' (see Table 5). Such sentences reveal a desire to follow general policy clauses promoted by the central government rather than internalized ideas on self-initiated future development. Although the outcome that branding in line with on-path industrial development may seem insignificant at first, it actually diverges from findings in China's more economically developed Mega City Regions. There many industrial cities chose to brand themselves as service- and innovation oriented, although they were actually also dominated by manufacturing industries [14]. Their branding was therefore off-path and reflected their wish to rid themselves of their industrial image. The fact that this did not happen can be explained by two factors: (1) the types of tertiary industries in Liaoning, Jilin and Heilongjiang, like in Hebei province, are mostly state-owned and/or low-tech and have low

value added; (2) cities often mix in features of various other pathways when branding themselves: this implies that cities aim to carry out industrial transformation through diversification, sometimes expanding their tourism, culture and service industries but often in combination with upgrading their manufacturing industries on which they still heavily rely. This explains why eco, low carbon, advanced manufacturing and smart are quite popular as city labels, especially in the cities where heavy industry dominates. Interestingly, the Northeastern cities on pathway 1, all located in Heilongjiang province, choose not to give up their focus on agriculture and/or forestry but rather aim to modernize their profile by combining it with industries on pathways 2, 4 or both (1/2,1/4,1/2/4), expressing a strong drive to realize urban-rural integration.

From a credibility viewpoint, branding in line with an existing geographic profile and developmental pathway while including new features pointing to future ambitions is a wise choice. It connects past, present and future and therefore builds on the old to develop the new. Whether this reflects an intentional tendency to professional branding or rather translates national policy wishes in municipal plan documents is an important topic for future study. Earlier work on the Pearl River Delta revealed that the influence of Multi-Level Governance on local branding strategies is significant [13]. Evidence in this study also reveals the existence of a city label not previously found elsewhere: the 'administrative progress city'. This is a unique label that cannot be unambiguously connected with any particular pathway reflective of the desire to modernize public services provided by public-owned enterprises.

More in-depth qualitative analysis is due to explore the environmental impact of the branding practices, i.e., to test whether the chosen cities labels are implemented in accordance with the claims and how various stakeholders experience and act on them. As usual the proof of the pudding is in the eating.

Author Contributions: Meiling Han and Martin de Jong jointly wrote the article, with Meiling Han focusing more on the empirical sections and Martin de Jong more on the theoretical and methodological parts. Meiling Han, Zhuqing Cui and Limin Xu collected and analyzed the data; Haiyan Lu and Baiqing Sun contributed to the data analysis and text-editing. Martin de Jong and Baiqing Sun share academic responsibility for the research program in which this paper is embedded.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Wu, F.; Phelps, N.A. From suburbia to post-suburbia in China? Aspects of the transformation of the Beijing and Shanghai global city regions. *Built Environ.* **2008**, *34*, 464–481. [CrossRef]
2. Zhang, L.; Zhao, S.X. City branding and the Olympic effect: A case study of Beijing. *Cities* **2009**, *26*, 245–254. [CrossRef]
3. Fan, P. Producing and consuming urban planning exhibition halls in contemporary China. *Urban Stud.* **2015**, *52*, 2890–2905. [CrossRef]
4. Hajer, M.A. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*; Clarendon Press: Oxford, UK, 1995.
5. Mol, A.P.; Sonnenfeld, D.A.; Spaargaren, G. *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*; Routledge: London, UK; New York, NY, USA, 2009.
6. Bayulken, B.; Huisingh, D. A literature review of historical trends and emerging theoretical approaches for developing sustainable cities (part 1). *J. Clean. Prod.* **2015**, *109*, 11–24. [CrossRef]
7. Joss, S. Eco-cities: The mainstreaming of urban sustainability–key characteristics and driving factors. *Int. J. Sustain. Dev. Plan.* **2011**, *6*, 268–285. [CrossRef]

8.   Anholt, S. Competitive identity: The new brand management for nations, cities and regions. *J. Brand Manag.* **2007**, *14*, 474–475.

9.   Anttiroiko, A.-V. City brands in the Mediatised world: Economic profiles of Nordic capitals aggregated from city rankings. *Scand. J. Public Adm.* **2016**, *20*, 97–118.

10. De Jong, M.; Joss, S.; Schraven, D.; Zhan, C.; Weijnen, M. Sustainable–smart–resilient–low carbon–eco– knowledge cities; making sense of a multitude of concepts promoting sustainable urbanization. *J. Clean. Prod.* **2015**, *109*, 25–38. [CrossRef]

11. Goess, S.; de Jong, M.; Meijers, E. City branding in polycentric urban regions: Identification, profiling and transformation in the Randstad and Rhine-Ruhr. *Eur. Plan. Stud.* **2016**, *24*, 2036–2056. [CrossRef]

12. De Jong, M.; Chen, Y.; Zhao, M.; Lu, H. Urban transformation and city branding in the Greater Pearl River Delta. In *Sustainable Cities in Asia*; Caprotti, F., Yu, L., Eds.; Routledge: Abingdon, UK, 2017; pp. 282–297.

13. Lu, H.; de Jong, M.; Chen, Y. Economic city branding in China: The multi-level governance of municipal self-promotion in the Greater Pearl River Delta. *Sustainability* **2017**, *9*, 496. [CrossRef]

14. De Jong, M.; Chen, Y.; Joss, S.; Lu, H.; Zhao, M.; Yang, Q.; Zhang, C. Explaining city branding practices in China's three mega-city regions: The role of ecological modernization. *J. Clean. Prod.* **2017**. under review.

15. Baker, B. *Destination Branding for Small Cities; the Essentials for Successful Place-Branding*, 2nd ed.; Creative Leap Books: New York, NY, USA, 2012.

16. Vanolo, A. The image of the creative city: Some reflections on urban branding in Turin. *Cities* **2008**, *25*, 370–382. [CrossRef]

17. Dinnie, K. *City Branding: Theory and Cases*; Palgrave Macmillan: Basingstoke, UK, 2011.

18. Braun, E.; Eshuis, J.; Klijn, E.-H. The effectiveness of place brand communication. *Cities* **2014**, *41*, 64–70. [CrossRef]

19. Kavaratzis, M.; Kalandides, A. Rethinking the place brand: The interactive formation of place brands and the role of participatory place branding. *Environ. Plan. A* **2015**, *47*, 1368–1382. [CrossRef]

20. Merrilees, B.; Miller, D.; Herington, C. Multiple stakeholders and multiple city brand meanings. *Eur. J. Mark.* **2012**, *46*, 1032–1047. [CrossRef]

21. Henninger, C.E.; Foster, C.; Alevizou, P.J.; Frohlich, C. Stakeholder engagement in the city branding process. *Place Brand. Public Dipl.* **2016**, *12*, 285–298. [CrossRef]

22. Kavaratzis, M. City marketing: The past, the present and some unresolved issues. *Geogr. Compass* **2007**, *1*, 695–712. [CrossRef]

23. Björner, E. Imagineering Chinese mega-cities in the age of globalization. In *Branding Chinese Mega-Cities: Policies, Practices and Positioning*; Berg, P.O., Björner, E., Eds.; Edward Elgar Publishing: Cheltenham, UK, 2014; pp. 106–120.

24. Fu, Y.; Zhang, X. Trajectory of urban sustainability concepts: A 35-year bibliometric analysis. *Cities* **2017**, *60*, 113–123. [CrossRef]

25. Lu, D.; Tian, Y.; Liu, V.Y.; Zhang, Y. The performance of the smart cities in China—A comparative study by means of self-organizing maps and social networks analysis. *Sustainability* **2015**, *7*, 7604–7621. [CrossRef]

26. Bifulco, F.; Tregua, M.; Amitrano, C.C.; D'Auria, A. ICT and sustainability in smart cities management. *Int. J. Public Sect. Manag.* **2016**, *29*, 132–147. [CrossRef]

27. Pingyu, Z. Urbanization progress, problem and policy in northeast china since 2003. *Bull. Chin. Acad. Sci.* **2013**, *1*, 006.

28. Liang, Q.; Liu, J. Research on the development of equipment manufacturing in Liaoning. *Financ. Econ. Res.* **2013**, *5*, 40–44.

29. Li, J.; Zhang, Y.; Shao, S.; Zhang, S.; Ma, S. Application of cleaner production in a Chinese magnesia refractory material plant. *J. Clean. Prod.* **2016**, *113*, 1015–1023. [CrossRef]

30. Cui, W.; Zhang, Y.; Li, J. Comparative study on innovation ability of Shenyang and Dalian equipment manufacturing industry. *Financ. Econ. Res.* **2009**, *4*, 122–128.

31. Wang, H. The review and foresight of the construction of the old industrial base in Shenyang. *Macroecon. Res.* **2002**, *7*, 18–21.

32. Dalian Statistical Information Net: Reducing Consumption and Optimizing the Development of Dalian Petrochemical Industry. Available online: http://www.stats.dl.gov.cn/index.php?m=content&c=index&a=show&catid=48&id=11229 (accessed on 10 November 2017).

33. Xinhua Net Jilin: The Layout of "Satellite+" and Lift up the Banner of Jilin Aerospace Industry. Available online: http://www.jl.xinhuanet.com/2012jlpd/2016-05/03/c_1118785851.htm (accessed on 15 November 2017).

34. Li, Y.; Liu, J. Research on the development trend of pillar industries in Jilin Province. *Ind. Sci. Technol. Forum* **2013**, *12*, 40. [CrossRef]

35. Jilin Government: Songyuan 2016 National Economic and Social Development Statistical Bulletin. Available online: http://www.jl.gov.cn/sj/sjcx/nbcx/gdzs/201705/t20170509_2489637.html (accessed on 18 November 2017).

36. Sun, W. Research on the development strategy of equipment manufacturing industry in Heilongjiang province. *Bus. Res.* **2004**, *23*, 69–72.

37. Shen, X.; Liu, L.; Huang, Z. Investigation and analysis of agricultural cold chain logistics and its development strategy in Heilongjiang province. *Asian Agric. Res.* **2013**, *5*, 80.

38. Zhang, Y.; Sun, Y.; Qin, J. Sustainable development of coal cities in Heilongjiang province based on AHP method. *Int. J. Min. Sci. Technol.* **2012**, *22*, 133–137. [CrossRef]

39. Qin, J.; Yu, D.; Sun, J. The coordinated economic development of regional ecological research of heilongjiang based on automatic control. *Ecol. Econ.* **2010**, *4*, 015.

40. Heilongjiang Bureau of Statistics: Heilongjiang 2016 National Economic and Social Development Statistical Bulletin. Available online: http://www.hlj.stats.gov.cn/tjgb/shgb/201705/t20170527_58845.htm (accessed on 19 November 2017).

41. Zhang, W.; Xu, R.; Guo, Y. Discussion on the development of new ecological industry in the old industrial base in Harbin. *Acad. Exch.* **2005**, *6*, 103–106.

42. Zou, C.; Tao, S.; Yang, Z.; Hou, L.; Yuan, X.; Zhu, R.; Jia, J.; Wu, S.; Gong, Y.; Gao, X. Development of petroleum geology in China: Discussion on continuous petroleum accumulation. *J. Earth Sci.* **2013**, *24*, 796–803. [CrossRef]