Chapter 5
Going Back to Tibet: Analytic Narrative

Abstract This chapter sets out to investigate how China's interprovincial economic (dis)integration has been determined in Tibet. Given the ethnic homogeneity within Tibet and the similar religious beliefs adopted by the Tibetans and Han Chinese (both of which belong to the Mongoloid group), the harmonious Han–Tibetan relations had once ever been achieved. It is found that Tibet's spatial economic disparities are much smaller than Xinjiang's, which could be responsible for its long-term economic progress and social stability. Finally, we also find that China's development policies toward Tibet have been more successful than those toward Xinjiang. This may be witnessed not only by the Tibetan's better social and economic performances than Xinjiang's but also by the less tensed (at least compared to the Han–Uyghur relations in Xinjiang) Han–Tibetan relations in Tibet.

Keywords Tibet · Geopolitics · Trade · Development strategy · Tibetan culture · Cultural homogeneity · Analytic narrative

5.1 A Bird's-Eye View of Tibet

5.1.1 International Connections

Tibet adjoins Bhutan and Nepal on the south, Myanmar on the southeast, and India on both the southeast and the northwest. Most of these land boundaries are set along the water parting of high-elevation mountains (including the Altai, the Tianshan, the Pamirs, the Karakoram range, and the Himalayas) and at uninhabited places, not suitable for cross-border communication and transportation. Tibet has much more complicated boundary and external conditions than, except Xinjiang, other frontier provinces in China.

R. Guo, *China's Regional Development and Tibet*,
DOI 10.1007/978-981-287-958-5_5

Fig. 5.1 The railway systems of western China. *Source* Author

Tibet's frontier railway system was built much later than those of other Chinese frontier provinces. On September 26, 2010, China started to construct a 253-km long railway connecting Lhasa and Rikaze (see Fig. 5.1). This project, which was completed in August 2014, extends Tibet's railway system to China's boundary with Nepal. If the rail line that has reached up to Rikaze from mainland China could be extended up to Kathmandu, the whole time of goods transportation from inland Chinese cities to Nepal will be cut to less than a week from 12 to 18 days (via sea route).[1] As a result, the economic ties between Nepal and China could be taken to a new height; and, undoubtedly, economic infrastructure could be further developed on the Himalayan transit points between Nepal and China.

Even though Tibet's frontier railway system has been built much later, it is going to play an important role in the promotion of international trade in Tibet. While the Qinghai–Tibet Railway has announced extending the railway southward to Rikaze, a land bridge concept from time to time rumors. This land bridge connects the Pacific and Indian oceans, linking the east coast port city of Lianyungang

[1]Source: http://baike.baidu.com/view/2580.htm#7. Accessed 2013-5-1.

in East China, Xi'an, Lanzhou, Xining, Lhasa, through Nepal, and finally arriving in India and Pakistan. If the land bridge is completed, it will benefit all the countries involved (including, but limited to, India, Bangladesh, Nepal, and China). Since it is located between China and India—the world's two most populous and fastest-growing economies, Tibet will be in a crucial geographical position. Regardless of a demand that may have strategic geopolitical implications for India, Nepal has asked China to extend the Beijing–Lhasa railway line to Kathmandu and offered that it is committed not to allow anti-China activities from its soil (Pradhan, October 12 2009).

There have been worries in India that the cross-border rail connectivity will make Nepal and Bangladesh–India's traditional partners—come closer to China. In addition, India also fears that China now has the capability to deploy and sustain more than half a million troops for over a month on the Line of Actual Control (LAC) in case of a high-threat scenario with India (Gupta, May 11 2011). The China–Indian relations have been shadowed by the territorial disputes in Jammu and Kashmir. India lays claim to vast territories of land that is in the possession of China. For a long time, the demarcation of China's land boundaries with India has been the subject of political argument. The whole disputed area includes Aksai Chin (which is currently under the administration of Xinjiang Uygur autonomous region) and some small pieces of land (which is currently under the administration of Tibet autonomous region). India, however, claims the area as part of Ladakh district of the Indian state of Jammu and Kashmir. In 1962 there was a short border war between China and India. The war lasted from October 20 to November 22. It ended with a Chinese victory and the birth of the LAC that India never accepts (Guo 2012, p. 65).

There is a different story about the China–India boundary dispute in Tibet. The dispute began at the early 1910s. In 1913 and 1914, the British administrator in India, Sir Henry McMahon, drew up the so-called McMahon Line as the boundary between China and India. China has never recognized the validity of the McMahon Line. In 1962, China and India fought a battle in this area, with a Chinese victory. After the war, the Chinese army withdrew from the McMahon Line. This disputed area acquired an independent political status on January 20, 1972, when it was declared as Union Territory, an administrative division of India ruled directly by the national government, under the name of Arunachal Pradesh. The state of Arunachal Pradesh bill was passed by the Indian Parliament in 1986 and, with effect from February 20, 1987, Arunachal Pradesh became the 24th state of Indian Union (Guo 2012, pp. 57–59). Since it was China that withdrew its army from this disputed area, the Sino-India territorial dispute is now dormant.

Thanks to Tibet's geocultural connections to India, the Dalai Lama XIV was able to establish its government-in-exile in Dharamsala, North India. Dharamshala had been connected with Hinduism and Buddhism for a long time, with many monasteries having been established there in the past, by Tibetan immigrants in the nineteenth century. Following the 1959 Tibetan uprising there was an influx of Tibetan refugees—who followed the Dalai Lama XIV—in India, Nepal, and Bhutan. As soon as the Dalai Lama and several thousand other Tibetans fled

to India, the Indian government settled them in the Dharamshala area where the Central Tibetan Administration (CTA) was also established. Now most of these Tibetans and their descendants have lived in and around the McLeodGanj village in Upper Dharamshala, where they have built monasteries, temples, and schools. As a result, McLeodGanj is sometimes known as the "Little Lhasa"—after the Tibetan capital city of today's Tibet autonomous region in China—or "Dhasa" (a compound of the words "Dharamshala" and "Lhasa"). Today, the Dalai Lama's presence and the Tibetan population have made Dharamshala a popular destination for tourists.

In terms of religion, Tibet and its neighboring countries are almost homogeneous. Even though different schools of Buddhism have been adopted, they are not conflicting with each other. This is quite different from that in other frontier regions in China. For example, there are at least three different—and sometimes incompatible—religious beliefs in Xinjiang:

- Buddhism (which is also adopted in northern India and Mongolia).
- Islam (which is also adopted in Afghanistan, part of Kazakhstan, part of Kyrgyzstan, Pakistan, and Tajikistan).
- Eastern Orthodox (which is also adopted in part of Kazakhstan, part of Kyrgyzstan, and Russia).

Table 5.1 shows a brief summary of Tibet's international and boundary conditions (for ease of comparison, the data of both Tibet and its neighbor, Xinjiang are included). For example, during the past decades, even though many other domestic issues have played some roles in Xinjiang's social unrest, it seems that the fact that Xinjiang's geographical proximity to Afghanistan and Pakistan is also a critical factor. The most illustrating case is the East Turkestan Islamic Movement (ETIM). The ETIM, which was found in 1997, is believed to organize various terrorist attacks in southern Xinjiang near the border with Afghanistan and Pakistan. On September 11, 2002, the ETIM was at the UN Security Council list of entities associated with Al-Qaeda and the Taliban.[2]

5.1.2 Interprovincial Linkages

The interprovincial boundaries of Tibet are much simpler than their international boundaries. Tibet autonomous region has four neighbors (Qinghai, Sichuan, Xinjiang, and Yunnan). Without good reason, interprovincial boundaries are usually more geographically accessible and less politically sensitive than international boundaries. As a result, there are always, *ceteris paribus*, strong interprovincial vis-à-vis international socioeconomic links in the contemporary world. Tibet has no exceptions.

[2]See Guo (2015, Chap. 3) for a more detailed analysis.

Table 5.1 Boundary and external conditions: Xinjiang and Tibet

Geopolitical indicator	Xinjiang	Tibet
Land area (sq. km)	1,660,000	1,228,400
Length of international land borders (km)	6,012	3,800
Per capita GDP in PPP	8,300[a]	5,600[a]
Adjacent countries (per capita GDP in PPP)	Afghanistan (1,079), Kazakhstan (15,701), Kyrgyzstan (2,626), India (4,148), Mongolia (4,889), Pakistan (2,559), Russia (17,553), Tajikistan (2,561)	Bhutan (5,449), India (4,148), Myanmar (1,300), Nepal (1,396)
Adjacent Chinese provinces	Gansu, Qinghai, Tibet	Qinghai, Sichuan, Xinjiang Yunnan
Political status		
(1) Pre-PRC era	Province	Independent kingdom[b]
(2) PRC era	Autonomous region	Autonomous region
Political goal(s) of elite-in-exile	Independent from China	Full political autonomy[c]; independent from China[d]

Notes GDP = gross domestic product; and PPP = purchasing power parity
[a]Estimated by author
[b]Tibet unilaterally proclaimed as an independent state from 1913 to 1951, but this was not recognized by Beijing or a portion of the Tibetans
[c]It is claimed by the Dalai Lama (1996, pp. 47–51)
[d]It is claimed by the Tibetan Youth Congress (2009)
Sources Guo (2013b, p. 200) for the data on the length of international land borders and Heston et al. (2012) for the data on per capita GDP in PPP (except for those that are cited otherwise)

Tibet's interprovincial railway system has been built much later than any other Chinese provinces. In 2006 the construction of the 2,000 km Qinghai–Tibet Railway was completed (see Sect. 2.4 of Chap. 2 for more details). This stretches from Xining—capital of Qinghai province—to Lhasa, and across the Kunlun Mountains and Tanggulashan. The railway makes Tibet more accessible, with direct passenger trains running from Lhasa to major inland cities (as shown in Table 3.3 of Chap. 3). With the operation of the Qinghai–Tibet Railway—the world's highest railway—the cost of transportation of both passengers and goods should be greatly reduced, allowing for an increase in volume—the cost per ton-kilometer will be reduced from 0.38 yuan to 0.12 yuan (Cnradio, November 10 2006). According to a report released by the Qingzang Railway Corporation, in 2012 a total number of 6.83 million passengers and 40.22 million tons of cargos were transported from and to Tibet (Askci 2013).

Since the 1980s, China has implemented a more flexible policy to ease interprovincial migration. As a result, interprovincial labor flows have been increased. It is noteworthy that these flows have also been conducted by people coming from the inland, ethnic minority, areas and moving into the coastal, Han-majority areas. Consequently, China's interprovincial ethnic networks have been enhanced. Using the data released by China's Fifth and Sixth National Population Censuses (which

were conducted on November 1, 2000 and 2010, respectively), the Tibetans (the ethnic majority of Tibet) are illustrated below as an example.

The Tibetans were found to have stronger interprovincial links in 2010 than in 2000. Specifically, Tibet autonomous region has the largest Tibetan links with the following provincial administrations (represented by the share of Tibetan population):

1. Qinghai (24.44 % in 2010, up from 22.53 % in 2000),
2. Gansu (1.91 % in 2010, up from 1.76 % in 2000),
3. Sichuan (1.86 % in 2010, up from 1.54 % in 2000),
4. Yunnan (0.31 % in 2010, up from 0.30 % in 2000),
5. Xinjiang (0.04 % in 2010, up from 0.03 % in 2000),
6. Beijing (0.03 % in 2010, up from 0.02 % in 2000),
7. Shaanxi (0.02 % in 2010, up from 0.01 % in 2000),
8. Tianjin (0.01 % in both 2010 and 2000),
9. Inner Mongolia (0.01 % in both 2010 and 2000),
10. Chongqing (0.01 % in both 2010 and 2000),
11. Shanghai (0.01 % in both 2010 and 2000),
12. Ningxia (0.01 % in both 2010 and 2000),
13. Guangdong (0.01 % in both 2010 and 2000), and
14. Zhejiang (0.01 % in 2010, up from 0.00 % in 2000).[3]

5.2 Internal Economic Performance

5.2.1 General Situation[4]

Tibet, averaging more than 4,000 m above sea level, forms the main part of the Qinghai–Tibet Plateau and is well known as the "Roof of the World." Mount Everest (about 8,848 m above sea level), located on the border with Nepal, is the highest mountain on earth. Several major rivers have their source on the Tibetan Plateau (mostly in Qinghai province). These include the Yangtze, the Yellow, the Indus, the Mekong, the Ganges, the Salween, and the Yarlung Tsangpo (Brahmaputra) rivers. The Yarlung Tsangpo Grand Canyon is among the deepest and longest in the world. The Indus and Brahmaputra originate from western Tibet.

The atmosphere is severely dry for 9 months each year, and the average annual snowfall is only 460 mm. The Indian monsoon exerts some influence on eastern Tibet. Northern Tibet is subject to high temperatures in summer and intense cold in winter. Western passes receive a small amount of fresh snow each year

[3]Calculated by author based on the Fifth (2000) and the Sixth (2010) National Population Censuses of the PRC.

[4]This subsection is an excerpt of Guo (2013a pp. 310–315).

but remain traversable all year round. Low temperatures are prevalent throughout these western regions, where bleak desolation is unrelieved by any vegetation bigger than a low bush, and where wind sweeps unchecked across vast expanses of arid plain.

There are more than 90 known mineral types in the area, of which 26 have proven reserves and 11 rank among the top five in China. The minerals include chromite, lithium, copper, gypsum, boron, magnesite, barite, arsenic, mica, peat, kaolin, salt, natural soda, mirabilite, sulfur, phosphorus, potassium, diatomaceous earth, iceland spar, corundum, rock quartz, and agate. In 2007 Chinese central government issued a report outlining the discovery of a large mineral deposit in Tibet. This may double China's previous reserves of zinc, copper, and lead. Government sees this as a way to alleviate the nation's dependence on foreign mineral imports for its growing economy. However, the exploitation of these vast resources could harm Tibet's fragile ecosystem and also undermine its culture.

Tibet is rich in hydro, geothermal, solar, and wind energy. It produces approximately 200 million kw of natural hydroenergy annually, about 30 % of the nation's total. It has 354.8 billion cubic meters of surface water resources, about 13.5 % of the nation's total, and 330 billion cubic meters of glacial water resources. The region has 56.59 million kw exploitable hydroenergy resources, about 15 % of the nation's total. It also leads China in geothermal energy. The Yangbajain geothermal field in Damxung county, Lhasa, is the country's largest high-temperature steam geothermal field and also one of the largest in the world.

Due to limited arable land, the primary occupation on the Tibetan Plateau is raising livestock, such as sheep, cattle, goats, camels, yaks, dzo, and horses. The main crops grown are barley, wheat, buckwheat, rye, potatoes, and assorted fruits and vegetables. The development of agriculture and animal husbandry has been given top priority in the Tibetan economy. The major agricultural products, such as broad beans, barley, wheat, rapeseed, garlic, and mushrooms, have great competitive advantage in terms of quality due to several unique natural conditions. As of 2010, "public management and social organization" and "culture, sports and entertainment" are relatively strong, while "services to households and other services," "real estate," "manufacturing," and "mining" are relatively weak.[5]

The economy of Tibet autonomous region is dominated by subsistence agriculture, though tourism has been growing in recent decades. In 1981 there were only 2,005 foreigners visiting Tibet; while the number has reached 214,136 persons in 2010 (TBS 2011). At present, priorities for foreign investments are infrastructure (such as transportation and communications), education, agriculture (plateau agriculture, water-conservative agriculture, food processing), and Tibetan medicine. Foreign investments come mainly from Nepal, Japan, the United States, the United Kingdom, South Korea, Denmark, Canada, and Australia.

[5]Note that all the sectors defined here are according to China's official categories.

5.2.2 How Tibet Differs from Xinjiang

Located at the westernmost end of China, both Xinjiang and Tibet have large, sparsely populated areas. However, compared with Xinjiang, Tibet is still far sparser, with an average population density of less than 2.5 persons per square kilometer (see Table 5.2). In addition, Tibet is the least urbanized area in China, with an economy that depends on agriculture, finance from central government, and a thriving tourism industry. Economic development in the area is stunted by high transportation costs and high exploration costs.

Table 5.2 Socioeconomic performances: Xinjiang versus Tibet

Indicator	Year	(1) Xinjiang	(2) XPCC	(3) Xinjiang excl. XPCC	(4) Tibet	(5) = (3) ÷ (4)
Population (million persons)	2000	19.25	2.43	16.82	2.62	6.42
	2010	21.85	2.57	19.28	3.01	6.41
Ratio of urban population (%)	2000	33.8	41.9	31.09	18.9	1.75
	2010	42.2	47.1	41.55	28.2	1.47
Population density (persons/sq. km)	2000	11.59	35.2	10.48	2.13	4.92
	2010	13.16	37.2	12.03	2.45	4.91
Illiterate rate of population (%)	2000	5.56	2	6.07	32.5	0.19
	2010	2.36	1.08	2.53	24.42	0.10
Per capita gross regional product (GRP) (yuan)	2000	7,372	4,076	7,848	4,484	1.75
	2010	25,057	23,416	25,276	16,861	1.50
Per capita income of urban residents (yuan)	2000	5,645			7,426	
	2010	13,644	14,391	13,531	14,980	0.90
Per capita income of rural residents (yuan)	2000	1,618			1,330	
	2010	4,643	9,169	4,097	4,138	0.99
Urban/rural income ratio	2000	3.49			5.58	
	2010	2.94	1.57	3.30	3.62	0.91
Per capita GRP ratio of top to bottom prefecture	2000	25.62			3.76	
	2010	23.43			1.63	

Notes (1) XPCC = Xinjiang Production and Construction Crops; GRP = gross regional product. (2) All monetary values are measured at current prices

Source Calculated by author based on XBS (2001 and 2011); TBS (2001 and 2011) and XPCC (2001)

In terms of the UNDP's Human Development Index, Tibet is ranked the lowest among China's 31 provinces (UNDP 2010). Tibet has had a much higher illiterate rate of population than any other Chinese provinces. For example, the proportion of ethnic Tibetans over age 15 in the Tibetan autonomous region recorded as illiterate or semiliterate in the 1990 census was as high as 72.8 % compared with China's national average of 22.8 % (Ma 1996, p. 51). In 2000, its illiterate rate of population aged 15 or over was 32.5 %, which is much higher than that of Xinjiang (5.56 %); in 2010, the ratio has reduced to 24.42 %, but it is still higher than that of Xinjiang (2.36 %) (see Table 5.2).

Ever since the initiation of China's opening-up and reform drive in 1979, Xinjiang's economy has been changed dramatically. As of 2010, industry leads with a contribution of 47.70 % to the gross regional product (GRP). The service sector also makes a substantial contribution at 32.50 %; while agriculture contributes the remaining 19.80 % (see Table 2.3 of Chap. 2). In Tibet, industry is playing an increasingly important role in the economy although service sector has still been the major economic player over the last few decades (see Table 3.1 of Chap. 3). Industrial products such as minerals, medicine, Qingke barley wine, carpets, and building materials are renowned globally. Traditional Tibetan medicine, in particular, boasts a long history in Tibet. While Tibet could be a large producer of natural resources and raw materials, there have been few advances in these areas. The focus is on expanding secondary industries, in particular energy, mining, and new building materials. Due to limited arable land, the primary occupation of the Tibetan Plateau is raising livestock, such as sheep, cattle, goats, camels, yaks, dzo, and horses. The main crops grown are barley, wheat, buckwheat, rye, potatoes, and assorted fruits and vegetables.

From 2000 to 2010, Tibet's net income level of rural residents has increased at a much faster rate than its income level of urban residents. For example, in 2000, the urban/rural income ratio of Tibet is as high as 5.58, which is much higher than that of Xinjiang (3.49). After 10 years, in 2010, Tibet has dramatically reduced its urban/rural income ratio to 3.62, which is much close to that of Xinjiang (see Table 5.2). A simple comparison of the income levels between Xinjiang and Tibet also reveals that the people's living conditions in Tibet have been improved more significantly than those in Xinjiang during the period from 2000 to 2010, especially in urban areas. For example, Xinjiang's per capita gross regional product (GRP) is 1.75 and 1.50 times that of Tibet in 2000 and 2010, respectively. However, in 2010 its per capita incomes of urban and rural residents have been only 90 % and 99 % those of Tibet, respectively (see Table 5.2).

When referring to Xinjiang's regional (especially its rural area) economic development, one must pay attention to the Xinjiang Production and Construction Crops (XPCC) (see Guo (2015, Chap. 2) for details). In general, the XPCC equipped with the well-educated staff and with strong support from the Chinese central government, has much higher economic growth rate than the rest of Xinjiang (Shao, 3 April 2012). However, after excluding the XPCC, the rest of Xinjiang has made less social and economic progress than Xinjiang as a whole. For example, since the rural residents of the XPCC has much higher income level

than the other rural residents of Xinjiang, the inclusion of the XPCC's agricultural areas into Xinjiang's rural areas has automatically increased the net income of rural residents and therefore reduced the urban–rural income ratio in Xinjiang.

Last but not least, Xinjiang and Tibet are different from each other in terms of spatial economic disparity. Tibet's economy is a rather convergent among its regions. And its interregional gap of per capita gross regional product (GRP), represented by the ratio of the richest region's per capita GRP to the poorest one, has reduced from 3.76 to 1.63 from 2000 to 2010. Given China's great spatial economic disparities,[6] Tibet can be treated as an exception. By way of contrast, Xinjiang has much greater spatial economic disparities than Tibet and any other inland Chinese provinces. In 2000, the per capita gross regional product (GRP) of the richest region (i.e., Karamay municipality) was 25.62 times that of the poorest region (i.e., Ili prefecture). In 2010, this ratio was slightly reduced to 23.43 times but still much higher than other places in China.

Then, what is the driving force behind the large spatial economic inequality and how will it imply to Xinjiang's regional economic development and social stability? We will give more detailed analyses in the next section.

5.3 External Economic Performance

5.3.1 An Export–Import Puzzle

China's border development has mainly benefited from its "open-door" policy and rapprochement with the neighboring countries since the mid-1980s. In 1984 the Chinese government promulgated the "Provisional Regulations for the Management of 'Small-volume' Border Trade" and opened up hundreds of frontier cities and towns. Inspired by Deng Xiaoping's Southern Speech in early 1992, China has embarked on a deeper outward-looking policy in an attempt to promote development in the frontier regions. As for Tibet, favorable and flexible measures have been granted to international trade and economic cooperation. They include: "Resolutions Concerning the Further Reform and Opening up to the Outside World" (issued by the State Council on July 14, 1992).[7]

In 2010, Xinjiang's exports amounted to US$12.9 billion (which is 38.68 times that in 1990), while its imports turned out to be only US$4.2 billion (which is 55.48 times that in 1990) (XBS 2011). Major imports in the region include rolled steel, medical equipment, crude oil, oil products, and fertilizers; major exports are clothing and other daily consumers' goods. Compared with Xinjiang, Tibet

[6]For example, as of 2010, the per capita GDP ratio of China's top five to bottom five provinces was 3.98 (if Beijing, Shanghai and Tianjin are included) or 3.16 (if Beijing, Shanghai and Tianjin are excluded)—cited from Guo (2013, p. 157).

[7]The full text of this document can be found in *Bulletins of the State Council of the People's Republic of China*, 1992.

had only US$771.02 million of exports and US$64.92 million of imports in 2010, which are 55.31 times and 27.66 times those in 1990, respectively (TBS 2011). Tibet's major exports include light industry products, livestock products, traditional Chinese medicine, and carpets; while its main imports are motor vehicles and machinery products.

At present, Xinjiang and Tibet have far poorer foreign trade performances than their coastal counterparts. This is simply due to the fact that in China the frontier provinces have always disadvantageous locations in conducting trade and economic cooperation with the world's major market economies. However, compared with other inland Chinese provinces, Xinjiang and Tibet still have locational advantages in cross-border trade and economic cooperation with their respective adjacent nations.

By cross-border trade (or border trade for short), it generally refers to the flow of goods and services across the international borders between jurisdictions. In this sense, it is a part of normal trade that flows through standard export/import frameworks of nations. In China, border trade is defined as the one that is conducted by people living on the frontier areas within 15 km (sometimes 20 km) away from an international boundary (Cihai 1999, p. 1250). Subject to the government approval, border trade may enjoy tariff exemption for a certain amount of goods (in monetary value) and may be able to receive a reduced tariff rate for remaining goods.

Generally, cross-border economic cooperation and trade are facilitated by both geographical factor and also the fact that people on both sides of the border either belong to the same ethnic group or share similar cultural characteristics. Although both have international geographical adjacencies, Xinjiang has cross-border trade advantages over Tibet. For example, China's first border free trade zone (i.e., the Horgos Free Trade Zone) is located at the Xinjiang–Kazakhstan border city of Horgos. Horgos is the largest "land port" in China's far western region and it has easy access to the Central Asian market. In March 2006, Xinjiang opened its second border trade market—called the Jeminay Border Trade Zone—near its border with Kazakhstan.

Xinjiang's cross-border trade was very small before 1990; since then, it has grown steadily. This is because Alashankou (the Ala Pass), which is located on the China–Kazakhstan boundary has been the only railway station connecting Xinjiang and its neighboring nations (i.e., Afghanistan, India, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Russia, and Tajikistan); it was constructed in the 1980s and went into operation in September 1990. As a result, most of Xinjiang's cross-border trade has been directed to and from Kazakhstan. In 2010, for example, Xinjiang's exports to and imports from Kazakhstan account for 60.82 % and 87.65 % of its total exports to and imports from all the neighboring nations, respectively (XBS 2011). Xinjiang's cross-border trade has followed a nonlinear pattern of growth during the period from 2000 to 2010 (shown in Fig. 5.2). Specifically, the sharp declining of exports in 2009 and 2010 may have stemmed from the following two factors:««

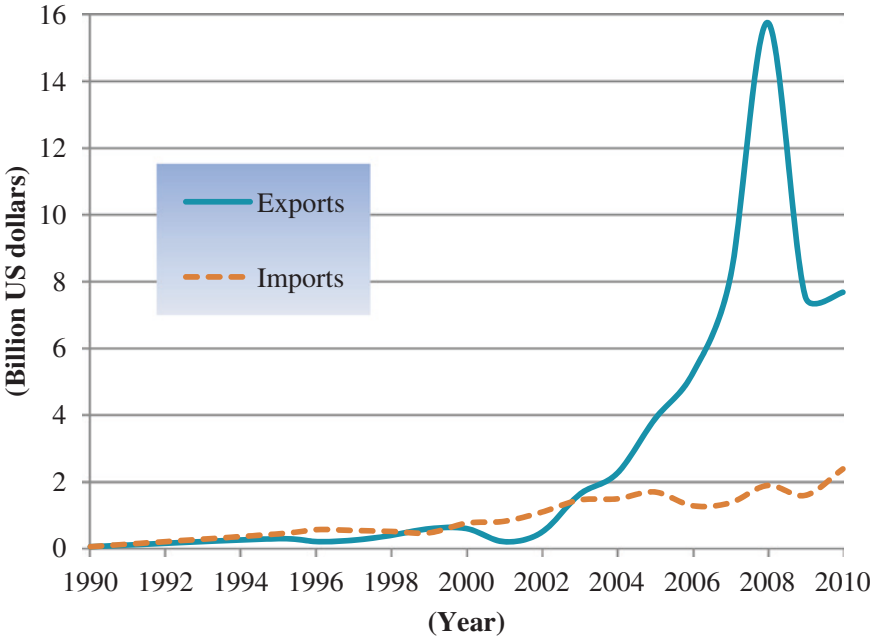

Fig. 5.2 Xinjiang's cross-border trade (1990–2010). *Source* Author based on XBS (2011)

(i) The 2008 US financial crisis which resulted in worldwide trade stagnation; and
(ii) A series of violent riots that occurred in Urumqi in 2009 and damaged the business environment in Xinjiang.[8]

Tibet's lower level of foreign trade volume is mainly due to the fact that Tibet has disadvantages in social production. In addition, the less-developed transportation network in Tibet has also been a factor retarding its cross-border trade. Before 2000, Tibet has very small volumes of cross-border trade; since then, especially since 2005, Tibet's cross-border exports have grown sharply (see Fig. 5.3). If this has been promoted by the operation of the Qinghai–Tibet Railway in 2006, one can expect that, after the Lhasa–Rikaze Railway is completed, Tibet's cross-border trade will be further fostered. Regardless of its sharp growth of exports, Tibet's imports have only maintained at a very small size during the past decades. This is an issue that needs further clarifications.

Till now, there is still one puzzling issue. As mentioned in Sect. 5.1.1, Xinjiang currently has a much more developed cross-border railway network than Tibet. However, its foreign trade growth has been much slower than the latter during the past decade. Even worse, regardless of the fact that Tibet's cross-border exports

[8]Note that since most of Xinjiang's cross-border trade has been conducted with Kazakhstan in northern Xinjiang where the Han Chinese account for the majority of population, it is reasonable to say that the Han Chinese have been major player of cross-border trade in Xinjiang.

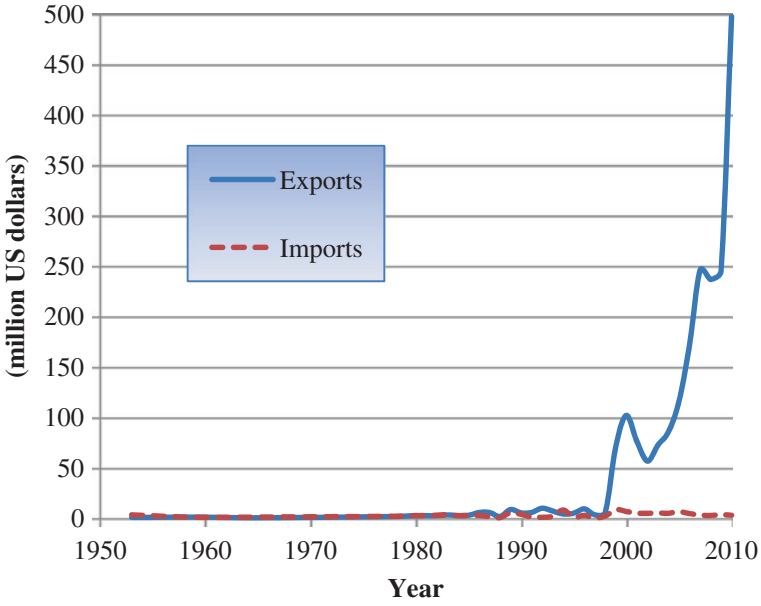

Fig. 5.3 Tibet's cross-border trade (1953–2010). *Source* Author based on TBS (2011)

had increased by 110.20 % from 2008 to 2010, Xinjiang's cross-border exports had declined by 51.33 % during the same period.[9] If the US financial crisis, which had resulted in the globe-wide trade stagnation, had affected Xinjiang's foreign trade from 2008 to 2010, why did Tibet not experience a declining of foreign trade for that period of time? If the Han–Uyghur unrest from 2007 to 2010 (see Chap. 3 for details) had been responsible for Xinjiang's foreign trade stagnation from 2008 to 2010, why did Tibet (in which there was also serious social unrest in 2008) not experience a decline in foreign trade for that period of time?

In addition, as shown in Fig. 5.3, Tibet's remarkable growth in foreign trade for the period from 2000 to 2010 has only happened since the mid-2000s when the Qinghai–Tibet Railway went into operation. Since we cannot find any other key events or factors contributing to this remarkable foreign trade growth of Tibet, we must presume that it was the Qinghai–Tibet Railway that helped Tibet to serve as an entrepot by which China's inland provinces conduct exports to or imports from the South Asian nations. For example, with the operation of the Qinghai–Tibet railway, the cost of transportation of both passengers and goods should be greatly reduced, allowing for an increase in volume—the cost per ton-kilometer will be reduced from 0.38 yuan to 0.12 yuan (Cnradio 2006). As a result, more commodities will be carried to and from Tibet by the railway.

[9]Calculated by author based on TBS (2011) and XBS (2011).

If Tibet's robust cross-border exports have benefited from the Qinghai–Tibet Railway which was completed in 2006, why have its cross-border imports been decreased by 36.96 % from 2006 to 2010 (see Fig. 5.3)? Nevertheless, the above presumption seems to be reasonable since Tibet's exports have been much larger than its imports.[10] Tibet has natural and economic conditions similar to, and has no obvious industrial advantages over, its neighboring nations. Obviously, without the participation by inland provinces, Tibet could not have sustained such large amount of cross-border trade surplus.

Compared with Tibet's stagnation in cross-border import from 2006 to 2010, Xinjiang's cross-border import has enjoyed an 87.26 % growth during the same period. How to explain the Xinjiang–Tibet differences in both exports and imports? We must mention the fact that Xinjiang has a much more developed railway networks than Tibet. However, the railway system is, though still important, not a sufficient factor by which to explain the Xinjiang–Tibet puzzle. In order to have a concrete account of Tibet's (vis-à-vis Xinjiang's) remarkable foreign trade (export in particular) growth, we must pay some attention to their social and economic ties with China's inland provinces.

It should be noted that the interprovincial ethnic linkages (represented by population shares) of Tibet stated in Sect. 5.1.2 are quite small in percentages. However, there are huge numbers of population in most of the Chinese provinces. Therefore, the above population shares—along with the other, even smaller population shares still denote the significant presence of interprovincial ethnic links for Tibet (in terms of the Tibetan ethnic group).

5.3.2 Explaining the Puzzle

What have the above interprovincial ethnic links implied to the trade puzzle of Xinjiang and Tibet? To have a concrete understanding of this issue, let us first look at the estimated results reported in Chap. 4. Since the estimated coefficients on Uyghur and Tibetan ethnic groups are statistically insignificant for 2000 (see Table 4.6 (2000) of Chap. 4), we may simply assume that, the interprovincial Uyghur and Tibetan links—no matter how large they are—do not have any significant influences on the interprovincial trade of Xinjiang and Tibet, respectively. However, since the estimated coefficients are statistically significant for 2010, the interprovincial Uyghur and Tibetan links will tend to influence interprovincial trade in 2010.

To go further, let us use the estimated coefficients reported in Tables 4.6 (2010) to calculate each ethnic group's contributions to interprovincial trade in 2010 (the results are reported in Table 5.3). The figures reported in the third and fifth

[10]For example, in 2010 the export-to-import ratio of Tibet was as high as 171 times (TBS 2011) and that of Xinjiang was about 3.2 times (XBS 2011).

Table 5.3 How the Uyghurs and Tibetans influence interprovincial trade, 2010

Province	Xinjiang		Tibet	
	Uyghur link	Trade effect (%)	Tibetan link	Trade effect (%)
Anhui	1.1933E−5	−6.5513	2.1496E−5	0.0294
Beijing	3.5565E−4	−86.7273	2.8426E−4	0.3900
Chongqing	4.0283E−5	−20.4463	1.0698E−4	0.1466
Fujian	3.1417E−5	−16.3385	4.7138E−5	0.0646
Gansu	7.5738E−5	−34.9530	1.9095E−2	29.8863
Guangdong	6.1715E−5	−29.5618	5.3720E−5	0.0736
Guangxi	3.9002E−5	−19.8654	1.7708E−5	0.0243
Guizhou	1.6054E−5	−8.7125	3.7527E−5	0.0514
Hainan	4.5321E−5	−22.6900	2.8600E−5	0.0392
Hebei	1.2024E−5	−6.5999	2.6930E−5	0.0369
Heilongjiang	2.3073E−5	−12.2793	1.5373E−5	0.0211
Henan	3.2277E−5	−16.7463	1.9260E−5	0.0264
Hubei	4.5023E−5	−22.5591	3.8000E−5	0.0521
Hunan	1.0222E−4	−44.0350	2.4688E−5	0.0338
Inner Mongolia	2.6633E−5	−14.0349	1.3191E−4	0.1808
Jiangsu	5.5518E−5	−27.0392	4.2691E−5	0.0585
Jiangxi	1.9117E−5	−10.2869	2.5804E−5	0.0353
Jilin	4.1052E−5	−20.7930	2.3750E−5	0.0325
Liaoning	4.3821E−5	−22.0285	4.2998E−5	0.0589
Ningxia	9.7281E−5	−42.4427	1.0411E−4	0.1427
Qinghai	3.7144E−5	−19.0158	2.4438E−1	2740.4746
Shaanxi	4.2060E−5	−21.2451	1.6998E−4	0.2330
Shandong	4.8386E−5	−24.0236	2.2403E−5	0.0307
Shanghai	2.2825E−4	−72.6394	1.0452E−4	0.1432
Shanxi	1.8761E−5	−10.1053	2.9318E−5	0.0402
Sichuan	2.4186E−5	−12.8323	1.8610E−2	29.0254
Tianjin	1.6772E−4	−61.4160	1.3719E−4	0.1880
Tibet	6.8337E−5	−32.1611	9.0551E−1	NA
Xinjiang	4.5854E−1	NA	3.8128E−4	0.5235
Yunnan	2.7892E−5	−14.6473	3.0950E−3	4.3294
Zhejiang	9.8810E−5	−42.9403	5.2373E−5	0.0717

Notes (1) Interprovincial Uyghur and Tibetan links are measured using Eq. (4.5) of Chap. 4. (2) Trade effects denote percentages by which provinces that are linked by an ethnic group—either Uyghur or Tibetan—would increase (or decrease if the figures are negative) bilateral trade as opposed to those that are not linked by the same ethnic group. The calculation is based on the following formula: $\exp(xy)-1$, where x denotes interprovincial Uyghur and Tibetan links (see the second and fourth columns of this table) and y denotes the estimated coefficients on the Uyghur group (−52403.342) and Tibetan group (13.694) shown in Table 4.6 (2010). (3) "NA" denotes there is no interprovincial trade

columns of this table denote percentages by which provinces that are linked by an ethnic group—Uyghur or Tibetan—would increase (or decrease if the figures are negative) bilateral trade as opposed to those that are not linked by the same ethnic group. From Table 5.3, one may observe that ethnic links have exerted different influences on interprovincial trade performances in Xinjiang and Tibet in 2010. For example, while the presence of the Tibetans has only slightly increased Tibet's trade with most inland Chinese provinces by percentages of less than 0.5 %, it has increased Tibet's trade with the four neighbors of Qinghai, Gansu, Sichuan, and Yunnan—where certain amounts of Tibetans reside—by as high as 2740.4746, 29.8863, 29.0254, and 4.3294 %, respectively.

However, ethnic links have not always promoted interprovincial trade in China. In fact, the Uyghur ethnic group has already been proved to retard interprovincial trade in 2010 (as stated in Table 4.6 (2010) of Chap. 4). This is a quite unusual phenomenon. After further calculations (see Table 5.3), one may observe that Xinjiang's interprovincial trade has been reduced by its Uyghur presence at the inland Chinese provinces, with the reductions ranging from 6.5999 % (with Hebei) to as high as 86.7273 % (with Beijing).

How to explain the negative correlation between Uyghur links and interprovincial trade in Xinjiang? It seems that our 2010s estimated results on Xinjiang and the Uyghur ethnic group in particular might have closely stemmed from the various incidents of Han–Uyghur unrest from 2007 to 2010.[11] Among the many other incidents that could have affected Xinjiang's interprovincial trade in 2010, the Shaoguan incident and the Urumqi riots (both in 2009) and the Aksu bombing (in 2010) are worth mentioning. However, we should be cautious of any arbitrary conclusions before more concrete theoretical and empirical findings are discovered. In addition to the above-mentioned factor, other factors—especially the differing natural resources, geographical and cultural features, and regional development policies—may also have some influences on the differing trade performances of Xinjiang and Tibet.

Next, let us explain how Tibet's large foreign trade surplus has been determined by China's interprovincial trade. After replacing the dependent variable "$\ln(\text{TRADE}_{ij})$" in Eq. (4.3) of Chap. 4 with $\ln(\text{EXPORT}_{ij})$ and $\ln(\text{IMPORT}_{ij})$, we may quantitatively test the determinants of China's interprovincial export and import, respectively (see Annex 1 at the end of this chapter for the estimated results). Note that sometimes the terms "export" and "import" may be interchangeable. For example, Xinjiang's export to Anhui is also Anhui's import from Xinjiang. Since all province pairs are arranged in alphabetic order, the bilateral export and import between Xinjiang and Anhui are only reported in the "Anhui-Xinjiang" entry. As a result, in most circumstances the export and import concepts used in this section can also be known as inland Chinese provinces' export from and import to Xinjiang or Tibet, respectively.[12]

[11] See Chap. 3 for a more detailed account of the Han-Uyghur unrest during the past decades.

[12] This is due to the fact that both Xinjiang and Tibet are located behind most of the Chinese provinces (Yunnan and Zhejiang are the only exceptions) in all the 465 province pairs shown in Annex of Chap. 4.

Table 5.4 The marginal effects of interprovincial ethnic links on trade (2000 and 2010)

Ethnic group	Year	(I) Exports	(II) Imports	(III) = (II) − (I)
Dongxiang	(A) 2000	–	$1615.179–0.110x > 0$	>0
	(B) 2010	–	$1708.348–0.149x > 0$	>0
	(C) = (B) − (A)	–	>0	
Han	(A) 2000	$–0.089x < 0$	$–0.110x < 0$	<0
	(B) 2010	$–0.119x < 0$	$–0.149x < 0$	<0
	(C) = (B) − (A)	<0	<0	
Hui	(A) 2000	$20.287–0.089x > 0$	–	<0
	(B) 2010	$19.307–0.119x) > 0$	$14.504–0.149x > 0$	<0
	(C) = (B) − (A)	<0	>0	
Kazak	(A) 2000	–	–	
	(B) 2010	–	$–7433.313–0.149x<0$	<0
	(C) = (B) − (A)		<0	
Manchu	(A) 2000	$39.180–0.089x > 0$	$68.726–0.110x > 0$	>0
	(B) 2010	–	$54.840–0.149x > 0$	>0
	(C) = (B) − (A)	<0	<0	
Mongol	(A) 2000	$65.428–0.089x > 0$	–	<0
	(B) 2010	$55.066–0.119x > 0$	–	<0
	(C) = (B) − (A)	<0		
Tibetan	(A) 2000	NA	NA	
	(B) 2010	$17.124–0.119x > 0$	–	<0
	(C) = (B) − (A)	>0		
Uyghur	(A) 2000	–	–	
	(B) 2010	$–4722.224–0.119x < 0$	$–4489.638–0.149x<0$	>0
	(C) = (B) − (A)	<0	<0	

Notes (1) The explanatory variable $\ln(\text{GDPPC}_i\text{GDPPC}_j)\text{Ethnic56}_{ij}$ as included in Annex 1 can be rewritten as $\ln(\text{GDPPC}_i\text{GDPPC}_j)(\text{Ethnic}_{ij1} + \text{Ethnic}_{ij2} + \cdots + \text{Ethnic}_{ij56})$. (2) $x = \ln(\text{GDPPC}_i\text{GDPPC}_j)$. Since GDPPC (per capita GDP) ranges between from 2,662 yuan and 13,119 yuan (for Guizhou in 2000 and 2010, respectively) to 34,547 yuan and 76,074 yuan (for Shanghai in 2000 and 2010, respectively) for all provinces, x ranges from 15.773 and 20.900 in 2000 and from 18.964 and 22.479 in 2010. (3) "–" denotes no statistically significant effect exists. (4) NA denotes not available for Tibet since the latter had no interprovincial trade via railway in 2000

Source see Annex 1 of Chap. 5

The marginal effects of the ethnic links on interprovincial exports and imports can be obtained by deriving the first-order differential of the dependent variable—$\ln(\text{EXPORT}_{ij})$ and $\ln(\text{IMPORT}_{ij})$—with respect to Ethnic_{ijk}, respectively. From Table 5.4, we may observe that the marginal effect of the Tibetan ethnic links on interprovincial exports in 2010 (denoted by $17.124–0.119x$) follows a decreasing law with respect to x (denoted by the natural log of per capita GDPs of two trading

provinces). However, this marginal effect is always positive since x is much less than 17.124/0.119 = 143.90. In the meantime, the Tibetan ethnic links are not found to exert any influences on interprovincial imports. Obviously, this indicates that the Tibetan ethnic links tend to promote interprovincial exports vis-à-vis imports. Since the negative marginal effect of the Han ethnic links on interprovincial imports are always larger than that on interprovincial exports, it can be judged that interprovincial imports are more seriously retarded by the Han ethnic links than interprovincial exports.

The above results suggest that most of the inland Chinese provinces' exportation to Tibet is always more robust than their importation from Tibet. In the meantime, we can also conclude that it was China's inland provinces that have fostered Tibet's exportation to its neighboring nations in 2010. Unfortunately, since Tibet's interprovincial trade data are not available for the year 2000, we are not able to clarify the differences of ethnic influences on trade between 2000 and 2010.

How to explain Xinjiang's robust cross-border importation (vis-à-vis exportation) from 2006 to 2010? Different from Tibet which is mainly dominated by a single ethnic group (Tibetan), Xinjiang is ethnically diverse (see Sect. 5.4.2 for details). In order to clarify how these ethnic groups have exerted different influences on Xinjiang's interprovincial exports and imports, let us employ the estimated coefficients on seven major ethnic groups (i.e., Dongxiang, Han, Hui, Kazak, Manchu, Mongol, and Uyghur) to calculate their marginal effects on interprovincial exports and imports (see Table 5.4). Specifically, these ethnic groups' influences on trade have different patterns:

- Dongxiang: its marginal effect on imports is always larger than that on exports in 2010. And its marginal effect on imports in 2010 is always larger than that in 2000.
- Han: its marginal effects on exports and imports in 2010 are always smaller than those in 2000. And, for both years its marginal effects on imports are always smaller than those on exports.
- Hui: its marginal effect on exports in 2010 is smaller than that in 2000; by contrast, its marginal effect on imports in 2010 is larger than that in 2000.
- Kazak: its marginal effects on exports in both 2000 and 2010 cannot be determined. However, its marginal effect on imports in 2010 is always smaller than that in 2000.
- Manchu: its marginal effects on exports and imports in 2010 are always smaller than those in 2000. However, its marginal effects on imports are always larger than those on exports in both years.
- Mongol: its marginal effects on imports in both 2000 and 2010 cannot be determined. However, its marginal effect on exports in 2010 is always smaller than that in 2000.
- Uyghur: its marginal effects on exports and imports in 2010 are always smaller than those in 2000. However, its marginal effect on imports is always larger than that on exports in 2010.

After taking into account of all these ethnic groups, we may conclude that the ethnic determinants of inland Chinese provinces' importation from and exportation to Xinjiang are quite complicated. Specifically, the Dongxiang and the Manchu ethnic groups have fostered China's inland provinces' importation from Xinjiang as well as from its neighboring nations for which Xinjiang has served as an entrepot. In the meantime, the Uyghur ethnic group has retarded China's inland provinces' exportation to Xinjiang as well as to its neighboring nations for which Xinjiang has served as an entrepot. All these have made Xinjiang different from Tibet in terms of cross-border trade.

5.4 Understanding the Tibet Problem

5.4.1 Focusing Tibetans

The differences between two ethnic groups can be identified according to various criteria. Obviously, linguistic difference is an important indicator. Although it is not the only tool for building trusting relationships, doors usually open more quickly when knocked on by someone who speaks a familiar language. Sharing a common language, however, does not necessarily mean effective communication in technical terms. More importantly, religion can have a deep impact not only on attitudes toward economic matters but also on values that influence them. Specifically, religious attitudes and values help to determine what one thinks is right or appropriate, what is important, what is desirable, and so on (Guo 2007).

The Tibetans and the Han Chinese belong to the Mongoloid group.[13] This group, including most peoples of East Asia and the American Indians, has been described as having skin of saffron to yellow or reddish brown. The hair is dark, straight. The eyes are from black to dark brown. In addition, Chinese and Tibetan—two major languages adopted by the Han and Tibetans, respectively—encompass the most important part of the Sino-Tibetan family of language. The Tibetan language is spoken in numerous regional dialects which generally cannot be understood by the speakers of the different oral forms. Although spoken Tibetan varies according to the region, the written language, based on Classical Tibetan, is consistent throughout. This is probably due to the long-standing influence of the Tibetan empire, whose rule embraced (and extended at times far beyond) the present Tibetan linguistic area, which runs from northern Pakistan in the west to Yunnan and Sichuan in the east, and from north of Lake Qinghai to south as far as Bhutan.

[13]For example, the following was reported by Ben Hillman in 2008: "[W]hen I visited Lhasa's Potala Palace a few years ago, I was surprised to find a young Han Chinese man dressed in Tibetan costume selling tickets. When I queried him, he laughed and said, 'tourists don't know the difference anyway'" (Hillman 2008, p. 10).

Unlike the Tibetans and the Han Chinese, the Uyghurs—the ethnic majority of Xinjiang—belong to the Caucasoid. The Caucasoid group, found in Europe, North Africa, and from the Middle East to North India, is characterized as having skin of pale reddish white to olive brown. The hair is light blond to dark brown. The color of the eyes varies from light blue to dark brown. In addition, Uyghur—one of the Turkic languages—belongs to the Ural–Altaic Phylum. The other Turkic languages adopted in Xinjiang include Kazakh, Uzbek, Kirgiz, and so on.

Religion is extremely important to the Tibetans and has a strong influence over all aspects of their lives. Tibetan Buddhism, a distinctive form of Mahayana and Vajrayana, was introduced into Tibet from the Sanskrit Buddhist tradition of northern India. Tibetan Buddhism is practiced not only in Tibet but also in Mongolia, parts of northern India, and some other parts of China. While Buddhism is adopted by both the Tibetans and the Han Chinese in most part of China, the Uyghurs and many other ethnic groups in Xinjiang are Muslims. In the mid-seventh century, Muslim Arab and Persian merchants came overland through Central Asia to today's Xinjiang, bringing with them the Islamic faith. Now, Muslim people in Xinjiang include not only the Uyghurs but several other ethnic groups such as the Uzbeks, the Kyrgyz, the Tatars, the Kazakhs, and the Hui Chinese.

In short, the Tibetans, not like the Uyghurs, have several similarities with the Han Chinese. And, since the Uyghurs, the Tibetans and the Han Chinese represent the ethnic majorities of Xinjiang, Tibet, and the other Chinese provinces as a whole, respectively, this may have largely contributed to the differing interprovincial trade patterns of Xinjiang and Tibet (see Table 5.3).

5.4.2 Tibet Is Culturally Homogeneous

Ethnic diversity is another key factor by which to distinguish Tibet and Xinjiang. Unlike Xinjiang, which is an ethnically heterogeneous place, Tibet is ethnically homogeneous, with 90 % of its population being the Tibetans.

After 1949, the Han Chinese began to return to Xinjiang. And till 1964, they comprised 33 % of the population (with the Uyghurs being 54 %), a share similar to that of the Qing times. A decade later, at the beginning of the Chinese economic reform in 1978, the demographic balance was 46 % of the Uyghurs and 40 % of the Han Chinese (Toops 2004). Military personnel are not counted and national minorities are undercounted in the Chinese population census, as in most censuses (Starr 2004, p. 242). In addition to the Uyghurs, the Han Chinese, the Kazakhs, and the Hui Chinese, other ethnic groups in the region include the Uzbeks, the Kyrgyz, the Tatars, the Mongols, the Daurs, the Dongxiang, the Russians, the Xibes, and the Manchus.

Using the method and the data shown in Annex 2 at the end of this chapter, we can calculate the ethnic diversity scores for Xinjiang and Tibet:

- Xinjiang: 0.6242 (for 2000); 0.6194 (for 2010), with a slight reduction of 0.77 % from 2000 to 2010.
- Tibet: 0.1357 (for 2000); 0.1733 (for 2010), with an increase of 27.71 % from 2000 to 2010.

Note that the increase of ethnic diversity score in Tibet mainly results from the faster growth of the Han Chinese minority (with the rate of 54.67 %) from 2000 to 2010; during the same period, however, the total amount of the Tibetan majority has only increased by 11.92 % (see Annex 2 at the end of this chapter for details). It should be noted that many of the Chinese population in Tibet were cadres and government workers sent to Tibet to participate in economic development as well as to further the PRC's political control there. Since the early 1990s, there has been another upsurge of Han immigration. There are still Han military, who are not counted in the census, and various other Han government employees. However, since the 1990s, the balance of Han immigrants has shifted to entrepreneurs or others keen to take advantage of the economic opportunities that derived from the newly invigorated policies of economic development (Iredale et al. 2001, pp. 157–158).[14]

Xinjiang is much more ethnically diverse than Tibet. Moreover, the spatial distribution of ethnic groups is quite uneven in Xinjiang. For example, the Uyghurs are the majority in southwestern Xinjiang, including the prefectures of Kashgar, Hotan, Kizilsu, and Aksu (about 80 % of Xinjiang's Uyghurs live in those four prefectures), as well as Turpan prefecture in eastern Xinjiang. The Han Chinese are the majority in eastern and northern Xinjiang (Zungar), including the cities of Urumqi, Karamay, Shihezi and the prefectures of Changji, Bortala, Bayingolin, Ili (especially the city of Kuitun), and Kumul. The Kazakhs are mostly concentrated in northern Xinjiang, especially in Altay prefecture in the northernmost part of Xinjiang (see Guo 2015, Table 5.6 for a more detailed account of Xinjiang's ethnic diversity).

There have been two divergent views on the development of multiculturally based economies. On the one hand, some global-scale cities, such as New York and Los Angeles, are amongst the most troubled in terms of racial relations; at the same time they are constant producers of innovation in the arts and business. As a matter of fact, the United States itself is an economically successful melting pot, but many of its social problems are related to racial and ethnic cleavages (Alesina and Ferrara 2005). On the other hand, the "tragedy of Africa" is, according to Easterly and Levine (1997), largely a result of ethnic conflict, which is indeed pervasive in many parts of the developing world.

It has been found that (i) religious diversity tends to retard growth in high inequality nations and to encourage growth in low inequality places; and (ii) income inequality tends to encourage growth in religious homogeneous (but not in heterogeneous) nations (Guo 2009, pp. 120–129). The above finding supports the presumption that lower inequality economies will not only be less sensitive to the

[14]One of the implications of this is that "many Han immigrants, possibly even most, do not stay in Tibet long. They may even stay too short a period to be counted in the census figures. That means that there are probably far more Han than the census shows" (Mackerras 2005, p. 21).

measures of religious diversity than higher inequality places in which religious diversity leads to barriers to intranational trade or, more significantly, to violence. A brief comparison of Tibet's and Xinjiang's interethnic unrest cases (see Table 6.3 of Chap. 6) can further support—at least in part—that Tibet's relatively lower frequency of social unrest has stemmed from its lower ethnic diversity or lower income inequality and that Xinjiang's relatively higher frequency of social unrest has stemmed from its higher ethnic diversity *and* higher income inequality.[15]

5.4.3 Development Policies

Historically and culturally, Tibet and Xinjiang had been quite far away from China proper. While Xinjiang has only become China's provincial administration till the 1880s, Tibet had been already an independent kingdom throughout much of the past 2,000 years. It did not come under Chinese rule until the Yuan dynasty (AD 1279–1368) and declared as an independent state from 1912 to 1950.

Since the PRC was founded in 1949, the Chinese central government has made various efforts in order to stabilize Xinjiang and Tibet and to fully assimilate them into China. At present, the Chinese central government exempts Tibet from all taxation and provides most of Tibet's government expenditures. Xinjiang has also received huge amount of fiscal subsidies from the central government.

The establishment of the Xinjiang Production and Construction Crops (XPCC), which has been organized as over a dozen of quasi-militaristic development zones, is not new in Chinese history. Similar organs had been established in the Qing dynasty (AD 1644–1911), especially during the period from AD 1760 to 1830 when "state farms" were opened and the Chinese in Xinjiang grew rapidly. At the start of the nineteenth century, there were something like 155,000 Han and Hui Chinese in northern Xinjiang, and somewhat more than twice that number of Uyghurs in southern Xinjiang (Millward 2007, p. 306). However, as described in Guo (2015, Chap. 2), the XPCC is much larger in size than Qing's state farms. With more than two and a half million of population, the XPCC is now in fact a quasi-sub-provincial level administration in Xinjiang and in China as well.

The XPCC has played a critical role in China's effective rule of Xinjiang during the most years of the PRC era. In the meantime, it has also contributed positively to Xinjiang's local economic development (Shao, 3 April 2012). But it also has negative effects on the Uyghurs, the Han Chinese living in Xinjiang as well as on

[15]Even though there have not been precise calculations of Xinjiang and Tibet's income inequalities, it has been generally admitted that Xinjiang's Gini coefficient (0.49) is much higher than Tibet's (0.28) (see, for example, Lu and Xu 2004; Liu et al. 2009). Clearly, this conforms to the fact that the spatial economic disparities in Xinjiang are larger than those in Tibet (shown in Table 5.4).

the Han–Uyghur relations.[16] If it was a necessary measure that the Chinese established the XPCC as quasi-militaristic development zones in politically instable areas such as Xinjiang during the early stage of the PRC, now it is time for the Chinese policymakers to reevaluate the legality of the XPCC. Along with China's calling for a harmonious society, it is not a good policy for the Chinese government to keep so many quasi-militaristic administrative zones in Xinjiang (we will discuss this issue in details in Sect. 6.3 of Chap. 6).

In general, large construction projects have different functions from the abovementioned aid programs. A large construction project, as its name suggests, will bring about huge amount of capital flows. It will also promote local economic development by stimulating the developments of both the upper and lower chains of small and medium enterprises as well as by offering a large number of jobs to local residents. Restricted by its natural and geographical conditions, Tibet has hosted far less number of China's large construction projects. The Qinghai–Tibet Railway is the only largest one that China has ever constructed in Tibet during recent history. In 2006 the construction of the 1,956 km Qinghai–Tibet Railway was completed. This stretches from Xining—capital of Qinghai province—to Lhasa, and across the Kunlun Mountains and the Tanggulashan Pass. As the world's highest railway, it makes Tibet more accessible (see Sect. 2.4 of Chap. 2 for a detailed description). In Xinjiang, China has constructed far more large construction projects.[17]

Even though it is the driving force for the fast economic development of a region as a whole, the construction of large construction projects also have several unwanted effects. First of all, as in many other authoritative places throughout the world, the construction of large state-owned industrial projects in China is always accompanied by corruption and rent-seeking activities (Rodrik 2007; Qian 2012). Second, the construction of a large project in a single place—instead of several smaller ones in different places—will, *ceteris paribus*, inevitably result in interregional economic disparities and the unequal income distribution.[18] Last but not the least, the construction of large construction projects also implies the large consumption of nonrenewable natural resources as well as the damages to the environment.

While the local communities and residents in Xinjiang may have not been the major beneficiaries of the large construction projects that China built, they may easily become the major victims whenever disasters and environmental accidents occur there. In Tibet, however, there is a different story. Compared with the large industrial projects constructed in Xinjiang, such as the West–East Gas Pipeline whose consumers are in eastern coastal areas (Guo 2015, Chap. 2), the Qinghai–Tibet Railway—the only largest infrastructure project built in Tibet till present—can benefit more local residents in Tibet. Even though the construction

[16]See Becquelin (2000, pp. 65–90), McMillen (1981, pp. 65–96), O'Neill (13 April 2008), Rossabi (2005), and Seymour (2000, pp 171–193) for more detailed accounts.

[17]See Guo (2015, Chap. 2) for a detailed description.

[18]As shown in the last row of Table 5.4, Xinjiang's interregional economic gap has been much larger than Tibet's.

and operation of the railway may also bring about some impacts on Tibet's fragile environment and natural ecology, these negative impacts are far less serious than those of the large industrial projects in Xinjiang.

During the past decades, the PRC has undertaken a massive, benevolent, and patriotic policy by which to encourage the wealthier eastern coast to help the western parts of China, including Tibet, catch up in prosperity and living standards. As a result, Tibet has achieved a more social and economic progress than what was usually predicted by the outside sources during the past decades. In a paper written for the United Nations High Commissioner for Refugees (UNHCR), Mackerras (2005, p. 20) points out:

> [S]ince the early 1960s, the Tibetan population has been increasing, probably for the first time for centuries. What seems to follow from this is that the TGIE's [Tibetan Government in Exile] allegations of population reduction due to Chinese rule probably have some validity for the 1950s but are greatly exaggerated. However, since the 1960s, Chinese rule has had the effect of increasing the population of the Tibetans, not decreasing it, largely due to a modernization process that has improved the standard of living and lowered infant, maternity and other mortality rates.

After more than 30 years of practice in China, the pairing-aid program has been recognized an effective management measure, especially when dealing with disaster relief and recovery work. For example, within 2 years after the Wenchuan Earthquake happened in May 2008, about 90 % of the affected infrastructure and residential areas were reconstructed (Qian et al. 2012, pp. 67–74). As described in Guo (2015, Chap. 2) and Sect. 2.1 and Annex of Chap. 2, China's pairing-aid programs have had different effects on the regional developments of Xinjiang and Tibet. Specifically, the pairing-up Tibet programs have entirely benefited the Tibetan-based areas, while the pairing-up Xinjiang programs have only partially benefited the Uyghur- and other non-Han-based areas (see Table 5.5).

China's pairing-up Tibet programs have also been combined with the other similar aid program (that is, "aid-Tibet cadres"—see Sects. 2.2 of Chap. 2 for details). All of these programs have had significant effects on the social and economic developments of Tibet, especially in its poor, rural areas. By way of contrast, the pairing-up Xinjiang programs seem to be limited to certain geographical areas and industrial sectors, not the entire Uyghur community.

What are the differences between the "inland middle-school classes for Xinjiang" program and the "inland middle schools and classes for Tibet" program? As their names suggest, as for Xinjiang, there are only inland middle school classes; as for Tibet, however, there are both inland middle schools and the inland middle school classes. For example, as of 2014, there are five inland middle schools that are solely established for Tibetan students, which are Beijing City Tibetan Middle School (Beijing municipality), Kunming Army Seminary Affiliated Tibetan Middle School (Yunnan province), Shaoxing Tibetan Middle School (Zhejiang province), Changzhou City Tibetan Ethnic Middle School (Jiangsu province), Ji'nan Tibetan Middle School (Shandong province), and Chengdu City Tibetan Middle School (Sichuan province) (see Table 2.4 of Chap. 2 for more details). However, there is still no inland middle school that is solely established for either the Uyghur or other ethnic minority students from Xinjiang.

Table 5.5 Availability of interprovincial pairing-aid programs, Tibet and Xinjiang

Province	Tibet[a]	Xinjiang	Notes on Xinjiang
Anhui	X	X	
Beijing	X	X	Partly for XPCC-14
Chongqing	X	NA	
Fujian	X	X	Mainly for Han and Hui Chinese
Gansu	X	NA	
Guangdong	X	X	Partly for XPCC-3
Guangxi	X	NA	
Guizhou	X	NA	
Hainan	X	NA	
Hebei	X	X	Entirely for XPCC-2
Heilongjiang	X	X	Mainly for Kazakhs and XPCC-10
Henan	X	X	Entirely for XPCC-13
Hubei	X	X	Mainly for Mongols and XPCC-5
Hunan,	X	X	
Inner Mongolia	X	NA	
Jiangsu	X	X	Mainly for Kirgizs, Kazakhs and XPCC-4(66)
Jiangxi	X	X	Mainly for Kirgizs
Jilin	X	X	Mainly for Kazakhs
Liaoning	X	X	
Ningxia	NA	NA	
Qinghai	X	X	
Shaanxi	X	NA	
Shandong	X	X	
Shanghai	X	X	
Shanxi	X	X	Mainly for Hui Chinese and XPCC-6
Sichuan	X	NA	
Tianjin	X	X	
Tibet	NA	NA	
Xinjiang	X	NA	
Yunnan	X	NA	
Zhejiang	X	X	Partly for XPCC-1

Notes The pairing-aid programs undertaken by China's central ministries and departments and the large state-owned enterprises are not included in this table

[a]Also includes the "aid-Tibet cadres" and the "Inland middle schools and classes for Tibetans" programs and other government-driven investment projects

Abbreviations NA = not available; XPCC = Xinjiang Production and Construction Crops; XPCC-*m*(*n*) denotes the *m*th Agricultural Division (the *n*th Regiment) of the XPCC

Source Author based on Annex of Chap. 2 (for Tibet) and Guo (2015, Annex of Chap. 2) (for Xinjiang)

Table 5.6 A comparison of college entrance criteria between Tibet and Xinjiang

Type	Scores (liberal arts)		Scores (sciences)	
	Tibet	Xinjiang	Tibet	Xinjiang
Specially planned colleges	490 (H), 320 (M)	415 (H), 330 (MH), 310 (MM)	460 (H), 280 (M)	415 (H), 315 (MH), 300 (MM)
Regular colleges I				
Regular colleges II	345 (H), 278 (M)		325 (H), 242 (M)	
Regular colleges III				
Junior/technical/vocational colleges	240 (M) 320 (H),	305 (H), 300 (MH), 284 (MM)	300 (H), 210 (M)	290 (H), 284 (MH), 280 (MM)

Note Data are as of 2012

Abbreviations H = Han students, and M = minority students, MH = minority students to enter Han-dominated universities, and MM = minority students to enter minority-dominated universities

Source the College Entrance Leading Group for the Tibet and Xinjiang Students in Inland Provinces, the Ministry of Education, Beijing, China

As is shown in Table 5.6, with the exception of the Han students, in which case the College Entrance Leading Group for the Tibet and Xinjiang Students in Inland Provinces, the Ministry of Education, has set higher college entrance scores for Tibet than for Xinjiang, the minority (mainly the Tibetan) students from Tibet have received more preferential treatments than the minority (mainly the Uyghur, the Hui, the Kazak, etc.) students from Xinjiang.[19]

In addition, after quantitatively comparing the cases of Tibet (see Fig. 2.1 of Chap. 2) and of Xinjiang (see Guo 2015, Table 2.5), we may find that:

(i) For Xinjiang, the "inland middle-school classes" program was not implemented until 2000. However, for Tibet, the "inland middle schools and classes" program was implanted in as early as 1985 (for junior classes) and 1989 (for senior classes).
(ii) After being divided by their respective total populations, the relative number of Tibet's students enrolled in the inland middle schools is much larger than that of Xinjiang's (see Fig. 5.4).
(iii) For Xinjiang, students can only enroll in inland provinces' senior middle school classes. However, for Tibet, students can enroll in both junior and senior middle school classes in inland provinces.

What do the above findings imply? They only imply that the "inland middle-schools and classes" program has had much greater effects in Tibet than in Xinjiang.

[19]Of course, the college entrance scores for both Tibet and Xinjiang (as shown in Table 5.6) are still far lower than those for the rest of China (see Table 2.5 of Chap. 2 for more details).

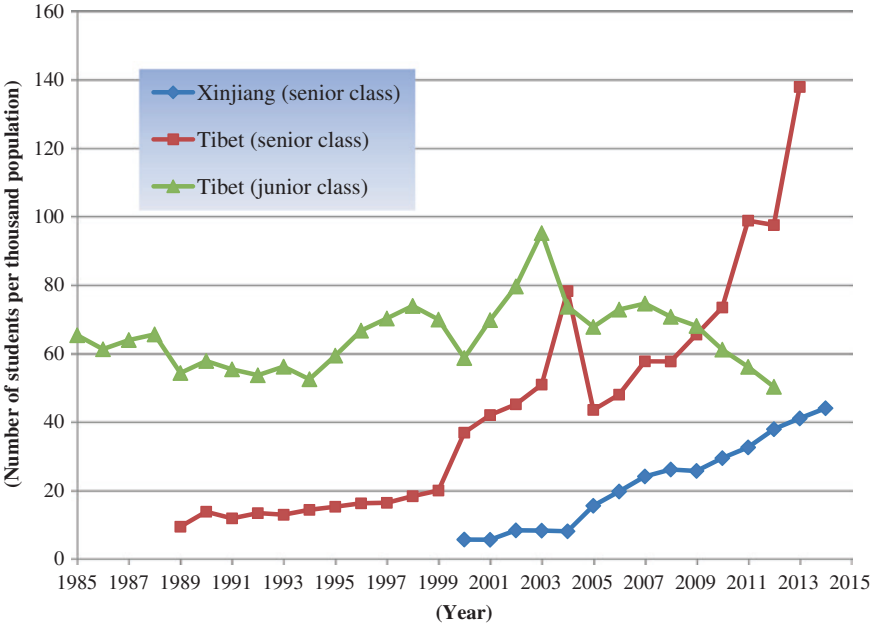

Fig. 5.4 How the "inland middle schools and classes" program differs between Xinjiang and Tibet, 1985–2014. *Source* Author based on SEAC (various years) and TBS (various years) (for Tibet) and Guo 2015, (Table 2.5) and XBS (various years) (for Xinjiang)

5.4.4 Interethnic Policy

Chinese history is dotted with examples of interethnic marriage as a strategy to maintain peace and harmony. One of the most famous stories is the marriage between Chinese Princess Wencheng of the Tang dynasty (AD 618–907) and Songtsan Gambo (AD 604–650), then king of the Tibetan empire, which sealed a peace treaty between China and Tibet.

Since the first Han–Tibetan marriage in AD 641, more than 1000 years have passed. In the summer of 2014, officials in Tibet autonomous region began to reemphasize ethnically mixed couples. So far, the government push has seen some success. According to a report released by the Research Office of the Tibetan CCP Committee, the interethnic (mainly Han–Tibetan) marriages have been growing dramatically in Tibet, from 666 cases in 2008 to 4,795 cases in 2013, with an average annual growth rate of 48.8 % for this period. Among the married couples are civil servants, staff of enterprises and institutions, as well as urban residents, farmers, and herdsmen.[20]

The local governments in Tibet have also been offering a series of favorable treatments to these intermarriage couples and their children. This includes a series of

[20]Cited from *Tibet Daily*, August 5, 2014. Available at http://www.guoxue.org/index.php?s=/New/see/id/5931. Accessed on 2014-9-2.

preferential policies on birth control, education, employment, social security, and so on, all of which are to encourage the interethnic exchange and marriages between the Tibetan, the Han, the Hui, and other ethnic minorities in Tibet. The government-run newspapers in Tibet have featured happy mixed couples in which the children of intermarriage families love both cultures and equally speak Tibetan and Mandarin.

The following story, for example, was reported by the *Tibet Daily*—an official newspaper of Tibet autonomous region's Party Committee:

> The deep, blue sky is dotted by pieces of white clouds … For a long time, the sacred and beautiful scenes of Tibet—the roof of the world—had attracted Zhang Jiajia who was a Han student from an inland college. Finally, she decided to come to Yala town of Suo county, Nagqu prefecture, and married a Tibetan guy there.
>
> In August 2009, after her graduation, Zhang got a job in Tibet. At first, she did not adapt to the local habits there. Without knowing Tibetan language, she could not communicate with the Tibetans. But the local residents liked the young girl and gave many helps to her. And, gradually, Zhang was accustomed to eating tsampa and butter tea and learn to communicate with local Tibetans through body language. At the end of 2009, Zhang met Kelsang Wangdu who is an official in charge of the Gajia Temple. Both of them had favorable impressions to each other. As a graduate from an inland middle school and thus being fluent in Chinese, Kelsang gave various supports to Zhang. With this help, Zhang began to have a deeper understanding of Tibet and its people.
>
> In March 2010, Zhang decided to marry Kelsang. At first, none of their parents agreed this marriage. But, with some persuasive efforts, the young couple smoothly completed their Tibetan- and Han-style wedding ceremonies in Yala town and Zhang's hometown in Henan province, respectively. On September 2, 2011, their son, Zhang Lingxiao, was born.
>
> Now, their baby is almost 3 years old, and he has been learning both Tibetan and Chinese languages. Having spent his winter in Henan and his summer in Tibet, the Han–Tibetan boy is quite proud of his special identity: "my father is a Tibetan and my mother is a Han… my *yeye* [father's father] and *nainai* [father's mother] teach me to cook cottage cheese, butter tea, and to speak in Tibetan language; my *laolao* [mother's mother] and *laoye* [mother's father] in Henan make dumplings and noodles for me, and they teach me Chinese language as well."[21]

The government has sold the effort in state-run media as a way to achieve interethnic unity, but critics have argued that its true aim is to further weaken Tibetan culture. Tsering Woeser—a Tibetan poet, and an activist who has frequently clashed with Chinese authorities—likened the promotion of intermarriage to the worst practices of colonization. Woeser herself is married to a Han Chinese, dissident writer, Wang Lixiong. But she said that the authorities should not use intermarriage as a tool and neither should they create policies to encourage it. She compared the Han–Tibetan marriages to the Japanese police being encouraged to marry local women during Japan's occupation of Taiwan.[22]

For a long period of time, especially during the early PRC era, the Chinese government responded to ethnic unrest in Xinjiang and Tibet with a familiar strategy:

---

[21]Translated by author based on Xie (14 June 2014)—the English version is slightly shortened in length.

[22]Cited from Wan and Xu (16 August 2014).

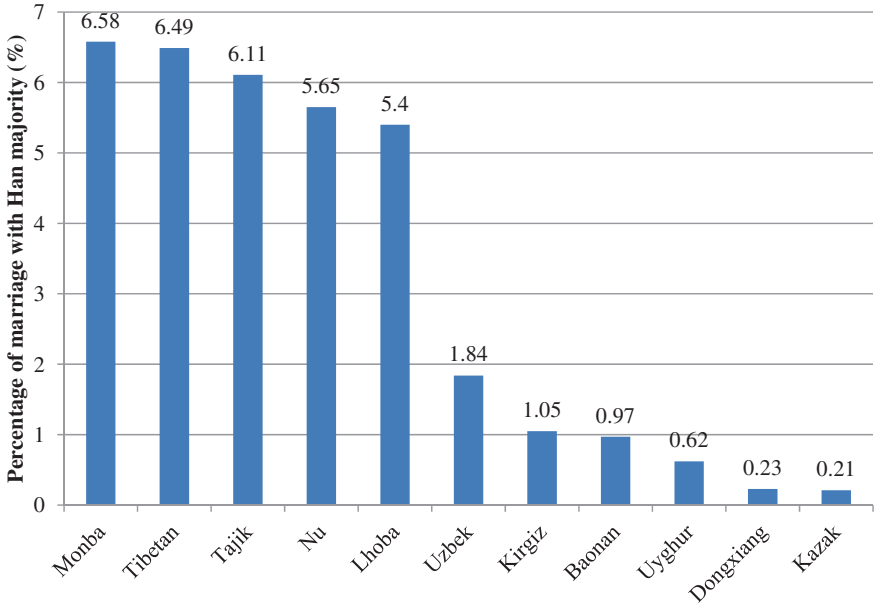

Fig. 5.5 The ethnic minorities with the lowest percentages of interethnic marriages with the Han majority. *Source* Author based on the Fifth National Population Census, 2001

that some suffocating security controls were put in place, that significant investment and assistance were promised in development and infrastructure, and that more Han majority were migrated into both regions. Recently, it seems that China has shifted its policy toward a concept of "interethnic fusion," which is a move away from China's long-standing idea of "separate but equal" ethnicities and toward a more American-style concept of a "melting pot" (Denyer, September 1 2014).

According to the Fifth National Population Census, the percentage of Tibetan's intermarriages with the Han majority is 6.49 %, which is among the highest of all ethnic minorities in Tibet and Xinjiang (see Fig. 5.5). At present, it is still too early to tell if this interethnic policy will become successful. However, it seems that this policy has been more successful in Tibet (if the above story is true and can be successfully duplicated in Tibet) than in Xinjiang.[23]

5.5 Policy Implications

In this chapter, Xinjiang and Tibet are compared in various aspects—natural environment, geopolitics, economic development, ethnicity, and religion. The rationale for the inclusion of Tibet and Xinjiang is that both of them are the ethnic minority

[23]For a detailed analysis of the intermarriages of Xinjiang, see Guo (2015, Sect. 5.4.4).

regions that pose the most enduring separatist challenge to the Chinese government (see Clarke (2013) for a more detailed analysis).

When different peoples meet together, it does not always indicate a conflict. However, conflict and disagreement do occur more often in heterogeneous places than in homogeneous places, especially in China's far western regions. Uyghur independence activists claim that the Han population will dilute the Uyghur character of the region. But the Han and the Hui Chinese—who mostly live in northern Xinjiang (also called Zungar) and are separated from areas of historical Uyghur dominance south of the Tian Shan mountains (southwestern Xinjiang)—may insist that their ancestors arrived in the eastern portions of the Tarim basin about 3,000 years ago.

During the past decades, the Uyghur and Tibetan ethnic groups have been labeled as of "problematic" in China and have had cliques seeking the separations of Xinjiang and Tibet from China, respectively. In this chapter, we have found that the Tibetans (with a positively estimated coefficient in Table 4.6 (2010) of Chap. 4) are helpful for China's interprovincial economic integration and that the Uyghurs (with a negatively estimated coefficient in Table 4.6 (2010) of Chap. 4) are found to play a negative role in China's interprovincial economic integration. It must be noted that the above results do not imply that the Tibetans are satisfactory with their current political and cultural conditions; neither do they suggest that most people in Xinjiang want an independent state for themselves.

The findings presented at this chapter would be useful for policymakers to reappraise which of China's ethnic groups are playing the most (least) important roles in, and to introduce the optimal informal institutions into, the promotion of interprovincial economic cooperation in China. Since there are so many differences in Xinjiang and Tibet, this chapter calls for different strategies toward these two non-Han ethnic autonomous regions. Definitely, differentiated policies will not only help Xinjiang and Tibet to enhance the spatial economic efficiencies of their own, but they will also eventually benefit China as a whole. Specifically, the development policies toward Xinjiang and Tibet can be optimized as the following.

First, given that Xinjiang's ethnic (and also religious) diversity is already very high, Xinjiang's income inequality would be harmful to its social stability and economic development. In this case, substantial measures must be taken in order to reduce the chance of interethnic clash in Xinjiang.[24]

Second, as Tibet has a very low ethnic (and also religious) diversity score, it can tolerate a relatively high level of income inequality. In other words, policymakers are able to consider more radical reform and development measures in order to promote the economic development in Tibet.

A more detailed analysis of Tibet will be conducted in the next chapter.

[24]See Guo (2015, Chap. 6) for a detailed analysis of Xinjiang.

Annex

A.1 Regressions for Interprovincial Export and Import, 2000 and 2010

The following four tables report the estimated results using the data shown in Annex of Chap. 4 (Tables 5.7, 5.8, 5.9, 5.10).

Table 5.7 Regression for interprovincial export, 2000

Explanatory variable	Coefficient	SE	VIF
Constant	6.595	1.060[a]	
$\ln(GDP_i GDP_j)$	0.819	0.058[a]	2.703
$\ln(DISTANCE_{ij})$	−1.150	0.110[a]	2.597
$ADJACENT_{ij}$	0.351	0.176[b]	2.183
$\ln(GDPPC_i GDPPC_j)ETHNIC56_{ij}$	−0.089	0.020[a]	2.747
Bai	−760.910	446.189[c]	9.681
Blang	−182781.261	97340.146[c]	2.624
Buyi	155.540	1456.949	8.338
Dai	−18185.339	17752.257	6.894
Daur	660.850	772.891	1.324
Dong	74.658	81.830	2.500
Dongxiang	762.334	573.453	4.511
Gelao	19470.916	11851.492[c]	8.759
Hani	−13571.259	13963.630	3.955
Hui	20.287	5.564[a]	1.582
Jingpo	140353.281	98998.902	3.484
Kazak	−13467.204	13562.079	7.667
Kirgiz	−1684.449	23041.700	1.274
Korean	58.256	82.331	1.764
Lahu	−11570.940	40399.474	4.536
Li	−21719.708	10536.653[b]	3.925
Lisu	4129.284	7412.855	4.048
Manchu	39.810	13.167[a]	2.133
Maonan	83.656	1347.899	1.936
Miao	71.785	40.421[c]	7.428
Mongol	65.428	30.564[b]	1.577
Qiang	−17980.181	19314.076	2.304
She	98.786	179.618	1.142
Tibetan	92.398	41.375[b]	1.865
Tu	−446.159	1235.122	3.179
Tujia	−22.363	13.605[c]	2.234
Uyghur	635.522	2649.800	1.470

(continued)

Table 5.7 (continued)

Explanatory variable	Coefficient	SE	VIF
Va	11635.832	15894.735	3.390
Xibe	−234.930	483.307	1.190
Yao	−16.717	91.830	2.116
Yi	56.901	44.327	4.779
Zhuang	25.434	40.441	1.813
Coefficient of correlation (R^2)	0.692		
SE of regression	0.857		
F-statistic	23.020		
Sig. of regression	0.000		
Number of observations	405		

Notes The regression is done by ordinary least squares (OLS) method. Dependent variable is the natural log of interprovincial export in 2000. SE = standard error; VIF = variance inflation factor. The "Han," "Mulao," "Naxi," "Salar," and "Shui" variables with VIFs above 10 are omitted from the regression. "a", "b", and "c" denote statistically significant at greater than the 1, 5, and 10 % levels, respectively

Table 5.8 Regression for interprovincial import, 2000

Explanatory variable	Coefficient	SE	VIF
Constant	8.003	1.094[a]	
$\ln(GDP_i GDP_j)$	0.699	0.060[a]	2.703
$\ln(DISTANCE_{ij})$	−1.118	0.114[a]	2.597
$ADJACENT_{ij}$	0.219	0.182	2.183
$\ln(GDPPC_i GDPPC_j)ETHNIC56_{ij}$	−0.100	0.021[a]	2.747
Bai	−949.340	460.489[b]	9.681
Blang	−81385.096	100459.722	2.624
Buyi	−1794.339	1503.641	8.338
Dai	−29597.036	18321.184[c]	6.894
Daur	1977.710	797.661[a]	1.324
Dong	38.569	84.453	2.500
Dongxiang	1615.179	591.832[a]	4.511
Gelao	22890.425	12231.311[c]	8.759
Hani	−34531.277	14411.139[b]	3.955
Hui	2.849	5.743	1.582
Jingpo	495810.433	102171.638[a]	3.484
Kazak	−8014.516	13996.719	7.667
Kirgiz	−38077.094	23780.145[c]	1.274
Korean	−166.955	84.969[b]	1.764
Lahu	10679.459	41694.204	4.536
Li	−25836.816	10874.333[b]	3.925
Lisu	5889.771	7650.423	4.048
Manchu	68.726	13.589[a]	2.133

(continued)

Table 5.8 (continued)

Explanatory variable	Coefficient	SE	VIF
Maonan	2313.609	1391.097[c]	1.936
Miao	60.626	41.717	7.428
Mongol	4.097	31.543	1.577
Qiang	−7207.410	19933.057	2.304
She	3.652	185.374	1.142
Tibetan	27.170	42.701	1.865
Tu	−64.798	1274.705	3.179
Tujia	−6.111	14.041	2.234
Uyghur	341.386	2734.722	1.470
Va	10685.150	16404.132	3.390
Xibe	−2.107	498.796	1.190
Yao	5.552	94.773	2.116
Yi	68.282	45.748	4.779
Zhuang	32.165	41.738	1.813
Coefficient of correlation (R^2)	0.638		
SE of regression	0.885		
F-statistic	18.058		
Sig. of regression	0.000		
Number of observations	405		

Notes The regression is done by ordinary least squares (OLS) method. Dependent variable is the natural log of interprovincial import in 2000. SE = standard error; VIF = variance inflation factor. The "Han," "Mulao," "Naxi," "Salar," and "Shui" variables with VIFs above 10 are omitted from the regression. "a", "b", and "c" denote statistically significant at greater than the 1, 5, and 10 % levels, respectively

Table 5.9 Regression for interprovincial export, 2010

Explanatory variable	Coefficient	SE	VIF
Constant	4.885	1.515[a]	
$\ln(GDP_iGDP_j)$	0.868	0.078[a]	3.389
$\ln(DISTANCE_{ij})$	−1.148	0.147[a]	2.871
$ADJACENT_{ij}$	0.507	0.229[b]	2.108
$\ln(GDPPC_iGDPPC_j)ETHNIC56_{ij}$	−0.119	0.021[a]	3.554
Bai	−613.510	387.083	3.793
Blang	−8718.239	8560.834	1.486
Buyi	2323.611	860.947[a]	6.579
Dai	−4637.048	6539.570	3.423
Daur	1208.476	1138.550	1.226
Dong	98.081	106.625	2.273
Dongxiang	610.299	489.701	1.909
Gelao	−13505.988	5030.687[a]	5.937
Hani	8167.987	10370.989	5.706

(continued)

Table 5.9 (continued)

Explanatory variable	Coefficient	SE	VIF
Hui	19.307	7.616[a]	1.502
Jingpo	9909.153	38883.464	2.068
Kazak	−3332.796	3667.967	1.907
Kirgiz	−27068.949	21962.448	1.203
Korean	71.405	120.672	1.697
Lahu	1924.840	31583.749	5.350
Li	−49.698	306.809	1.103
Lisu	−7509.658	8224.292	4.031
Manchu	22.090	20.327	2.046
Maonan	3273.855	1974.582[c]	1.877
Miao	48.015	39.163	4.620
Mongol	55.066	41.385	1.459
Naxi	644.792	9602.879	2.386
Qiang	3243.565	13475.109	2.309
She	445.364	285.042	1.277
Shui	−5595.609	3402.173[c]	3.622
Tibetan	17.124	5.098[a]	1.190
Tujia	−8.788	16.643	1.843
Uyghur	−4722.224	2105.352[b]	1.291
Va	−30004.668	13393.614[b]	4.922
Xibe	−68.108	769.974	1.195
Yao	70.182	118.142	1.974
Yi	87.951	45.220[b]	3.442
Zhuang	96.058	49.926[b]	1.715
Coefficient of correlation (R^2)	0.556		
SE of regression	1.156		
F-statistic	14.196		
Sig. of regression	0.000		
Number of observations	451		

Notes The regression is done by ordinary least squares (OLS) method. Dependent variable is the natural log of interprovincial export in 2010. SE = standard error; VIF = variance inflation factor. The "Han," "Mulao," "Salar," and "Tu" variables with VIFs above 9 are omitted from the regression. "a", "b", and "c" denote statistically significant at greater than the 1, 5, and 10 % levels, respectively

Table 5.10 Regression for interprovincial import, 2010

Explanatory variable	Coefficient	SE	VIF
Constant	8.934	1.608[a]	
$\ln(GDP_iGDP_j)$	0.755	0.080[a]	3.034
$\ln(DISTANCE_{ij})$	−1.372	0.152[a]	2.695
$ADJACENT_{ij}$	0.251	0.238	2.130
$\ln(GDPPC_iGDPPC_j)ETHNIC56_{ij}$	−0.149	0.023[a]	3.056
Bai	−791.995	405.691[b]	3.824
Blang	−13201.843	8930.512	1.485
Buyi	1771.032	897.155[b]	6.583
Dai	−9046.386	6193.076	3.123
Daur	2412.806	1157.321[b]	1.163
Dong	−39.013	111.363	2.277
Dongxiang	1708.348	518.020[b]	1.972
Gelao	−7943.123	5259.897	5.994
Hani	7676.700	10712.254	5.596
Hui	14.502	7.946[c]	1.503
Jingpo	54498.460	40674.281	2.040
Kazak	−7433.313	4147.905[c]	7.676
Kirgiz	4123.559	3367.084	6.191
Korean	−218.037	125.806[c]	1.692
Lahu	33552.767	33373.530	5.448
Li	−758.185	320.527[b]	1.106
Lisu	−7250.915	8595.609	4.044
Manchu	54.840	21.219[a]	2.045
Maonan	6708.817	2060.374[a]	1.876
Miao	55.448	40.931	4.657
Mongol	30.480	43.378	1.470
Naxi	3012.143	10158.051	2.406
Qiang	−9203.970	14337.173	2.323
She	520.898	296.784[c]	1.271
Shui	−8706.201	3547.775[b]	3.613
Tibetan	1.214	5.354	1.205
Tujia	0.553	17.366	1.843
Uyghur	−4489.638	2164.083[b]	1.243
Va	−47127.865	14282.604[a]	5.148
Xibe	−419.181	802.744	1.193
Yao	125.010	123.302	1.974
Yi	92.856	47.564[b]	3.496
Zhuang	84.894	52.078[c]	1.715
Coefficient of correlation (R^2)	0.536		

(continued)

Table 5.10 (continued)

Explanatory variable	Coefficient	SE	VIF
SE of regression	1.207		
F-statistic	12.449		
Sig. of regression	0.000		
Number of observations	451		

Notes: The regression is done by ordinary least squares (OLS) method. Dependent variable is the natural log of interprovincial import in 2010. SE = standard error; VIF = variance inflation factor. The "Han," "Mulao," "Salar," and "Tu" variables with VIFs above 9 are omitted from the regression. "a", "b", and "c" denote statistically significant at greater than the 1, 5, and 10 % levels, respectively

A.2 Measuring Ethnic Diversity

There are several different methods for the measurement of ethnic diversity (Guo 2009, pp. 113–118). The simplest method is derived from the number of ethnic groups: thus, the ethnic diversity of a society is positively related to the number of ethnic groups involved. However, this method ignores the influence of population composition among all ethnic groups. For example, given two societies having the same number of ethnic groups, but that in which population is equally distributed among all ethnic groups might be more ethnically diverse than one in which population is unevenly distributed among an ethnic *majority* and much smaller ethnic minorities. To demonstrate this point, let us consider an extreme case in which the ethnic majority accounts for almost 100 % of the total population, while each of the minorities retains a tiny share. Such a society can only be defined as an ethnically homogeneous, no matter how many minority groups exist.

The second method defines ethnic diversity in relation to the population ratio of the largest ethnic group. In many cases, the lower the ratio of the largest ethnic group, the greater the ethnic diversity it implies. However, as it only takes account of one (that is, the largest) ethnic group, this method may miscalculate the ethnic diversity when two or more large ethnic groups exist simultaneously. Although the understanding of ethnic diversity may vary according to the perspective taken, the number of ethnic groups and their populations should be taken into account simultaneously.

In this research, we use the ethnic fractionalization index, which measures the probability that two individuals who meet at random will be from different ethnic groups (Mauro 1995; Easterly and Levine 1997; La Porta et al. 1999; Bluedorn 2001; Ottaviano and Peri 2004; Alesina and Ferrara 2005; and Montalvo and Reynal-Querol 2005). Specifically, the ethno diversity measure is defined as follows:

$$\text{Diversity} = 1 - \sum_{i=1}^{N} S_i^2 \tag{6.1}$$

where s_i is the share of group i over the total of the population. This index represents the probability that two randomly drawn individuals from the population belong to different ethnic groups. This index reaches a theoretical maximum of 1 when every individual belongs to a different group. This measure implies that a country composed of, say, 100 equally sized groups is more fractionalized than a country with two equally sized groups.

Using Eq. (6.1) and data shown in Table 5.11, we may calculate the ethnic diversity scores for Xinjiang and Tibet, which are shown in Table 5.12 in which the diversity scores of other Chinese provinces are also given.

Table 5.11 Ethnic populations of Xinjiang and Tibet, 2000 and 2010

Ethnic group	Xinjiang (in persons)			Tibet (in persons)		
	2000	2010	Change (%)	2000	2010	Change (%)
Achang	2	5	150.00			NA
Bai	409	407	−0.49	722	395	−45.29
Baonan	571	568	−0.53	24	15	−37.50
Blang	9	23	155.56	16	4	−75.00
Buyi	977	797	−18.42	437	81	−81.46
Dai	59	121	105.08	14	35	150.00
Daur	5541	5536	−0.09	3	5	66.67
Deang	14	3	−78.57	1		−100.00
Derung	51	11	−78.43	6	37	516.67
Dong	946	753	−20.40	66	179	171.21
Dongxiang	55841	61613	10.34	111	757	581.98
Ewenki	72	26	−63.89			NA
Gaoshan	41	44	7.32		2	NA
Gelao	110	260	136.36	32	27	−15.63
Han	7489919	8829994	17.89	158570	245263	54.67
Hani	62	190	206.45	24	23	−4.17
Hezhe	22	33	50.00	1		−100.00
Hui	839837	983015	17.05	9031	12630	39.85
Jing	12	69	475.00		5	NA
Jingpo	27	33	22.22			NA
Jino		3	NA		1	NA
Kazak	1245023	1418278	13.92	8	2143	26687.50
Kirgiz	158775	180472	13.67		2678	NA
Korean	1463	1128	−22.90	51	26	−49.02
Lahu	28	73	160.71	19	4	−78.95
Lhoba	33	4	−87.88	2691	3489	29.65
Li	115	418	263.48	3	26	766.67
Lisu	34	104	205.88	17	25	47.06

(continued)

Table 5.11 (continued)

Ethnic group	Xinjiang (in persons)			Tibet (in persons)		
	2000	2010	Change (%)	2000	2010	Change (%)
Manchu	19493	18707	−4.03	153	718	369.28
Maonan	9	28	211.11		1	NA
Miao	7006	7626	8.85	389	416	6.94
Monba	11	4	−63.64	8481	9663	13.94
Mongol	149857	156280	4.29	690	307	−55.51
Mulao	29	77	165.52	5	2	−60.00
Naxi	73	89	21.92	1223	1133	−7.36
Nu	18	58	222.22	408	492	20.59
Oroqen	14	12	−14.29			NA
Pumi	10	12	20.00	15	16	6.67
Qiang	284	317	11.62	20	94	370.00
Russian	8935	8489	−4.99	20	3	−85.00
Salar	3762	3728	−0.90	228	255	11.84
She	166	167	0.60	6	8	33.33
Shui	301	90	−70.10		14	NA
Tajik	39493	47261	19.67	4		−100.00
Tatar	4501	3242	−27.97			NA
Tibetan	6153	8316	35.15	2427168	2716388	11.92
Tu	2837	3455	21.78	335	1068	218.81
Tujia	15787	17850	13.07	303	451	48.84
Uyghur	8345622	10001302	19.84	701	205	−70.76
Uzbek	12096	5444	−54.99	1	2	100.00
Va	68	142	108.82	7	43	514.29
Xibe	34566	34399	−0.48		6	NA
Yao	723	942	30.29	26	137	426.92
Yi	1593	2954	85.44	287	396	37.98
Yugur	302	391	29.47	3	4	33.33
Zhuang	5642	5646	0.07	192	173	−9.90

Notes Banks denote no population is found. NA = not available

Source The Fifth and Sixth National Population Census of the PRC (conducted in 2000 and 2010, respectively)

Table 5.12 Ethnic diversity scores by province (2000 and 2010)

Province	2000	2010	Change (%)
Anhui	0.0134	0.0132	−1.49
Beijing	0.0838	0.0795	−5.13
Chongqing	0.1227	0.1272	3.67
Fujian	0.0338	0.0425	25.74
Gansu	0.1645	0.1764	7.23
Guangdong	0.0295	0.0391	32.54
Guangxi	0.5140	0.5055	−1.65
Guizhou	0.5876	0.5481	−6.72
Hainan	0.2932	0.2804	−4.37
Hebei	0.0841	0.0806	−4.16
Heilongjiang	0.0945	0.0700	−25.93
Henan	0.0248	0.0236	−4.84
Hubei	0.0840	0.0830	−1.19
Hunan	0.1894	0.1866	−1.48
Inner Mongolia	0.3433	0.3377	−1.63
Jiangsu	0.0071	0.0097	36.62
Jiangxi	0.0062	0.0068	9.68
Jilin	0.1714	0.1504	−12.25
Liaoning	0.2785	0.2655	−4.67
Ningxia	0.4564	0.4604	0.88
Qinghai	0.6307	0.6351	0.70
Shaanxi	0.0099	0.0101	2.02
Shandong	0.0140	0.0151	7.86
Shanghai	0.0126	0.0238	88.89
Shanxi	0.0063	0.0052	−17.46
Sichuan	0.0966	0.1169	21.01
Tianjin	0.0531	0.0503	−5.27
Tibet	0.1357	0.1733	27.71
Xinjiang	0.6242	0.6194	−0.77
Yunnan	0.5405	0.5402	−0.06
Zhejiang	0.0171	0.0437	155.56

References

Alesina A, Ferrara EA (2005) Ethnic diversity and economic performance. J Econ Lit 43(3):762–800

Askci (2013) The Qinghai-Tibet railway has made a new breakthrough in both passengers and cargos transportation" (in Chinese). China Business Intelligence Network (Askci). Available at http://www.askci.com/news/201301/21/211092956370.shtml. Assessed on 12 May 2013

Becquelin N (2000) Xinjiang in the nineties. China J 44:65–90

Bluedorn JC (2001) Can democracy help? Growth and ethnic divisions. Econ Lett 70:121–126

Cihai (1999), Cihai. Shanghai Cishu Press, Shanghai
Clarke M (2013) Ethnic separatism in the People's Republic of China: History, causes and contemporary challenges. Eur J East Asian Stud 12:109–133
Cnradio (10 November 2006) News—Qingzang railway transported 0.73 M passengers, boosts Tibet economy (in Chinese). Available at http://www.cnradio.com.cn/2004news/internal/200611/t20061110_504324840.html. Accessed 15 Apr 2013
Denyer S (1 September 2014) China's campaign for mixed marriages spreads to troubled Xinjiang. Washington Post, Washington, DC. Available at http://www.washingtonpost.com/blogs/worldviews/wp/2014/09/01/chinas-campaign-for-mixed-marriages-spreads-to-troubled-xinjiang/. Accessed on 2 Sept 2014
Easterly W, Levine R (1997) Africa's growth tragedy: Policies and ethnic division. Q J Econ 112:1203–1250
Guo R (2007) Linguistic and religious influences on foreign trade: Evidence from East Asia. Asian Econ J 21(1):100–121
Guo R (2009) Intercultural economic analysis: Theory and method. Springer, New York
Guo R (2012) Territorial disputes and conflict management: The art of avoiding war. Routledge, London
Guo R (2013a) Regional China: a business and economic handbook. Palgrave-Macmillan, London
Guo R (2013b) Understanding the Chinese economies. Academic Press/Elsevier, Oxford
Guo R (2015) China's spatial disintegration: political economy of the interethnic unrest in Xianjiang., Elsevier Asian Studies series. Elsevier, Oxford
Gupta S (11 May 2011) Army warns PM: China can deploy 500,000 troops on LAC. The Indian Express, New Delhi. Available at: http://www.indianexpress.com/news/army-warns-pm-china-can-deploy-500000-troops-on-lac/788722/. Accessed 1 May 2013
Heston A, Summers R, Aten B (2012) Penn World Table Version 7.1, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, July. Available at http://pwt.econ.upenn.edu/php_site/pwt71/pwt71_form.php. Accessed 1 May 2012
Hillman B (2008) Money can't buy Tibetans' love. Far East Econ Rev 171(3):8–16
Iredale RN, Bilik F, Guo S Wang, Hoy C (2001) Contemporary minority migration, education and ethnicity in China. Edward Elgar, Cheltenham
La Porta R, Lopez de Silanes F, Shleifer A, Vishni RW (1999) The quality of government. J Law Econ Organ 15(1):222–279
Lama D (1996) Misconceptions on the Tibetan issue. In: Shiromany AA (ed) The spirit of Tibet, vision for human liberation: selected speeches and writing of HH the XIV Dalai Lama. Tibetan Parliamentary and Policy Research Center, New Delhi, pp 47–51
Liu Q, Zhu Y, Wang Z, Dong Y (2009) A study of China's regional economic disequilibrium, extremity, and its evolutions (in Chinese). Stat Decis No. 12, pp 1–12
Lu F, Xu J (2004) China's regional economic disparities: evidence from the Gini and the Theil coefficients. The Working Papers of RCEWCC, vol. 1. East China Normal University, Shanghai
Ma R (1996) Population and society of Tibet (in Chinese). Tongxin Press, Beijing
Mackerras CP (2005) People's Republic of China: Background paper on the situation of the Tibetan population, A Writenet Report commissioned by United Nations High Commissioner for Refugees, Protection Information Section (DIP). Available at http://www.unhcr.org/cgi-bin/texis/vtx/refworld/rwmain/opendocpdf.pdf?docid=423ea9094. Accessed 25 Apr 2013
Mauro P (1995) Corruption and growth. Q J Econ 110:681–712
McMillen, Donald H (1981) Xinjiang and the Production and Construction Corps: A Han organization in a non-Han region. Aust J Chin Aff 6:65–96
Millward JA (2007) Eurasian crossroads: a history of Xinjiang. Columbia University Press, New York
Montalvo JG, Reynal-Querol M (2005) Ethnic polarization, potential conflict and civil war. Am Econ Rev 95(3):796–816

O'Neill M (13 April 2008) The conqueror of China's wild west. Asia Sentinel. Available at: http://www.asiasentinel.com/index.php?option=com_content&task=view&id=1148&Itemid=31. Accessed 13 Mar 2013

Ottaviano G, Peri G (2004) The economic value of cultural diversity: evidence from US cities. NBER Working Paper No. 10904 (November), National Bureau of Economic Research, Cambridge

Pradhan SB (12 October 2009) Extend Tibet railway line to Kathmandu, Nepal tells China. The Indian Express, Kathmandu. Available at: http://www.indianexpress.com/news/extend-tibet-railway-line-to-kathmandu-nepal-tells-china/527936/. Accessed 1 May 2013

Qian X, Zhuo W, Yamada K, Wang Q (2012) Pairing aid system in disaster relief and recovery management: lessons from Wenchuan earthquake in China. In: Proceedings of international conference on disaster management. Available at: http://iiirr.ucalgary.ca/files/iiirr/A3-2_.pdf. Accessed 2 Mar 2013

Qian W (2012) Comparative case studies of rent-seeking in China's state-owned enterprises: the Ministry of Railway and China Mobile. CMC Senior Teses. Paper 498. Available at: http://scholarship.claremont.edu/cmc_theses/498. Accessed 26 Mar 2013

Rodrik D (2007) Normalizing industrial policy. Draft, Harvard University. Available at: http://www.hks.harvard.edu/fs/drodrik/Research%2520papers/Industrial%2520Policy%2520_Growth%2520Commission_.pdf. Accessed 25 Mar 2013

Rossabi M (2005) Governing China's multiethnic frontiers. University of Washington Press, Seattle

Seymour, JD (2000) Xinjiang's production and construction corps, and the sinification of Eastern Turkestan, vol 2. Innner Asia, pp 171–193

Shao W (3 April 2012) XPCC ranks second among China's provincial economic growth rates (in Chinese). China Daily, Beijing. Available at: http://www.chinadaily.com.cn/dfpd/2012-04/03/content_14974971.htm. Accessed 16 Apr 2013

Starr SF (2004) Xinjiang: China's Muslim Borderland. New York, M.E, Sharpe

TBS (Tibet Bureau of Statistics) (2001) Tibet statistical yearbook 2000. China Statistics Publishing House, Beijing

TBS (Tibet Bureau of Statistics) (2011) Tibet statistical yearbook 2010. China Statistics Publishing House, Beijing

Toops S (2004) Demographics and development in Xinjiang after 1949. East-West Center, Washington, DC. Working Papers (East-West Center), Available at: http://www.eastwestcenter.org/fileadmin/stored/pdfs/EWCWwp001.pdf. Accessed 15 Mar 2013

UNDP, 2010, China Human Development Report 2009/2010. United Nations Development Program (UNDP) and Renmin University of China, Beijing

Wan W, Yangjingjing X (16 August 2014) China promotes mixed marriages in Tibet as way to achieve 'unity'. Washington Post, Washington, DC. Available at http://www.washingtonpost.com/world/asia_pacific/china-promotes-mixed-marriages-in-tibet-as-way-to-achieve-unity/2014/08/16/94409ca6-238e-11e4-86ca-6f03cbd15c1a_story.html. Accessed on 2 Sept 2014

XBS (Xinjiang Bureau of Statistics) (2001) Xinjiang statistical yearbook 2000. China Statistics Publishing House, Beijing

XBS (Xinjiang Bureau of Statistics) (2011) Xinjiang statistical yearbook 2010. China Statistics Publishing House, Beijing

Xie W (14 June 2014) Zhang Jiajia and Gesang Wangdui: A love song rises above the Suoqu river (in Chinese). Tibet Daily, Lhasa, Tibet. Available at http://epaper.chinatibetnews.com/xzrb/html/2014-06/14/content_547250.htm. Accessed on 2 Sept 2014

XPCC (2001) Xinjiang production and construction crops statistical yearbook 2000. China Statistics Publishing House, Beijing