Chapter 3
Population/Ethnic Geographies
of China and the U.S.

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3.1 Population Geography of China

China is the world's most populous country. The population increased dramatically from 1949 to 2010 (from 542 million in 1949 to1.37 billion in 2010) (Table 3.1). Due to the imbalance of regional economic development, China has an unequal population distribution with high population densities in the urbanized eastern areas and very sparse population densities in the less urbanized western regions. The division can be drawn along the Hu-Huangyong line (named after Chinese geographer Hu Huanyong; Hu 1990; Hu 1935; Hu 1986) from northeast to southwest. The highly populated metropolitan areas, such as the Pearl River Delta, the Yangtze River Delta, the Beijing—Tianjin megaregion, are in sharp contrast to the sparsely populated rural and pastoral areas, such as the Qinghai-Tibetan Plateau and the northwest interior basin.

In China, censuses have been taken six times at 1953, 1964, 1982, 1900, 2000 and 2010. The other years' data is obtained by spot-check and recorded in the Chinese Statistical Yearbook.

3.1.1 General Features of the Population in China

China has a large population base that has seen slight changes to its proportion within the world's total population. In recent decades, however, natural growth rates

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Table 3.1 Chinese population volume and proportion within the world population. (National Bureau of Statistics of China 2011; UNFPA 2010)

	1949	1960	1970	1980	1990	2000	2005	2010
World population (billion)	2.436	3.027	3.634	4.415	5.284	6.000	6.477	6.909
China population (billion)	0.542	0.662	0.830	0.987	1.134	1.295	1.308	1.370
Proportion of world (%)	22.24	21.87	22.84	22.36	21.46	21.58	20.19	19.83
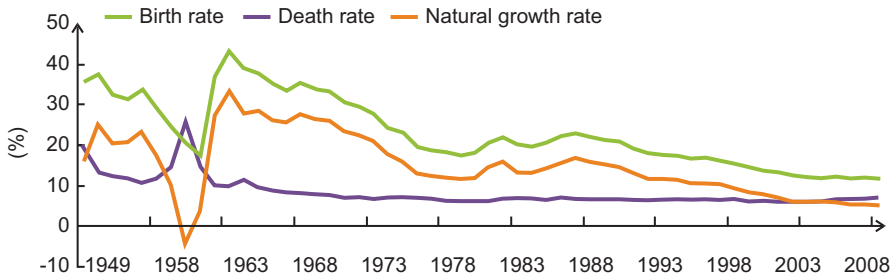
Fig. 3.1 China's population birth rate, death rate and natural growth rate from 1949 to 2008. Note: birth rate, death rate and natural growth rate in 2009 are 11.95 %, 7.08 % and 4.87 %, in 2010 are 11.90 %, 7.11 % and 4.79 %. (National Statistics Bureau of China 2010)

decreased significantly because of the implemented family planning policies, and China's percentage in the total world population has fallen from 22.24 % in 1949 to 19.83 % in 2010.

The birth rate, death rate and natural growth rate are three key indicators of natural changes to a population. The death rate of China's population decreased during past years except for 1960; the trend in China's birth rate is consistent with the natural growth rate (Fig. 3.1), which means that the birth rate continues to play an important role for natural population growth. Nevertheless, the birth rate has been significantly reduced through implementation of family planning policies to achieve the goal of controlling excessive population growth in China.

An analysis of the fluctuations of Chinese population growth for the time period 1948–2010 (see Fig. 3.1) shows that the Chinese population has been gradually transformed from high birth rate, low death rate and high natural increase to low birth rate, low death rate and low natural increase. Four distinct stages can be distinguished: (1) The time period 1949 to 1958 saw a first peak in population growth, with the annual birth rate exceeding 3 % and an annual average natural growth rate up to 2.24 % resulting in an annual net population increase of 13.11 million. (2) From 1958 to 1961 marked by a drop in population growth as the 1961 birth rate was only 1.8 %, the average annual natural growth rate was 0.46 %. The only year with a decrease of the population was 1960 (at the end of the period of the "Great Leap Forward Movement"). Due to severe natural disasters and a declining food production the Chinese population experienced slow growth. (3) From 1962 to 1973 the number of the population soared from 670 to 890 million, with an annual net increase of 19.46 million; the average

Table 3.2 Gender ratio based on census in China

Year	1953	1964	1982	1990	2000	2005	2010
Gender ratio	107.56	105.46	106.30	106.60	106.74	102.19	105.2

annual natural population increase rate reached 2.56%. The year 1963 set a new record with 3.35%. (4) 1974 to the present, with the birth rate and the natural growth rate decreasing synchronously. In 1998 the natural population growth rate dropped to below 1.0%. In the following years it continued to further drop and reached 0.48% in 2010. This has been a remarkable trend primarily caused by the continued implementation of the family planning policies; it resulted not only in successfully curbing excessive population growth in China but also represented an important contribution to the control of the world population growth.

3.1.2   Population Structure

China's population structure can be examined from a variety of aspects including gender ratio, age structure, educational structure and urban-rural population structure. Gender and age are two major demographic attributes of the population; the former can be used to indicate the gender ratio (the corresponding number of males per 100 females), the latter to express the proportion of the different age groups in the population, e.g. in form of a population pyramid.

3.1.2.1   Gender Structure

Usually, the gender ratio is less than 100 in developed countries and less than 105 among most developing countries. In China it has remained at high levels (above 105) from the second census in 1964 to the sixth census in 2010 (Table 3.2). During the years of 2000–2010, the overall gender ratio of China's population has seen fluctuations in a downward trend, from 106.74 in 2000 down to 105.2 in 2010.

In addition, there are significant rural-urban differences in the gender ratio. The rural gender ratio is generally higher than in the urban regions due to Chinese traditional values as expressed in a male preference for a child. Family planning policies have had also an influence on the preferred gender of a child, since the allowed number of children in a family is limited (usually to one or to two) and many parents prefer to have a boy to succeed their "family lines" by all means, thus compounding the imbalance in the gender ratio.

3.1.2.2   Age Structure

During the past 50 years age structure in China has gradually and consistently changed as to the proportion of the following three age groups or cohorts: (1) 0 to

Year	Persons ages 14 and below (%)	Persons ages 15 to 64 (%)	Persons ages 65 and above (%)
1953	36.28	59.31	4.41
1964	40.69	55.75	3.56
1982	33.59	61.50	4.91
1990	27.69	66.74	5.57
2000	22.89	70.15	6.96
2005	20.27	72.04	7.69
2010	16.60	74.50	8.90

Table 3.3 Changes in the age structure of China's population (National Bureau of Statistics of China 2012)

14 years (2) 15 to 64 years and (3) 65 years and over (Table 3.3). During the period of 1953 to 2010, the proportion of children has overall declined; the proportion of the age group 15 to 64 years has increased significantly, and the proportion of the elderly ages 65 and above has been growing. During 1953 to 1964, the age group 0 to 14 increased sharply and China's age structure clearly reflected the type of a younger population. However, by 1982 the proportion of the adults had risen to 61.50%, and that of the elderly to 4.91% which was an indication that China had begun the transition from a young to an adult type population. The population pyramids (in Fig. 3.2) clearly show this trend. In 2000, the children proportion in the total population dropped to 22.89%, the adult proportion reached 70.15%, while the elderly proportion increased to 6.69% indicating that the age structure of China's population was transitioning to an older population type. By 2010, children of China's population dropped to below 20%, while the proportion of elderly population increased to 8.9%, reflecting the completed transition to the type of an older population in China.

With a completed transition of the population age structure to an older type of population, China is facing, on the one hand, the heavy burden of an aging population comparable to the situation in most developed countries—though China's average income levels are not as high as those in most developed countries. China's population is aging faster and the proportion of 65 and older population group is getting larger. On the other hand, the labor force (15~64 years) in China has reached 72.7%, with the world's most abundant labor resources in place. Thus, China is experiencing a historically unprecedented "demographic dividend" period which also means that China will have to face increasing employment pressure as the current demographic dividend will gradually erode in the future.

3.1.2.3 Educational Structure

The biggest change in the educational structure of China's population is that the illiterate proportion declined significantly over the past several decades. In 1949, 80% of population above the age of 15 was illiterate, 62.4% in 1964. The rate of illiterate persons in China fell to 22.2% in 1990, to 9.1% in 2000, and even to 7.1%
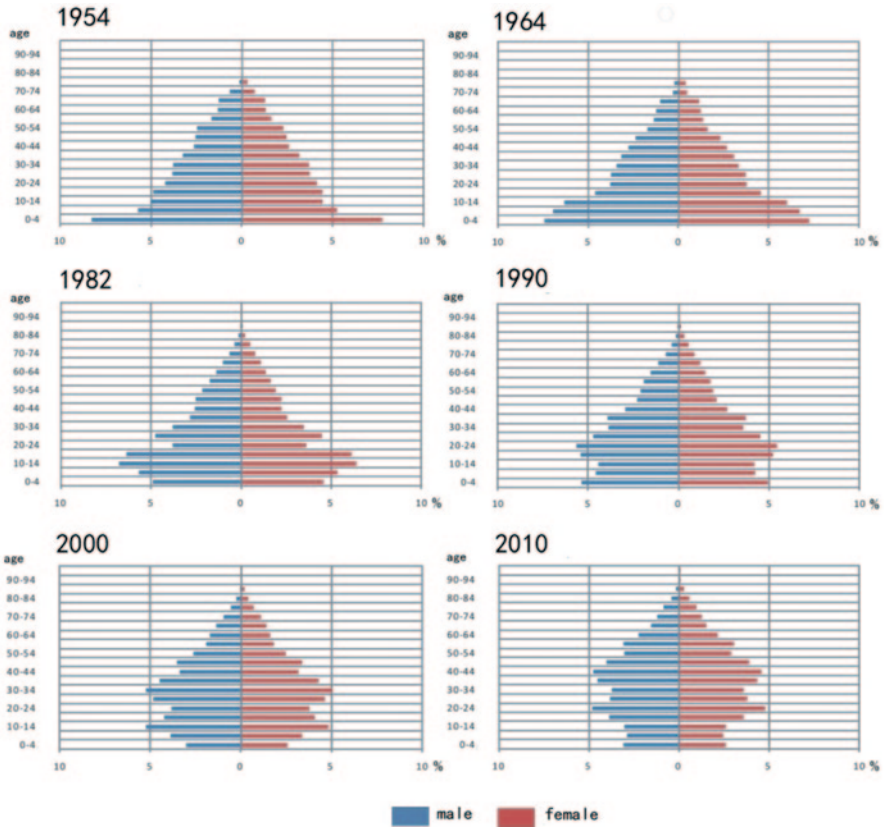
Fig. 3.2 China's population age-gender pyramids. (National census data 1955, 1965, 1983, 1991, 2000 and 2010)

in 2009. Three quarter of the illiterate population lives in western rural areas such as Tibet, Qinghai, Guizhou, Gansu, Ningxia and Yunnan.

   Because of the country's large population base the increasing educational attainment in China marks a significant contribution to the improvement of the overall educational status of the world's population. Compared with developed countries, the proportion of the population in China receiving higher levels of educational attainment was low. Though, the proportion of the Chinese population participating in primary education was very large. However, the proportion of the Chinese population receiving degrees from a university and from high school increased considerably. From 1964 to 2010, for instance, the number of people (per one hundred thousand) with a university degree rose from 416 to 8,930, a degree from senior high school from 1,319 to 14,032 and a degree from junior high school from 4,680 to 38,788. The proportion of the population with some high school education increased ten times over this time period. However, the proportion of persons with a higher education degree was still very small, only 8.9%.
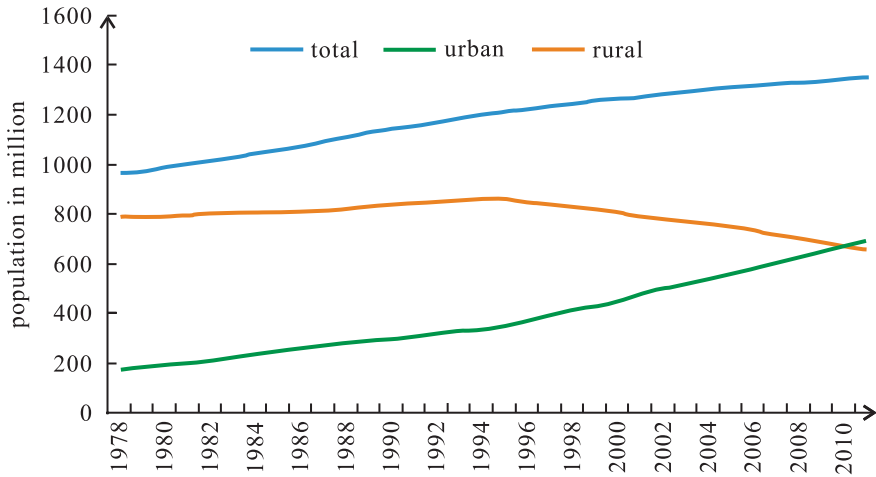
Fig. 3.3 Rural and urban population in China since the reform and opening up period (1978). (National Bureau of Statistics over the years)

3.1.2.4 Urban-Rural Structure

A statistical analysis of China's population (Fig. 3.3) shows that during the past decades years, from 1978 (the beginning of the reform and opening up period) to 2011, the overall trend was an increase of China's population. The rapid pace in increase, however, slowed after 1990. Along with the total population growth, China's urban population was growing rapidly (from 172.45 million in 1978 to 690.79 million in 2011). The rural population rose significantly before 1990, but since 1990 the proportion of rural population in the total population first stagnated then declined steadily. Thus, the year 1990 marks a turning point for the growth of China's population. Figure 3.4 represents the urban population.

3.1.3 Population Distribution

China's vast total population shows enormous differences among regions. Population density in the southeast is very high, while it is very low in the northwest. The "Hu Huanyong population boundary" divides China into two parts, the southeast and the northwest. The southeast accounting only for 42.9 % of the total area captures 95.4 % of the country's population, only accounting for 42.9 % of the total area, while the northwest with 57.1 % of total area has only 5.6 % of the population. Although China's population has developed from a few thousands of people in ancient prehistoric times to more than 1.3 billion people today, the "Hu Huanyong division line" has always been the population boundary in China (Fig. 3.5). Moreover, China's population distribution is closely related to elevation and topography, with the following characteristics:

Fig. 3.4 Urban population in China (2010)

Dense populations in low lying areas (plains) and sparse populations in the mountains and plateaus

China's population density decreases rapidly with rising elevation (Table 3.4), from nearly 70 % of the population living in areas below 200 m above sea level to 2 % or so of the population living at higher elevations of more than 2,000 m. The population density is 400 person/km^2 for the first elevation range while it decreases to less than 7 persons/km^2 for the latter which is closely related to a restricted potential of the higher terrain for agricultural production, transportation infrastructure and urban development. Plains are more suitable for farming and provide better
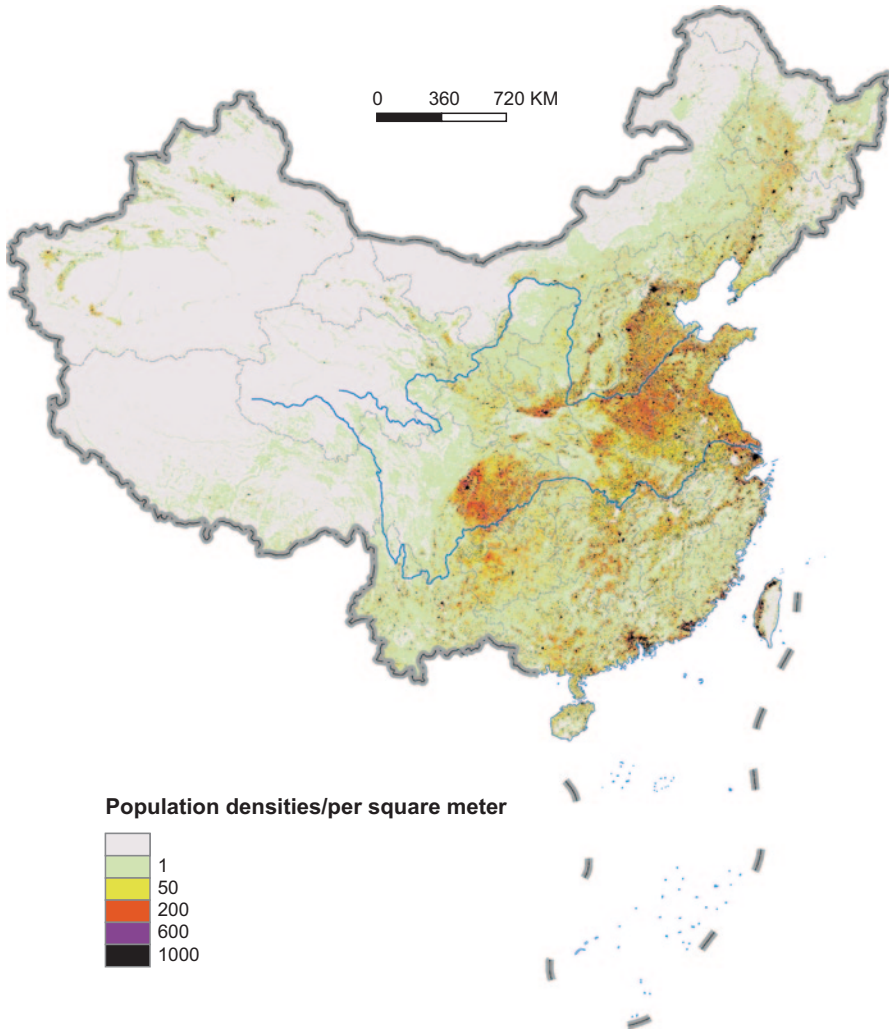
Population densities/per square meter

	1
	50
	200
	600
	1000

Fig. 3.5 Population densities (2010)

conditions for improvements in the transportation infrastructure and for urban con-
struction. On the plateaus, due to the restrictions of the terrain, water and weather
conditions, only animal husbandry can be successfully developed which confines
the size of the population.

   Higher population densities in warm and humid regions and lower in cold and
dry areas

   China's population is relatively sparse in areas with cold or dry climates such as
the Qinghai-Tibet Plateau, Inner Mongolia Plateau, the northwest and the interior
dry zone. The cold and dry climate conditions limit agricultural development and

Table 3.4 Population density changes with altitude. (The fifth national census 2001)

Altitude (m)	<200	200~500	500~1000	1000~2,000	2000~4000
Potulation proportion (%)	68.1	18.9	9.1	9.1	2.1
Area proportion (%)	15.0	10.2	16.9	25.0	32.9
Population density (person/km²)	419.2	194.1	55.0	37.7	6.7

manufacturing as well as the use of some industrial precision instruments which have all the effect of severely impeding the processes of industrialization and urbanization, and consequently allowing less population growth.

Distribution of the population is closely related to cultivated land and urban areas

The spatial variation of population density in China is directly related to the distribution of farmland and to urban development. Population is more numerous in cultivated land areas, and less numerous in forest and grassland areas. These types and qualities of lands have greatly restricted agricultural production. In areas with arable land more surplus food can be produced to satisfy the needs of larger urban populations so that the regional population density increases. By contrast, in forest and grassland areas the population density is relatively low. The development of agriculture in these areas is restricted by barren soil making it difficult to sustain a larger population.

3.1.4 Spatial Variations of China's Population

3.1.4.1 The Spatial Variation of Population Density

Since 1949, China's five national censuses showed that the macro pattern with high population densities in the southeast and sparse population densities in the northwest divided by the "Hu-Huanyong population line" continues to prevail. There is little spatial expansion of the sparsely populated areas in the northwest, while the eastern areas with already relatively high population densities have seen significant expansions.

3.1.4.2 Driving Forces for Urbanization and Population Migration

Since the beginning of the reform and opening up period (1978) population migration and mobility are mostly related to the processes of industrialization and urbanization. The developed areas and the areas with high levels of urbanization are the main destination zones for the migrant population, while the less developed provinces (though with large populations) are the main origin areas of migration in China. 58.3% of the national mobile population is concentrated in the coastal areas, 25% in the central areas, and 16% in the west. On a provincial level, 17.5% of the floating population (without valid residential permit) lives now in Guangdong and

39.5 % in Jiangsu, Zhejiang, Shandong and Liaoning. If we examine the number of mobile populations in the total residents of host areas the following picture and general proportion evolves: in the regions along the coast one migrant for every six residents, in Beijing and Shanghai one migrant for every three residents and in the central and western regions one migrant for every 12 persons. The "workers flood" (migrant workers seeking jobs without having the proper Hukou household registration) comes mainly from 6 provinces which have abundant labor resources and fewer opportunities for local non-agricultural employment. These provinces include Sichuan, Hunan, Anhui, Hubei, Henan and Jiangxi accounting for about half of the total rural migrant labor force on the move.

3.2 Ethnic Geography of China

3.2.1 Ethnic Composition of China's Population

According to the fifth national census (2000), China has 56 nationalities. On the mainland there are 1,159.40 million Han people, which make up 91.59 % of the total population. Minority populations make up 106.43 million people or 8.41 % of the total population. Compared with the fourth national census (1990), the Han population increased by 116.92 million or by 11.22 %; the minority population increased by 15.23 million or by 16.70 %. Among the 55 ethnic minorities the Zhuang are the largest population, with 16.17 million; the smallest minority group is the Lhoba, with only 2,965 people. The greater relative growth of the minority populations is mainly due to relaxed standards of the population restriction policies. There is also the group of non-Chinese foreigners who became citizens of the People's Republic of China and other nations not identified, of totally about 0.75 million accounting for 0.06 % of the total population (Table 3.5).

The Han people as China's main nation not only makes up a very large proportion of the population of the country but is also by far the leading ethnic group worldwide (among 2,000 ethnic groups in the world). The Han are roughly 5 times the number of the Hindustan, the world's second-largest ethnic group, or equivalent to the total population of the following seven largest nations including the Hindustan, the Americans in the United States, Russian, Bengali, Japanese, Brazilians and Germans. Among the other 55 minorities, the Hui and the Manchu use the same language as the Han, namely Mandarin Chinese; the other 53 nations use their own native languages. 29 ethnic groups use languages of the Tibetan language family, mainly in the south, and 17 ethnic groups use a language of the Altaic language family, mainly in the north. Three ethnic groups use a language of the South Asia language family, two groups use a language of the Indo-European language family and the Gaoshan speak an Austronesia language. There is one ethnic group whose affiliation to a language family is inconclusive. The phenomenon of the linguistic exchanges between nations is quite common while Chinese Mandarin is the common nationally spoken language.

Table 3.5 Ethnic groups and their Number within the Chinese Population. (The fifth national census 2001)

Groups	Population	Groups	Population	Groups	Population
Achang	33,936	Hui	9,816,802	Qiang	306,072
Bai	1,858,063	Gaoshan	400,000	Salar	104,503
Bonan	16,505	Jino	20,899	She	709,592
Blang	91,882	Gin	22,517	Sui	406,902
Buyei	2,971,460	Jingpo	132,143	Tajik	41,028
Korean	1,923,842	Kirgiz	160,823	Tatar	4,890
Daur	132,394	Lahu	453,705	Tujia	8,028,133
Dai	1,158,989	Li	1,247,814	Tu	241,198
De'ang	17,935	Lisu	634,912	Va	396,610
Dongxiang	513,805	Lhoba	2,965	Uyghur	8,399,393
Dong	2,960,293	Manchu	10,682,263	Uzbek	12,370
Derung	7,426	Maonan	107,166	Xibe	188,824
Russians	15,609	Monba	8,923	Yao	2,637,421
Oroqen	8,196	Mongol	5,813,947	Yi	7,762,286
Ewenki	30,505	Miao	8,940,116	Yugur	13,719
Gelao	579,357	Mulao	207,352	Tibetan	5,416,021
Hani	1,439,673	Naxi	308,839	Zhuang	16,178,811
Kazak	1,250,458	Nu	28,759	Han	1,159,400,000
Hezhen	4,640	Pumi	33,600		

3.2.2   Distribution of Chinese Ethnic Groups

A unique geographical area is one important indicator for the formation of every nation. In the long process of the national exchanges between groups and national integration China's various ethnic minorities have attained a unique geographic distribution.

Han Chinese settlements are more concentrated in the eastern half, whereas minority settlements areas are more concentrated in the western half

The provinces with the highest percentage of Han Chinese are located in the east (with 99.73 % Han in Jiangxi, 99.71 % Han in Shanxi, 99.67 % Han in Jiangsu, etc.), while ethnic minorities live mainly in the following 5 autonomous regions and their surrounding areas: Inner Mongolia, Xinjiang, Tibet, Guangxi and Ningxia. Mongols live largely in Inner Mongolia. Uygur and Kazakh settlements are concentrated in Xinjiang while Tibetans live largely in Tibet (92.2 % of the Tibetan population, with the remaining population living in Qinghai, Sichuan, Yunnan and other provinces). The main Zhuang settlement area is in Guangxi while Ningxia is inhabited by the Hui. The distribution of ethnic minorities in the provinces of Yunnan, Guizhou, Qinghai, Gansu, Jilin, Sichuan is relatively large (Fig. 3.6). Yunnan Province has the most ethnic minorities, a total of 22. Thus, most of the settlement areas of the minorities are distributed in the northwest and the southwest, which is an important factor for the population distribution pattern in China.
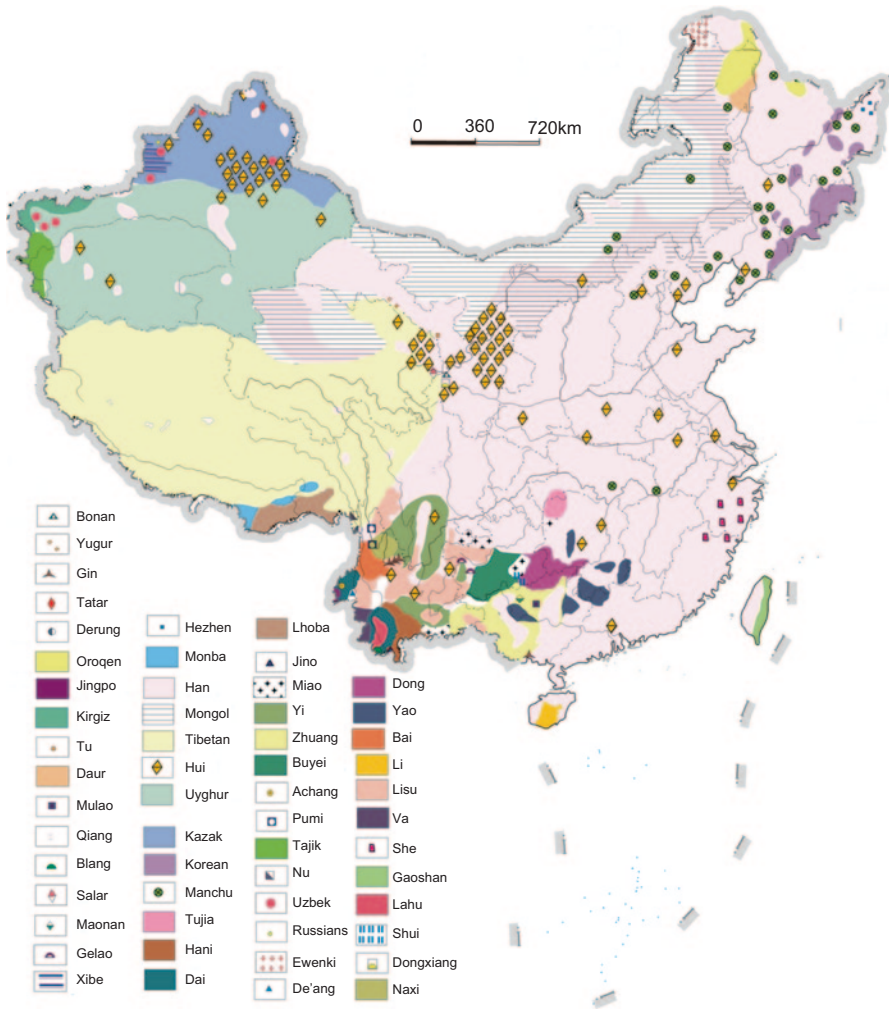
Fig. 3.6 Regional Distribution of the 56 Ethnic Group of China. (Rong and Tang 2004)

The Han live mainly is in the central coastal areas, while the ethnic minorities are mainly distributed in border areas. More than 30 ethnic minorities in China have their same ethnic group living in adjacent locations at neighboring countries, such as the Kazakhs of Xinjiang, China and the Kazakh population of the neighboring country of Kazakhstan. They have remained in close contact with frequent gatherings of relatives and friends at, for instance, weddings and holiday celebrations. As a result, trade relations with neighboring countries have developed rapidly.

The distribution of racial/ethnic groups is widely dispersed and mixed with small settlements and living conditions intertwined

In China, the more than 100 million of minority populations are widely distributed in many parts of the country. After decades of national contact, migration, integration and development a basic spatial pattern has evolved which has been characterized by the contrast of "big mixed, small settlements". All of the 23 provinces, 5 autonomous regions and 4 municipalities in China have settlement areas where ethnic minority groups live. Even on a county level, often settlement units are found where two or more ethnic groups live. While China's total ethnic minority population is relatively small (compared to the Han) its distribution is widely dispersed, as the example of the Hui and the Manchu shows. The Hui population is distributed over more than 2,000 cities and counties characterized by a large dispersion and a small concentration in the Ningxia Hui Autonomous Region. During the Qing dynasty (1644~1911) the then leading Manchu minority were dispersed all over China. In our times, the Manchu population is distributed over 2095 cities and counties, though still relatively concentrated in the three northeastern provinces of Liaoning, Jilin and Heilongjiang. Those areas saw the formation of fixed settlement areas after the long-term political developments and associated migration processes. Other examples are the Mongols and the Tibetans. 73 % of the Mongolian population lives now in Inner Mongolia while 70 % of the Tibetan population resides in Tibet and Sichuan. Some of the smaller nations are basically concentrated in a limited number of counties or even a few townships, such as the Keno, Qiang, Brown, Mao Nan and others. Due to their migration history, certain nations are concentrated in several areas which are far apart from each other. For example, one part of the Xibe group lives in the Ili Kazak Autonomous Prefecture in Xinjiang while another part of this ethnic minority group has made its home in a few counties of Liaoning Province, several thousand kilometers away.

Han Chinese settlements in the plains and hills, ethnic minorities distributed in mountains and plateaus

Due to historical factors, the Han are basically distributed in the plains and hilly areas and ethnic minorities are mostly distributed in the mountains and plateaus. The Tibetan settlement area is on the Tibetan Plateau. Topographically, the main Han Chinese neighborhoods are found in the third stepped unit to the east of the line Daxing'an Ranges—Taihang Mountains- Wushan Mountains—Xuefeng Mountains, with the exception of the Changbai Mountains. In the second stepped zone the Han Chinese and the majority of the minorities have their livelihood. The Han Chinese people are distributed at a lower altitude, while ethnic minorities live usually in higher elevations. In the transition zone between the second step and the first step are found the neighborhoods of most minority groups. This area is the most complex in ethnic and linguistic composition. The nations with an agriculture-oriented livelihood and a more developed economy are distributed in the lower zone while the livestock-based regions in the higher zone. The shifting cultivation-oriented nations with the least developed economy are found in the highest zone.

3.3   Population Geography in the U.S.

Who are the Americans and where do they live? Perez and Hirschman summarize this best (2009, p. 1): "The racial and ethnic makeup of the American people is in flux." Throughout the course of this chapter we will examine the patterns and distribution of the people who make up the population of the United States, where they are found, how they differentiate themselves from others and the potential growth and changes coming in the next millennium. We will try to identify certain trends, both recent as well as long-term ones, impacting the way we view the United States currently. Included in this analysis will be the distribution of social preferences, different ethnicities, the rural/urban divide as well as many other population variables.

One of the main problems in any attempt to place a definitive value on the population is the difficulty in gathering actual numbers. The United States Government takes a census of its citizens every 10 years. The most recent census was taken in the early months of 2010 with the data only partially available at the time of this publication. The maps and tables that constitute the data from which most of this chapter is written are from the 2000 Census (U.S. Census Bureau 2000), the 2010 Census (U.S. Census Bureau 2010), the American Community Survey, Census.gov and other US government publications (see bibliography). For a country in such a state of 'flux' as the US this multiple availability of data, both factual from 2000 and 2010 and extrapolated otherwise, poses a dilemma as to how to best summarize the information while remaining true to the most recent actual numbers.

3.3.1   General Features of Population in the U.S.

According to the Central Intelligence Agency[1] as of June 2012 the estimated total population of the US was 313,847,465 people. During that time period, the US Census Bureau's Data Finders Population Clock link said that there were 313,719,945 Americans. This makes the US the third largest population in the world behind China and India. There is one birth every 8 seconds, one death every 14 seconds, one international migrant (net) every 44 seconds, thus a net gain of one person every 13 seconds.[2] Results of the 2010 census revealed that the total population increased by roughly 9% from the 2000 census. Only the age group 25 to 44 years decreased (about 3.4% against the 2000 census).

3.3.2   Population Structure

The median age for all those 313 million Americans was 37.2 years with females averaging 38.5 and males 35.8. The female portion of the total population is 50.8%

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[1] www.cia.gov/library/publications/the-world-factbook/geos/us.html.

[2] www.census.gov/population/www/popclockus.html.

and since females also have a longer life expectancy there is variability in the numbers. The male portion of the population grew by 9.9% from 2000 to 2010 while females increased by 9.5%. The age group from 18–65, what is considered the working portion of the population, contained 194.3 million people, comprising 62.9% of the total population. Those 65 year and older totaled almost 13% of the population with males numbering 16,910,232 and females 22,571,696. It must be noted that there are more males than females under the age of 14 and many more women than men over the age of 65.

3.3.2.1 Age Structure of Population

The figure Population by Sex and Age along the right hand side of Fig. 3.7 is a population pyramid showing the gender/population distribution of the American population from the Census Bureau. Separated into 5-year cohorts from birth, there are two distinct population categories of special interest: ages 45–49 and 50–54. These represent in 2010 people born in the mid 1950's to the mid 1960's. The slight increases in those aged 15–19, 20–24 and 25–29 represent the children of that phase. The aftermath of World War II and the Korean conflict, as well as the liberalizing of the American mind set in the 1960 fostered a population boom reflected in these findings. At the top of the pyramid note that women over the age of 65 represent a larger portion of society than men do as they have a longer life expectancy. This is very much reflected in the ages 80+ and may be of special interest to those who study the American population in the future.

3.3.2.2 Population in Labor Force

Estimates from the U.S. Census Bureau suggest that in 2010 there are roughly 237 million Americans 16 years or older in the Civilian non-institutional population (ftp.bls.gov/pub/special.requests/lf/aat3.txt). Of those, 139 million are employed, representing 58% of the total population. Almost 15 million are unemployed, or 9.6% and 83 million are not in the labor force as it is defined. Table 3.6 breaks that population labor force down further.

Those in the population working have a per capita income of $47,400. While this represents a very large income, especially contrasted with China's, it still ranks 10 in the world behind such countries as Luxembourg, Qatar, Norway and Kuwait (CIA World Fact book). The population works in multiple areas: 0.7% are in farming, forestry and fishing; 20.3% are in manufacturing, extraction transportation and crafts; 37.3% are in managerial, professional and technical jobs; 24.2% work in sales and office occupation and 17% work in other types of services. Thus the majority of the workforce, roughly 78% are in professional or service jobs. All of these jobs contribute differently to the economy: agriculture accounts for 1.2%, industry for 22.2% and services 76.7% (Census Bureau, CIA World Fact Book).
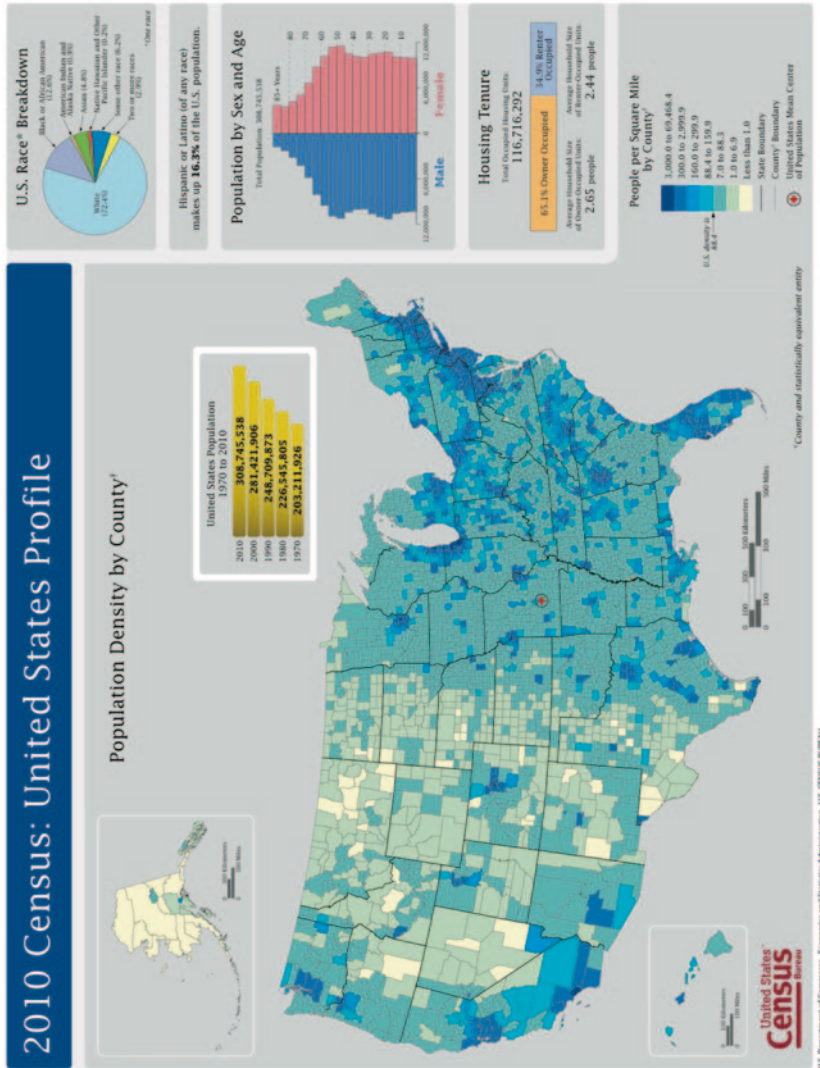
Fig. 3.7 2010 Census: United States Profile, Population Density by County

3.3.2.3 Social, Educational and Economic Populations

There are 116.7 million total households across the country with family populations numbering 262 million (U.S. Census Bureau, 2010 Census Summary File 1, factfinder.census.gov). Of these households, 77.5 million have children under 18 years of age. Non-family households number 39.2 million with households 65 years and older numbering 10.4 million reflecting the high number of household with single members of either gender.

Table 3.6 Civilian Non-institutional Population. (numbers in millions, each category represents % of available population, not total US population, ftp.bls.gov/pub/special.requests/lf/aat3.txt)

Ageprofile	Total population in labor	Employed total	Percent of total population in labor	Unemployed total	Percent of labor force
16–19	16.9	4.3	26	1.5	26
20–24	21	12.6	60	2.3	15.5
25–34	40.9	30.2	73	3.3	10
35–44	40	30.6	76	2.7	8.1
45–54	44.2	33.1	75	2.7	7.7
55–64	35.8	21.6	60	1.6	7.1
65	38.7	6.2	16.2	0.5	6.7

The growth rate of the population as a whole (2011 estimate) is around .96% which ranks the United States right in the middle of world countries, with Zimbabwe at 4% highest and the Northern Mariana Islands the lowest at −4%. China by comparison is at.49% growth rate. This is mediated of course by the large population of China to begin with. The United States has a birth rate of 13.83/1000 live births and a death rate of 8.38/1000 population. The birth rate is also right in the middle for countries with Niger first with 50/1000 and Japan second lowest at 7.3/1000. China's birth rate is near to that with 12.29/1000. The Chinese death rate is also lower at 7.03/1000 population (all data from www.CIA.gov/library/publication/the-world-factbook/geos/us.html).The United States as a whole is an educated society. The percent of high school graduates or higher of the total population is 84.6%. Twenty-seven percent of the population has a bachelor's degree or higher. Table 3.7 below highlights some of the educational charicteristics of the population. Although the population over the age of 25 is estimated to be under 200 million, 27% of those people have a bachelors degree or higher. This suggests that the population as a whole is very literate as only 6.4% of those have less than a 9th grade education.

3.3.3 Population Distribution

The population of the U.S. is growing in different places, but it is also displaying different growth rates. Regional growth in the South and the West is increasing far faster than that of the Midwest or the Northeast parts of the country. The South and the West represent slightly less than two/thirds of the total population. In the U.S., California, Texas and New York are the most populated states followed closely by Florida, Illinois, Pennsylvania, and Ohio. It is when one looks at individual counties within states where the different distribution patterns begin to emerge. It is the urban areas where most of the population is centered. Thus, a state such as New York or Georgia may have a large population but that population is centered, in the case of Georgia, in the counties around Atlanta and in the case of New York, in several cities along Lake Ontario, along the Interstate 90 corridor and down the

Table 3.7 Educational Attainment, Population 25 years and older (in millions) (U.S. Census Bureau, 2005–2009 American Community Survey)

Total population	197,440,193						
Less than 9th grade	9–12th, no diploma	High school graduate	Some college	Associates degree	Bachelor's degree	Graduate or professional
12.5	17.8	57.8	40.1	14.6	34.3	19.9
Percentage of total population						
6.4	9.1	29.3	20.3	7.4	17.4	10.1

Hudson River from Albany to New York City (Population Distribution and Change 2010 Census Briefs).

There are seven states with populations between 10,000,000 and 37,253,000: California, Texas, New York, Florida, Illinois, Ohio, and Pennsylvania. There are seven states whose populations are very low, between 563,000 and 999,999: Alaska, Delaware, Vermont, North and South Dakota, Montana and Wyoming. Of the states with populations between 5 and 10 million only Arizona, Colorado and Washington are located in the western part of the country, the remainder: Missouri, Wisconsin, Michigan, Indiana, Massachusetts, New Jersey, Maryland, Virginia, North Carolina, Tennessee, Kentucky, Minnesota and Georgia are considered to be eastern. The remaining states have populations that fall between 1 million and 5 million. The largest numeric growth is seen in Texas but as a percentage of total state populations, the western states of Nevada, Arizona, Utah, and Idaho are seeing their numbers increase the most. The only state losing population is that of Michigan where populations have decreased from 2000 to 2010 by .6% (Population Distribution and Change 2010 Census Briefs).

3.3.3.1 Population Density

In Fig. 3.7, the map itself represents population density for counties in the U.S. It clearly shows how much of the population is concentrated in certain counties within particular states. This pattern will emerge in other forms as well as indicated below. These heavily populated counties, numbering between 500,000 and 9,520,000 are the sites of the United States' larger metropolitan areas. The population density of the United States is quite heavily weighted to the eastern, western and northern portions of the country. These are the original areas of inhabitation, populated by Western Europeans first, especially in the east, and then successive waves from Europe and Africa after and they trend towards the migratory patterns of later disbursement as well, with heavy populations across the middle tier of New York, the southern Pennsylvania areas and then up through the upper portions of Midwestern states such as Ohio, Indiana, and Illinois and the southern portion of Michigan and then around Lake Michigan in the region of Chicago. There are high densities along the southern portions of the Appalachian Mountain chain towards Atlanta, Georgia

where people moved out from North Carolina and South Carolina as well. Moving farther west however the urban areas of larger cities begin to show the highest densities. Cities such as Denver, Colorado; Salt Lake City, Utah; Phoenix, Arizona; and the corridor from Seattle, Washington down through Portland, Salem and Eugene, Oregon. Figure 3.7 also shows how the eastern portion of the US tends to have large tracts of high densities but the western portion shows many rural areas with very low densities. The people per square mile by state indicate that the highest state density is in the New York-New England area with Alaska, Montana and Wyoming bringing up the rear with the lowest. Much of the Central United States has densities ranging from only 7 to 79.5 people. Along with Washington and California having high densities per state, this suggests that the United States is a bi-coastal populated country. The entire eastern portion of the country has population densities above the national average of 79/sq. mile showing just how little population there is in the central portions of the country. The very small population of Alaska, contrasted with its very large land area also contributes to the discrepancy.

There are several distinctive metropolitan areas around the country. The New York-Newark area is home to 19 million people; the Los Angeles-Long Beach area has 12 million; Chicago has 9.4 million; Dallas-Fort Worth 6.3 million; and the Philadelphia region at 5.9 million (Population Distribution and Change 2010 Census Briefs). Also indicated from the figure are two areas of lesser populated areas: the Rocky Mountains of Nevada, western Colorado, New Mexico, Utah and central Idaho; and the western parts of Texas, Oklahoma, Kansas, Nebraska, all of North and South Dakota and eastern Montana. These are the great agricultural areas of the midwest, home to corn, soy, wheat cereal crops as well as feedlot production of pork and cattle.

3.3.3.2 Urban Population and the Rural Dilemma

The United States has largely an urban population. The percentage of state population in metropolitan area counties shows that the US as a whole is 80% urban. Seventeen states are above the average having more citizens who live in cities. Only Alaska, Idaho, Montana, Wyoming, North and South Dakota, Iowa, Arkansas, Mississippi, Kentucky, West Virginia, Vermont, and Maine are less than 50% urban in their total population. While it would seem logical to suggest that the states with the highest total population, states such as Texas and California, would be those with the highest urban populations, it has to be noted that these are also among the largest states in total area so the urbanization is even more apparent. Thus both Texas and California are very urbanized and, as noted in other chapters in this book, these states are agriculturally highly productive. This suggests that the populations are for the most part living in the great cities of those states and that the land is being used for large scale agricultural practices that do not require large human labor inputs. The pressures upon the land for expanding urban areas is slightly alleviated due to the aggrandizing of farmland and the expansion of farm size with its corresponding flight to urban areas of those populations (Table 3.8).

Table 3.8 Population Change for the Ten most Populous Statistical Areas: 2000 to 2010. (U.S. Census Bureau 2010; Census and Census 2000)

Metropolitan statistical area	Population		Change	
	2000	2010	Number	Percent
New York-Northern New Jersey-Long Island, NY-NJ-PA	18,323,002	18,897,109	574,107	3.1
Los Angeles-Long Beach-Santa Ana, CA	12,365,627	12,828,837	463,210	3.7
Chicago-Joliet-Naperville, IL-IN-WI	9,098,316	9,461,105	362,789	4.0
Dallas-Fort Worth-Arlington, TX	5,161,544	6,371,773	1,210,229	23.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,687,147	5,965,343	278,196	4.9
Houston-Sugar Land-Baytown, TX	4,715,407	5,946,800	1,231,393	26.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	4,796,183	5,582,170	785,987	16.4
Miami-Fort Lauderdale-Pompano Beach, FL	5,007,564	5,564,635	557,071	11.1
Atlanta-Sandy Springs-Marietta, GA	4,247,981	5,268,860	1,020,879	24.0
Boston-Cambridge-Quincy, MA-NH	4,391,344	4,552,402	161,058	3.7

For information on confidentiality protection, nonsamplingerror, and definitions, see www.census.gov/prod/cen2010/doc/pl94-171.pdf. The full names of the metropolitan statistical areas are shown in this table: abbreviated versions of the names are shown in the text.

Also note that the number of counties that were metropolitan in both 1990 and 2000 (those in light blue) and those that were metropolitan in 2000 and nonmetropolitan in 1990 (those in dark blue) far outnumber those that were nonmetropolitan in 2000 and metropolitan in 1990. Not only is the population of America growing, it is also rapidly urbanizing.

3.4 Racial/Ethnic Geography in the U.S.

Race is a complex and frustrating topic as it relates to the population of the United States. Generally speaking Americans are divided into whites, blacks, Hispanics, Asians but at many levels 'most Americans, except for recent immigrants, are probably descended from multiple geographic, ethnic, and racial origins' (Perez and Hirschman 2009, p. 2). The projections do not take into consideration the mixing of racial and ethnic identities through intermarriage, as it is difficult to build consensus on the categories of those involved. There is also the distinction between identity
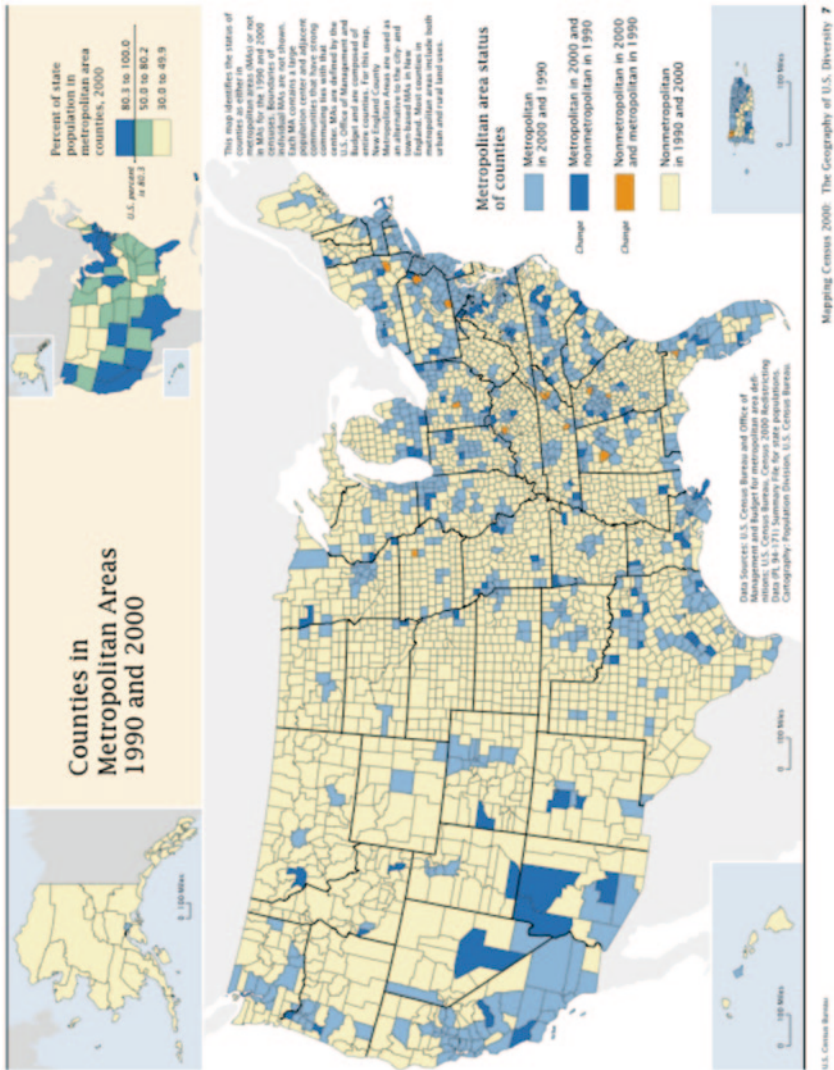
Fig. 3.8 Urban population in the U.S.

and ancestry as it pertains to how one self-identifies (Perez and Hirschman 2009). Race and ethnicity are seen in different contexts by both social scientists and in everyday life (Lee and Bean 2004) (Fig. 3.8).

Census data can only be interpreted from the numbers submitted and those of race depend upon the choices of those who have multiple racial and ethnic origins (Edmonston et al. 2002, p. 249). Many of the newly arriving immigrants do not see themselves as any particular color, nor are they viewed as such by others (Lee and Bean 2004). The first census was conducted in 1790 making the US the longest

continuous census taking country (Farley and Haaga 2005). In that first census questions were raised about the composition of society and who had the right to be counted. Article 1, Section of the US Constitution distinguished between three groups for purposes of taxation and Congressional apportionment: "free persons" (including indentured servants), "other persons" (a euphemism for black slaves), and "Indians not taxed" (those living beyond areas of white settlement and control) Slaves were counted as only three-fifths of free persons, while "Indians not taxed" were not counted at all (Perez and Hirschman 2009, p. 5; Anderson 1988, p. 9; Klinker and Smith 1999, p. 25). Later Census samples grappled with ideas of mixed race make-up, percentage of blood purity, and the idea on "non-white" versus "white" in immigrant cultures coming from Europe (Alba 1999; Jacobson 1998; Lee and Bean 2004).

The 2010 Census had specific definitions of racial categories for respondents to self-identify through. The form suggested them as follows:

"White" refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race(s) as "White" or reported entries such as Irish, German, Italian, Lebanese, Arab, Moroccan, or Caucasian.

"Black or African American" refers to a person having origins in any of the Black racial groups of Africa. It includes people who indicated their race(s) as "Black, African Am., or Negro" or reported entries such as African American, Kenyan, Nigerian, or Haitian.

American Indian or Alaska Native: refers to a person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. This category includes people who indicated their races(s) as "American Indian or Alaska Native" or reported their enrolled or principal tribe, such as Navajo, Blackfeet, Inupiat, Yup'ik, or Central American Indian groups or South American Indian groups.

"Asian" refers to a person having origins in any of the origian peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. It includes people who indicated their race(s) as "Asian" or reported entries such as "Asian Indian," "Chinese," "Filipino," "Korean" "Japanese," "Vietnamese," and "Other Asian" or provided other detailed Asian responses.

"Native Hawaiian or Other Pacific Islander" refers to a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicated their race(s) as "Pacific Islander" or reported entries such as "Native Hawaiian," "Guamanian or Chamorro," "Samoan," and "Other Pacific Islander" or provided other detailed Pacific Islander responses.

"Some Other Race" includes all other responses not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander reace categories described above. Respondents reporting entries such as multiracial, mixed, interracial, or a Hispanic or Latino group (for example, Mexican, Puerto Rican, Cuban, or Spanish) in response to the race question are included in this category. (Overview of Race and Hispanic Origin: 2010 issued March 2011, page 3).

As you can see by the categories, it is very difficult for the Census Bureau to get specific numbers of national origins for groups of people when, for example, Chinese and Indian natives are grouped together as Asian. It makes for distinctions between

Hispanic origins difficult since they are lumped together as "other." The different populations coming to America can be seen however in the differences between the original census and 2010. The U.S. has become very complex racially and how to count various groups impacts almost impossible. As a part of the total the various groups fall out as follows: One Race has 299 million, White has 223 million, Black or African American 38 million, American Indian and Alaska Native 2.9 million, Asian 14.6 million, Native Hawaiian and Other Pacific Islander 540,000, Some Other Race 19.1 million and Two or More Races at 9 million.

The difficulties of total population growth are best seen in the category of Hispanic: total population of the country as a whole grew by 27 million from 2000. Much of this came from those reporting themselves as not white alone and either Hispanic or Latino as their ethnic origin. The Hispanic group grew from 35.3 million in 2000 to 50.5 million in 2010, thus over half of the total growth of the U.S. occurred in this group. But what does that say about individual groups within that category? It is a rhetorical question of course but it has vast implication within American racial and ethnic political distinctions.

3.4.1   Distribution

Figure 3.9 below shows the counties with the highest percentage of total population for a single group from the six census groups. In the upper right corner is a representation of the states with the highest percentage. Only Hawaii with Asian, Washington DC with Black, and Puerto Rico with Hispanic are not White, not Hispanic.

As mentioned earlier in the chapter, definitions of race make large sweeping generalization problematic when defining where Americans are. Figure 3.9 shows the six census 2000 classifications on race to map 'groups with highest percent of county population.' It suggests that the southern border with Mexico states of California, Arizona, New Mexico and Texas have counties where the highest percentage of the population is Hispanic or Latino. This also suggest that there is not as much dispersal of Hispanic or Latino people in the rest of the country, thus prognostication of Hispanic peoples increasing all over the country may be slightly flawed. There are portions of Arkansas, Louisiana and Mississippi along the Mississippi delta; Central portions of Alabama, Georgia and South Carolina, and areas along the North Carolina/Virginia border where Black or African American are the highest populations within counties. This would suggest that the large migrations of blacks from the rural south to the urban north might not have impacted population as much as previously thought. This data only emerges at the county level as the state level is not detailed enough for analysis.

Figure 3.9 above shows which minority group is the highest percentage of total county population. This map excludes White, not Hispanic as a group. From Texas, Kansas, and Nebraska west Hispanic or Latino dominates with the exceptions of American Indian and Alaska Native areas indicating tribal land holdings. The southeastern portion is predominantly black, especially Louisiana, Mississippi, and
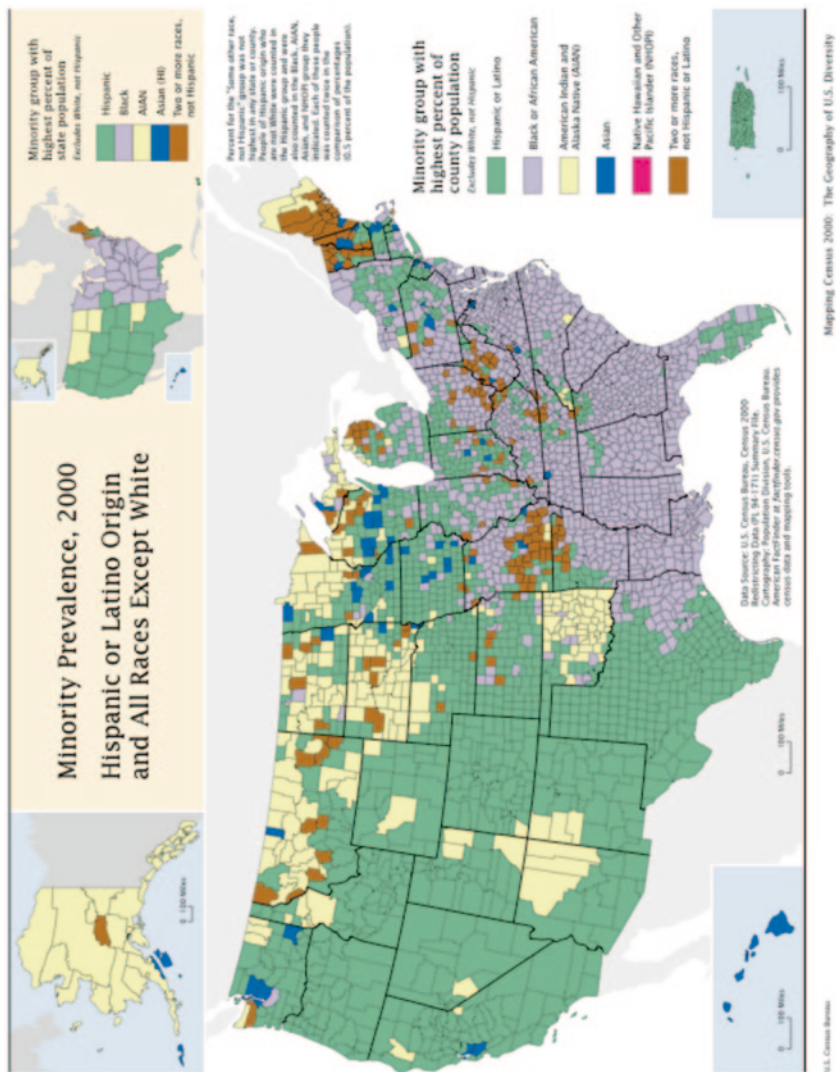
Fig. 3.9 Minority Prevalence. (http://2010.census.gov/2010census/data/index/php)

South Carolina, while southern Missouri and Vermont, New Hampshire and Maine are mostly Two or more races, not Hispanic or Latino. The counties colored as dark blue represent Asian as the group with the highest percent and shows some historical facts such as the area around San Francisco and the island of Hawaii but some interesting later immigrations from countries such as Vietnam and Laos as well as they impact such places as Minnesota, Wisconsin and Iowa.

3.4.2 Migration and Immigration

The United States is a country founded upon immigration into and in-migration within its borders. While America is a highly mobile society with nearly '1 in 7 people changing residence each year' (Census Atlas 2007, p. 108), it is also one that has increased in population through numerous immigrations from the rest of the world. The country is in its fourth immigration wave. This is called the 'Globalization Wave' and had a population impact from 'foreign-born' residents of 31 million by 2000 (Kritz and Gurak 2005, p. 259, see Martin and Midgley 2003). Most immigrants coming to the US between 1995 and 2000 lived in one of six states: California, Florida, Illinois, New Jersey, New York, and Texas as social networks link newcomers to those who are already established. All of these states had over 1 million foreign-born residents (Census Atlas 2007). By far the largest population of foreign-born people came from Mexico, over 9 million. The next two countries of origin were China and the Philippines at roughly 1.5 million followed by India, Vietnam Cuba, Korea, Canada, El Salvador and Germany at just under 1 million.[3] The largest percent of foreign born as a percentage of total population live in California, Florida, central Washington State, western and southern Texas, the metropolitan New York City, Chicago, Philadelphia, and Boston areas.

Historically, net domestic migration filled in much of the country as people migrated from their original entry ports. The largest number of people originally coming was from Germany, over 50 million. Next, the Irish at 37 million, African Americans and the English at 27 million, followed by those who labeled themselves as American at just fewer than 20 million. Mexicans numbered 18 million followed by Italian's, Polish, French, American Indian at 8 million, and then Scottish, Dutch Norwegian, Scotch-Irish and Swedish, all around or under 5 million. As the total population grow, however, the percentages of particular ancestry's decrease. For instance, German's decreased from 23 % in the 1990 Census to 16 % in 2000 and stayed that way through 2008. Similarly, the Irish, English and African American percentages of the total population decreased reflecting the sizable immigrations coming from other places such as Mexico, China, and smaller populations such as Brazilian, Albanian, and Honduran (Census Atlas 2007).

3.4.3 Trends and Future Projections

The net growth of the Unites States population can be attributed to three primary causes—the total fertility rate for women of 2.06 children per lifetime, a net immigrant growth rate of 4.18/1000 population and a life expectancy rate of 78.37 for the total population. These life expectancy rates are 75.92 for men and 80.93 for women, thus women live longer and contribute to the total longer. These three

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[3] China includes those who responded China, Hong Kong, Taiwan, or the Paracel Islands. Korea includes those who responded Korea, North Korea, or South Korea.

factors are critical in an understanding of where the population will go in the fu-
ture. The major trend is that of an increasing population for the for-seeable future
since the fertility rate and net immigration rate will naturally increase the number
of people (Shrestha and Heisler 2011). By the year 2050 it is anticipated that the
population will number almost 440 million.[4] The fertility rate of American women
ages 15–44 shows a small decline over time although the age group 40–44 slightly
increased in 2010.

A second trend is that the American population is getting older. The crude death
rate has remained relatively consistent since 1950, hovering between 8.1 and 9.7 per
1,000 persons. This is an inverse relationship when looking at an aging population.
One would expect the death rate to go up as a population ages, but the fact that the
rate is consistent over time means that people are living longer as a general rule and
contributing to the growth of the population longer. The effects of this aging are not
well known when looking towards that future. Will health care costs escalate? Is
there a general decline in an aging populations contribution to the overall economic
health of the country? Are there enough people to fill the jobs of those leaving the
work force?

The third and perhaps most significant of the trends in the United States popula-
tion is the effect of the net immigration rates currently experienced by the various
different states and how this will change the population structure as it currently
stands. This is because 'major racial and ethnic groups are aging at different rats,
depending upon fertility, mortality, and immigration within these groups' (Shrestha
and Heisler 2011). The most mobile of all age groups are young adults who move
for various reasons such as economic opportunity, lack of future quality of life pos-
sibilities or potential violence due to political beliefs. The United States favors the
entire immigration of these families, not just the individual so, due to different ideas
on birth control, fertility rates and family size, where they settle will directly impact
population figures.

As mentioned earlier in this chapter, the changing definition of race on the 2000
and 2010 Census has created many new catagories of self-identification for racial
and ethnic persons. This is making the United States much more diversified racially
and ethnically. Hispanics are now the number one minority, with almost 13 % of
total population in 2000 growing to approximately 30 % by the year 2050 (Shrestha
and Heisler 2011). But what to make of this since there are so many different ways
for someone of Latino origin to identify with? (See Chap. 3.3). What is does sug-
gest is that in the next 40 years, the United States will become much more racially
diverse as it allows its citizens to identify themselves in catagories other than simply
American.

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[4] U.S. Census Bureau, Table 2. Projections of the Population by Selected Age Groups and Sex for
the United States: 2010 to 2050 (NP2008-T2), issued August.

Fig. 3.10 Comparison of population densities changes between China and the U.S. (1950–2008) (Calculated with the relevant data from "China Statistical Yearbook" and the USA statistical yearbook-1949–2008)
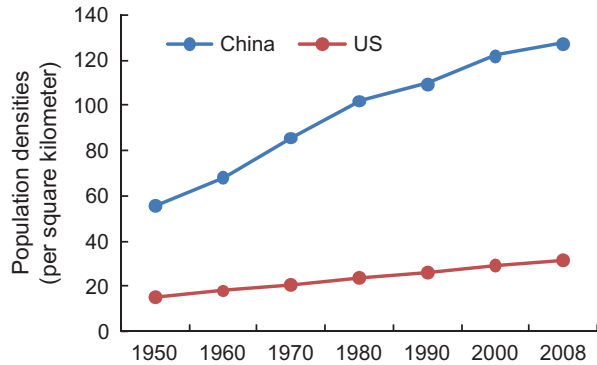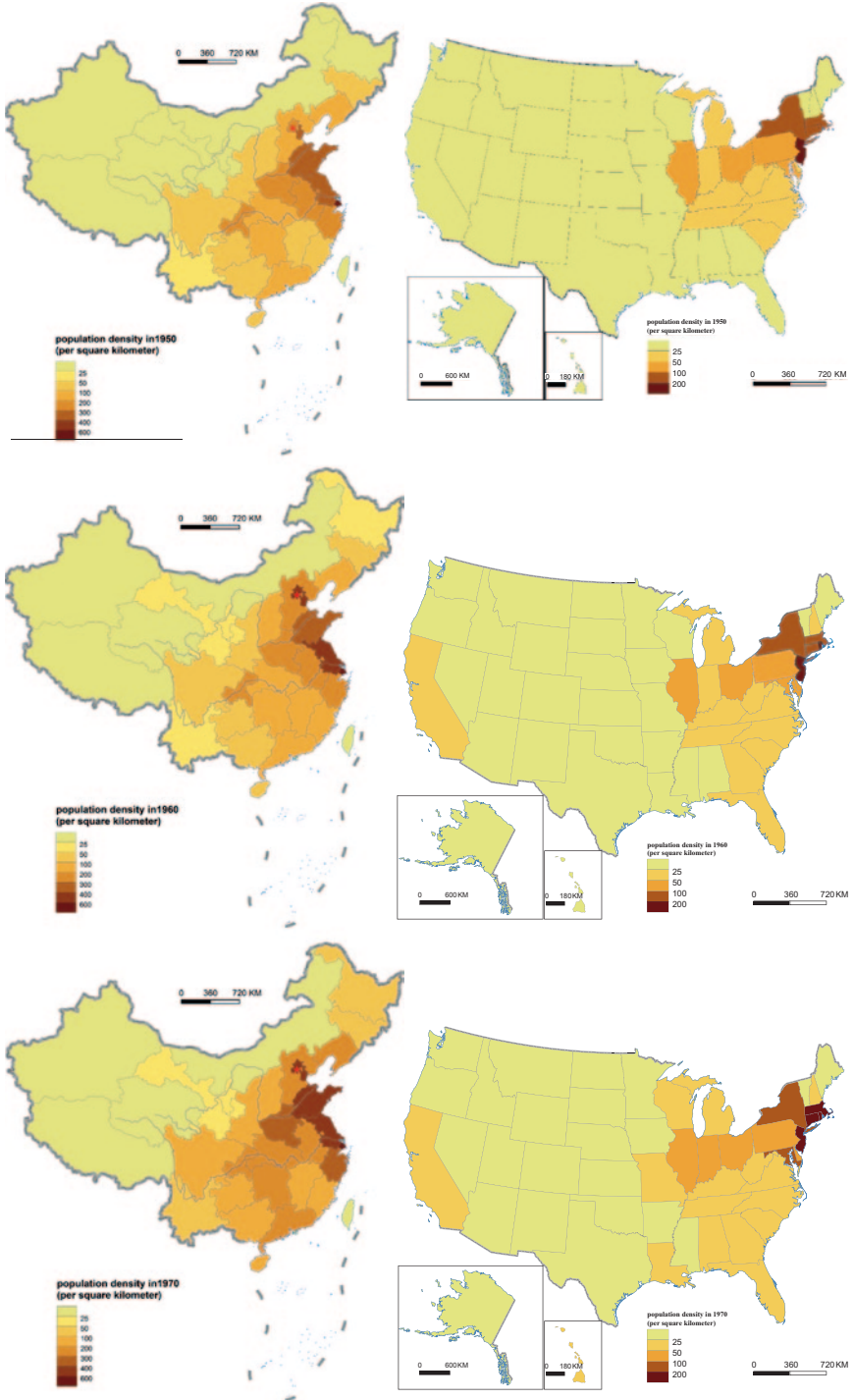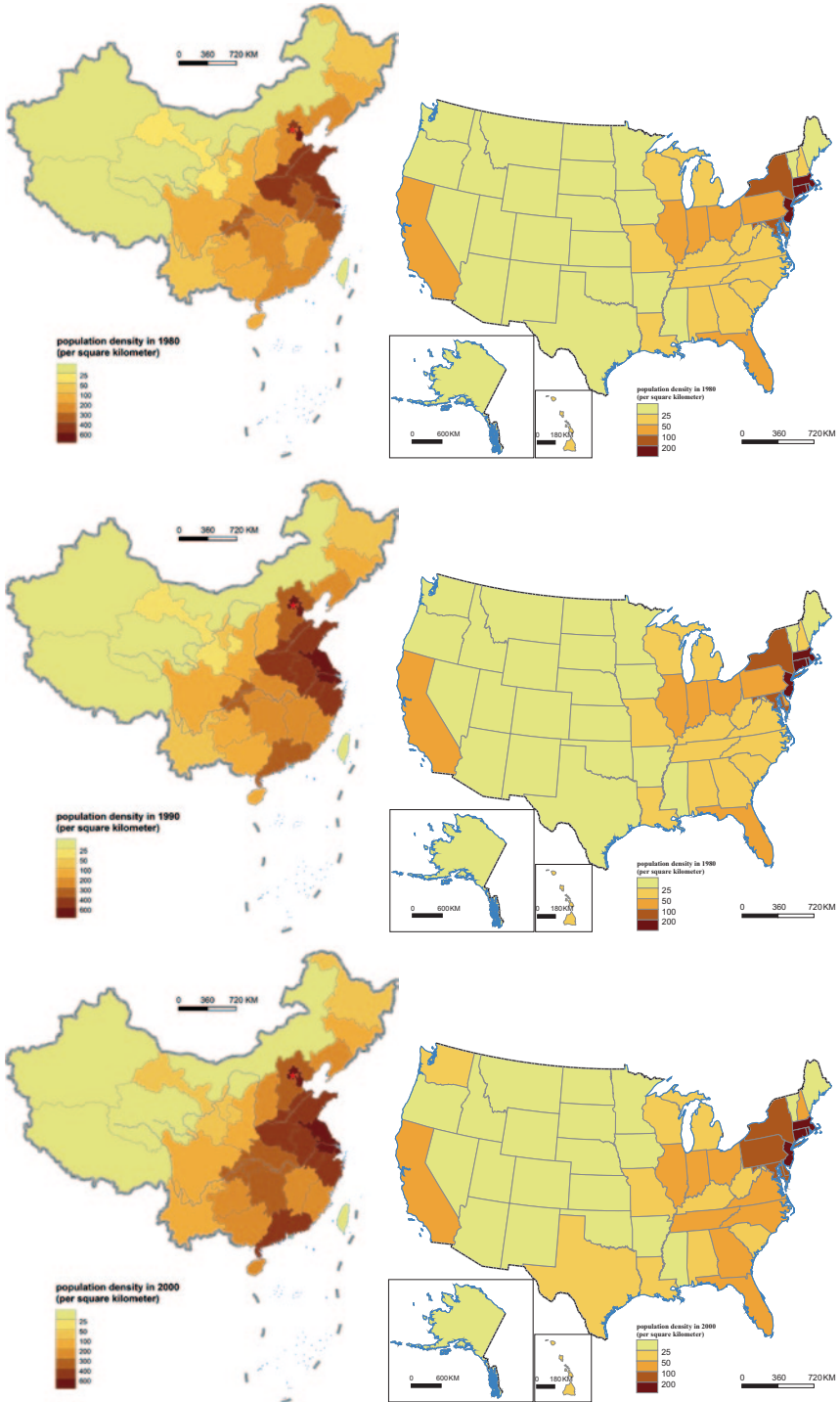

3.5 Comparisons of Population Geography of China and the U.S.

3.5.1 Comparisons of the Changes in the Population Patterns of China and the U.S. (1950–2008)

Population densities and population patterns of China and the U.S. have been changing over time (Fig. 3.10). In Fig. 3.11, the map represents how the densities changed in these two countries for recent sixty years. Obviously, the densities kept increasing, but the growth rate in China is much higher than in the U.S.. China's population density rose to 127.61 per km^2 in 2008, more than doubling from 55.78 per km^2 in 1958. It is expected that the rate would slightly decrease in the future since the rate slowed down after 1980. The population density of the U.S. rose to 31.58 per km^2 in 2008, nearly two times the 15.19 per km^2 it was in 1958; it showed a slow but steady growth. The graphs below indicate the gap in population densities between the two countries which is more of a chasm.

From Fig. 3.11, the conclusion can be safely drawn that there were few basic changes in the population distributions of these two countries over time periods. In general, there was a much higher population density in the east than that in the west. However, compared to 1950, population density grew more rapidly in the east of China, and the maximum population density of China had exceeded that of the U.S. by six times by 1960. In the next decade, there were not many variations in the population distributions except a further increase in numbers of people in both countries. In the following decade 1970 to 1980, tremendous population growth took place in the east of both China and America. Apart from that, the population in California, which lives on the west coast of the U.S., increased substantially and disproportionately resulting in a bi-coastal population distribution in the U.S.. In the following decade 1980 to 1990, the average population density in China expanded to over 100 people per square kilometers while there was an increase to only 25.84 people per square kilometers in the U.S. in the same period. By 2000,

population density in1950
(per square kilometer)
25
50
150
200
300
400
600

population density in 1950
(per square kilometer)
25
50
100
200

population density in1960
(per square kilometer)
25
50
100
200
300
400
600

population density in 1960
(per square kilometer)
25
50
100
200

population density in1970
(per square kilometer)
25
50
100
200
300
400
600

population density in 1970
(per square kilometer)
25
50
100
200

population density in 1980
(per square kilometer)

25
50
100
200
300
400
600

population density in 1980
(per square kilometer)

25
50
100
200

population density in 1990
(per square kilometer)

25
50
100
200
300
400
600

population density in 1980
(per square kilometer)

25
50
100
200

population density in 2000
(per square kilometer)

25
50
100
200
300
400
600

population density in 2000
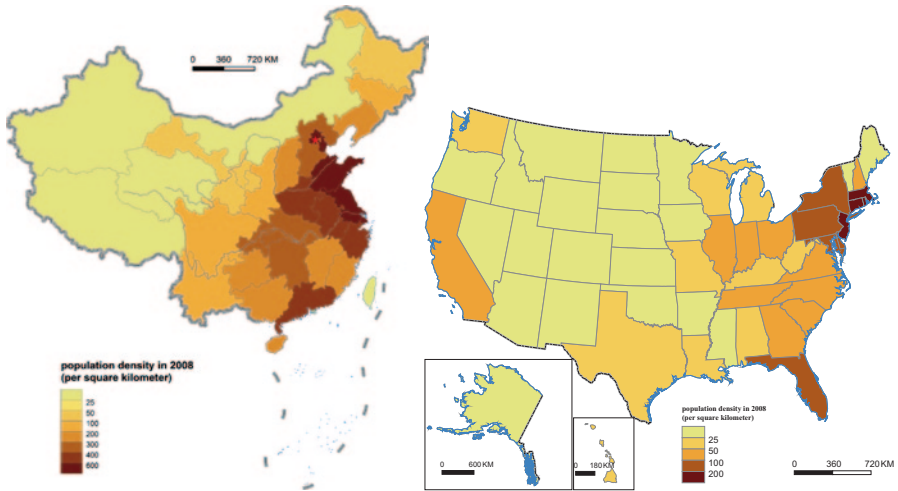(per square kilometer)

25
50
100
200

Fig. 3.11 The series maps of population density in China and the U.S. (From top to bottom: 1950, 1960, 1970, 1980, 1990, 2000, 2008)

the Chinese population increased in a higher rate compared to the U.S., especially in provinces such as Shanxi, Guangxi and Guizhou. On the contrary, the year of 2008 witnessed more obvious growth of the population in the west of America than in China, thus further displaying disparities between the population distributions of these two countries.

3.5.2 Comparisons of Driving Forces of Population Patterns in China and the U.S.

Population densities of China and the U.S. are both relatively high in the east and low in the interior west (although they are relatively high along the Pacific Coast to the far west in the U.S.). China shows a more significant uneven pattern between east and west regions. Much of this can be attributed to the physical geography of the countries. In the U.S. there has been a general westward progression of the population center (a generalized ideal of the distribution of the population over time—sometimes called the demographic center) beginning with the first white settlers. As the population of the U.S. grew during its two hundred year history, this demographic center moved westward as well. It moved from near the state of Delaware towards its present location in Missouri. It is the expansion and movement of people across the country from east to west, as well as the growth of the Pacific coast states of California, Oregon and Washington as well as bordering Arizona, that has filled in the country's population center (Knox and Marston 2010).

The topography of China is high in west and low in east, mainly formed by mountains and plateaus. There are very limited areas of plains topography (about 12 % of the total land area) concentrated in the eastern region. Therefore, most of China's population is concentrated in the limited areas of the eastern plains. The division of the "Hu Huangyong line" forming a northeast to southwest line (see Fig. 3.5), shows the high density population and higher levels of urbanization in the east, and the sparse population and lower level of urbanization in the west. Because of the high-density and highly uneven distribution of population, China is confronted with a harsh problem of human-environmental contradiction and significant environmental problems such as ecological fragility and pollution concentrated in urban areas.

Spatial patterns of the U.S. population distributions mainly depend on its historical immigrations, domestic migrations, etc. A large number of Europeans immigrated into the United States in the 1820s up to the 1920s; they were mainly concentrated in the East, although there were significant populations coming up from colonial Mexico to populate the west coast. During the expansion of these populations into the rest of the country they followed pathways westward consistent with source, for example, New Englanders typically immigrated westward along the northern border with British Canada and settled in the northern areas of the country. After the Second World War, Asia and Latin America gradually replaced Europeans as the main sources of immigrants to the United States, and much of these people flowed to the southwest and urban regions, (more on spatial mobility in the U.S. with maps) so the immigrant flows had somewhat re-shaped the original spatial pattern of the U.S. population. Internal migration is another driving force for the U.S. population pattern, the so called "Sun Belt" zones of south and west gradually replacing the frozen northeast as a major destination for the migrants, especially since the mid-19th century. These "westward movements" and the process of national land exploitation, the concentration in the central plains area of a large number of agricultural populations and the migrations of foreign immigrants flowing into other regions of the United States have changed the shape of the country to one where the bulk of the population is in large metropolitan areas (see Chap. 7 in this volume).

3.5.3 Historical and Cultural Differences Between the Population of China and the U.S.

China and the U.S. are typical representatives of the ancient Oriental civilization and the modern Western civilization, respectively. They both possess large populations with high cultural/ethnic/racial diversities. China is an ancient agricultural country with a history of more than five thousand years of settlement reflecting significant internal and regional features. The United States is representative of a modern Western civilization featured by an immigrant culture of "multi-ethnic blending" the so-called "melting pot," restricted in a historical perspective to less than 300 years. This is a difference that must not be understated. The different historical

relationships between the citizens of each country and their physical landscape make for a large part of the differences between the two countries.

When it comes to the sources of the population, there are 56 ethnic groups in China and about 99 % of the populations are natives. On the contrary for the U.S., only about 1 % of the population is Native American or Indigenous, 99 % of the populations are immigrants of some form who arrived after the discovery of the western hemisphere. So compared to the United States, the Chinese nation is relatively conservative, advocating the concepts of collectivism and entireness, while American culture emphasizes individual values, democracy and freedom, personal promotion and competition. Thus, the social systems of China and the U.S. can be summarized as "Top down" and "Bottom up" respectively.

3.5.4   Comparisons of Population Policies and Schemes in China and the U.S.

China's population policies/schemes include the household registration system (Hukou) and the birth control policy. The U.S. population policies/schemes are mainly based on the immigration policies during different periods and relatively sound social security system, etc.

Firstly, China's household registration system to some extent has weakened the free movements of population and economic factors, and has aggravated the "dual structure" and wealth gaps between the urban and rural areas. This has resulted in an inequality of urban and rural areas in terms of housing, education, health care, social insurance, among many. There is no similar system in the United States and this allows people to move freely. The Chinese government has also introduced policies to encourage and support people to move to sparsely populated areas in central and western regions. In the U.S. there were significant movements of people to rural areas but they were primarily driven by either economic gain, as in the various gold rushes, or land grabs, as in the opening of previously held Native American lands.

Secondly, the population policy of "birth control" is another striking feature of China. This is a national basic policy implemented to control the natural population growth; the policy has not only effectively controlled the excessive growth of China's population, but also has made an important contribution to the total control of the world's population. However, it resulted in a family structure of "4-2-1" which means heavy burdens of supporting the aged, the problem of loneliness for single child and so on. In contrast, the United States is the world's largest country to receive immigrants, so the population policy of the U.S. is mainly based on its immigration policy. Immigrants were entitled to free entry initially, but later, especially since 1982, there has been a certain limit for immigration. The "quota immigration policy," based on selective principles was implemented in 1982. Especially after World War II, the U.S. has adopted a "talent import policy" to attract the elite

worldwide, which successfully help the U.S. becoming a leader in scientific and technical fields.

Finally, when it comes to the population pyramid structure, the proportion of China's labor force (age of 15 to 64 years) is very large in its total population, with the most abundant labor resources in the world, witnessing an unprecedented "demographic dividend" period. But the large numbers of workers may also cause great pressures on employments, what's worse, in contrast with the United States and other developed countries, China's aging trend is faster, larger, and the level of the national economy of China is not as high. Thus, China might experience a danger situation, that of "getting old before rich". By contrast, the U.S.'s immigration policies allow absorption of elite talents from all over the world, which means the U.S. is enjoying an international demographic dividend. Although it also suffers a potential population aging problem, the various U.S. social systems, such as medicare and retirement programs provides a more sound social security system compared to China, which is a guarantee for the public well-being.

3.6 Conclusions

China and the U.S. are both large countries in the world in terms of population, ranking first and third in the world. The distribution of their large populations in their territory is extremely uneven. In China it shows a southeastern-to-northwestern gradient, while in the U.S. it is mostly an east-middle-west disparity. The uneven distribution of population is a result of the distribution of physical geographical conditions and socioeconomic activities, as well as years of domestic migration. Population dynamics in both countries show the dynamics of human-environment interaction from the historical perspective. Both countries have quite a number of ethnic groups with one leading group each. They have seen conflicts and tensions over racial, ethnic and cultural issues in the distant and recent past. China's large and aging population is creating serious challenges to its economic development, ecological service and environmental qualities. The Chinese government is trying to overcome this difficulty by continuing the baby planning policy, which on the other hand increase the potential risk of population issues due to the single-child-family problems. By contrast, the U.S has other types of problems in form of an aging population and by attracting immigrating elites and other groups from all around the world which can take advantage of the existing social security system. Population, people, as one of the key player in the human-environment system, exhibits so many common but critical differences, and this is the basis for understanding the social, economic, and urbanization issues in the following chapters.

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