

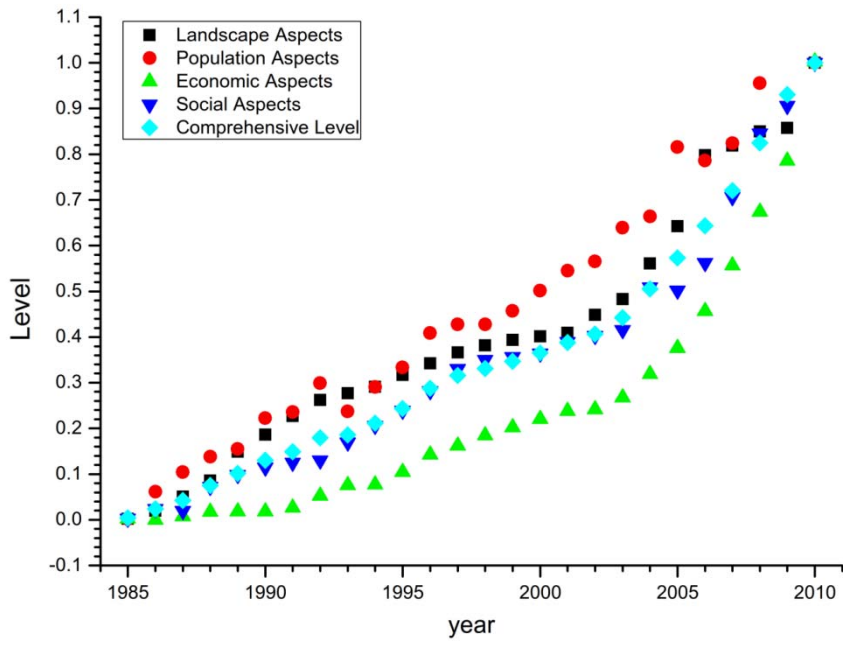
## Supplementary materials

**Table S1** Results of the principle component analysis (PCA) of the urbanization indicators

Sub-system	Items	Index	Component matrix	Proportion		
Integration Value of Urbanization	Landscape	Districts Constructed in Urban Areas/ km <sup>2</sup>	0.980			
		Aspects	Proportion of Districts Constructed in Urban Areas (%)	0.965		
	Districts Constructed in Urban Area Per Capita/ m <sup>2</sup>		0.977			
	Area of Public Green Space in Urban Areas/ km <sup>2</sup>		0.904			
	Public Green Space Area per Capita/ m <sup>2</sup>		0.970			
	Proportion of Public Green Space Area in Districts Constructed Urban Areas per Capita/ m <sup>2</sup>		0.986	93.02		
	Demographic		Population Density/(persons·km <sup>-2</sup> )	0.957		
			Aspects	Urban Population Density/(persons·km <sup>-2</sup> )	0.943	
				Percentage of Nonagricultural Population/%	0.949	
				Total Population/person	0.941	
	Economic		Proportion of Population Engaged in Secondary and Tertiary	0.960		
		Rate of Urban Population Growth/%	0.540	80.05		
		Aspects	Gross Domestic Production/(million CNY)	0.999		
			GDP Density/(million CNY·km <sup>-2</sup> )	0.919		
			Per Capita GDP/CNY	0.949		
			Percentage of GDP of the Added Value of Secondary and Total Investment in Fixed Assets/(million CNY)	0.870		
		Local Financial Revenue/(million CNY)	0.982			
		Social	People with College Degrees per 10,000 People	0.950	93.61	
			Aspects	Number of Hospital Beds per 10,000 People	0.938	
				Number of Doctors per 10,000 People	0.884	
	Number of Public Transportation Vehicles per 10,000 People			0.666		
	Annual Total Disposable Income per Capita of Urban Residents			0.942		
	Average Social Wages/CNY			0.995		
			0.981	82.38		

**Table S2** Level of sub-system and comprehensive urbanization from 1985 to 2010 based on the PCA analysis

Year	Urbanization level				
	Landscape aspects	Demographic	Economic aspects	Social aspects	Comprehensive level
1985	-1.4734	-1.4994	-0.9017	-1.2686	-1.3035
1986	-1.4028	-1.3055	-0.9113	-1.1828	-1.2171
1987	-1.2924	-1.1695	-0.8830	-1.1977	-1.1515
1988	-1.1650	-1.0618	-0.8459	-1.0065	-1.0338
1989	-0.9363	-1.0091	-0.8408	-0.9138	-0.9374
1990	-0.8027	-0.7958	-0.8431	-0.8544	-0.8351
1991	-0.6544	-0.7542	-0.8093	-0.8155	-0.7685
1992	-0.5277	-0.5539	-0.7123	-0.7983	-0.6570
1993	-0.4759	-0.7483	-0.6234	-0.6570	-0.6345
1994	-0.4232	-0.5791	-0.6171	-0.5253	-0.5431
1995	-0.3297	-0.4446	-0.5127	-0.4039	-0.4281
1996	-0.2388	-0.2047	-0.3691	-0.2505	-0.2692
1997	-0.1531	-0.1462	-0.2945	-0.0734	-0.1686
1998	-0.0963	-0.1442	-0.2092	-0.0040	-0.1145
1999	-0.0531	-0.0510	-0.1420	0.0188	-0.0573
2000	-0.0235	0.0885	-0.0729	0.0489	0.0106
2001	0.0032	0.2264	-0.0061	0.1405	0.0924
2002	0.1456	0.2904	0.0061	0.1878	0.1598
2003	0.2693	0.5243	0.1072	0.2357	0.2879
2004	0.5514	0.6032	0.3022	0.5729	0.5147
2005	0.8453	1.0815	0.5185	0.5467	0.7577
2006	1.4052	0.9895	0.8268	0.7662	1.0101
2007	1.4814	1.1098	1.2053	1.2875	1.2884
2008	1.5918	1.5248	1.6521	1.7888	1.6618
2009	1.6198	2.3626	2.0762	2.0091	2.0434
2010	2.1354	1.6662	2.8998	2.3488	2.2924



**Fig. S1** Trends for the comprehensive levels in the urbanization sub-system from 1985 to 2010 based on PCA analysis