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Comparison Studies on Regional Carbon Footprints in China

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Outline

- 1.The regional differences of the global carbon emission
- 2.The differences of China's provincial carbon emissions
- 3.Driving factors for the differences of carbon footprints
- 4.Conclusion

1.The regional differences of the global carbon emission

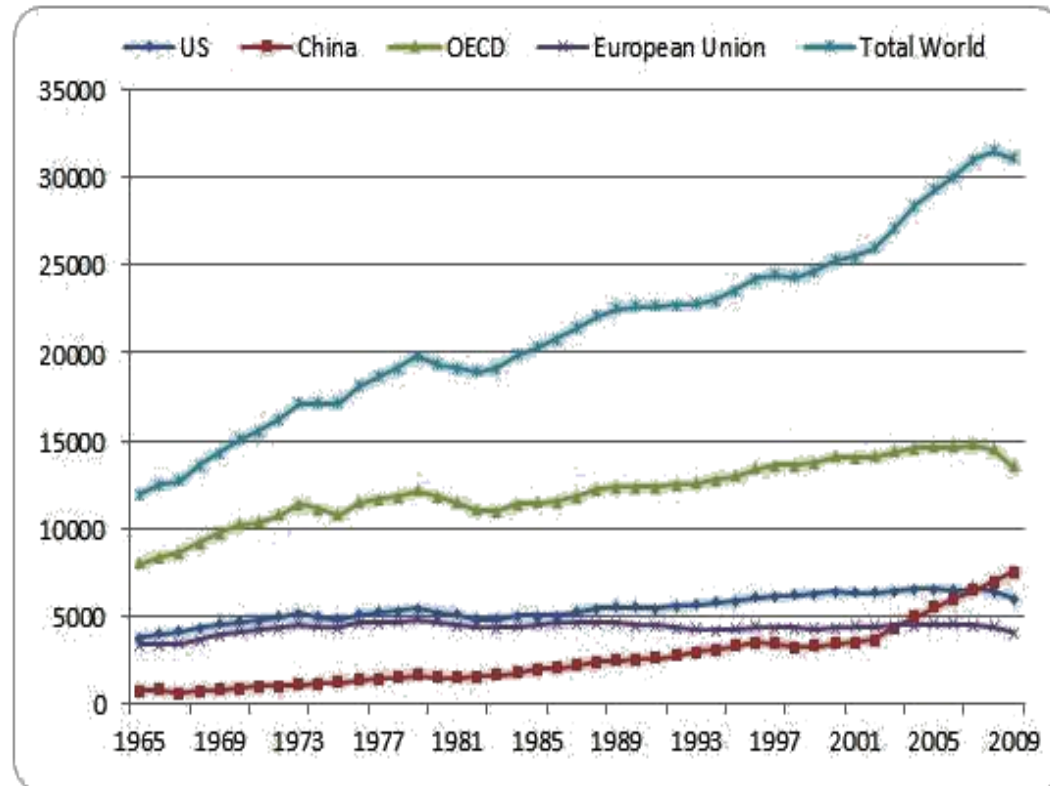
Carbon emission increasing pattern from 1751



1.The regional differences of the global carbon emission

GDP growth and carbon emission

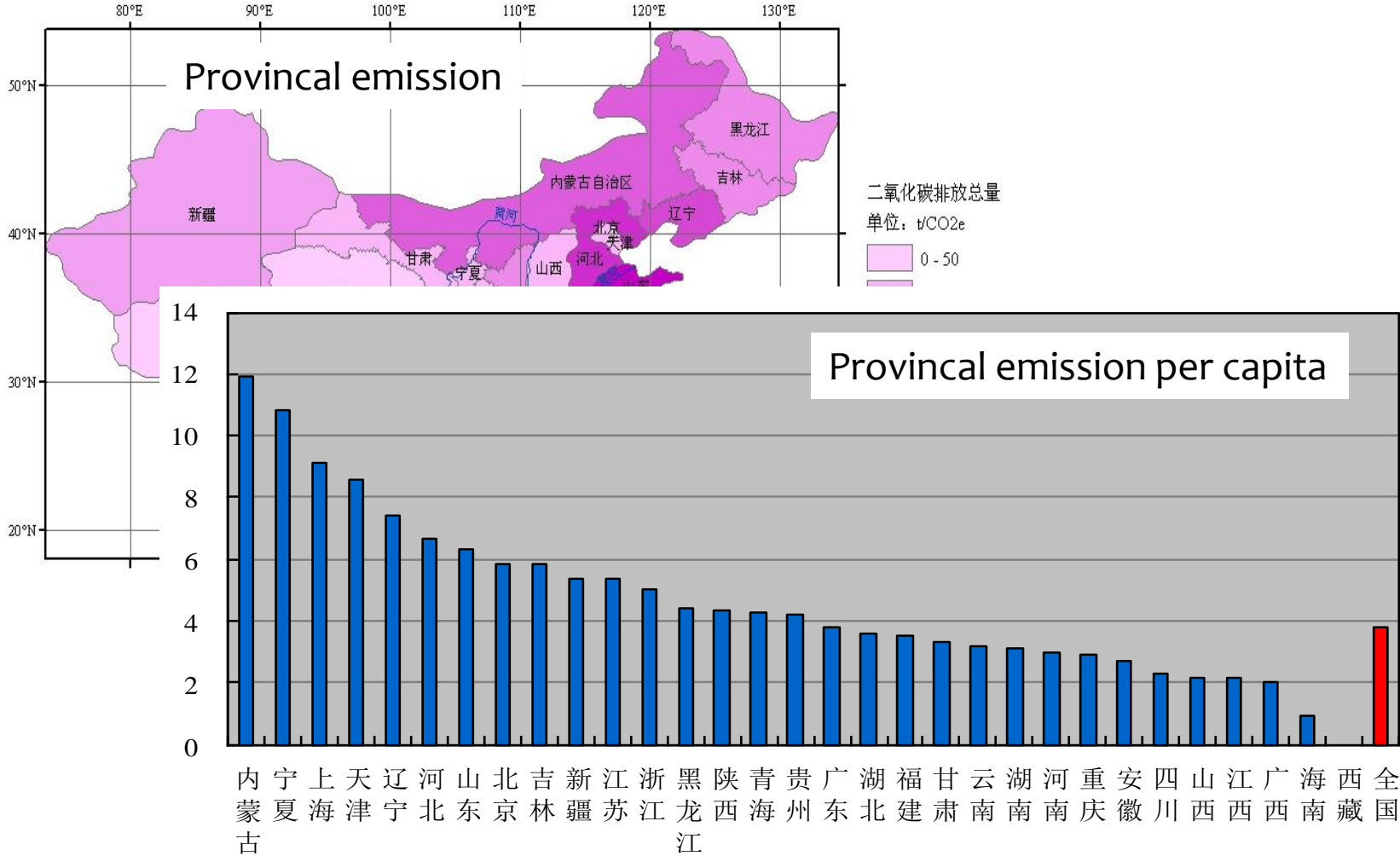
The total carbon emissions of OECD、US、European Union countries are more than China's from 1965 to 2005, and then China's total carbon emissions catch up US and are slightly more than US. China's carbon emissions rise up with gentle speed from 1965 to 1997, and then enter into a rapidly increasing period as well as the economic developing.



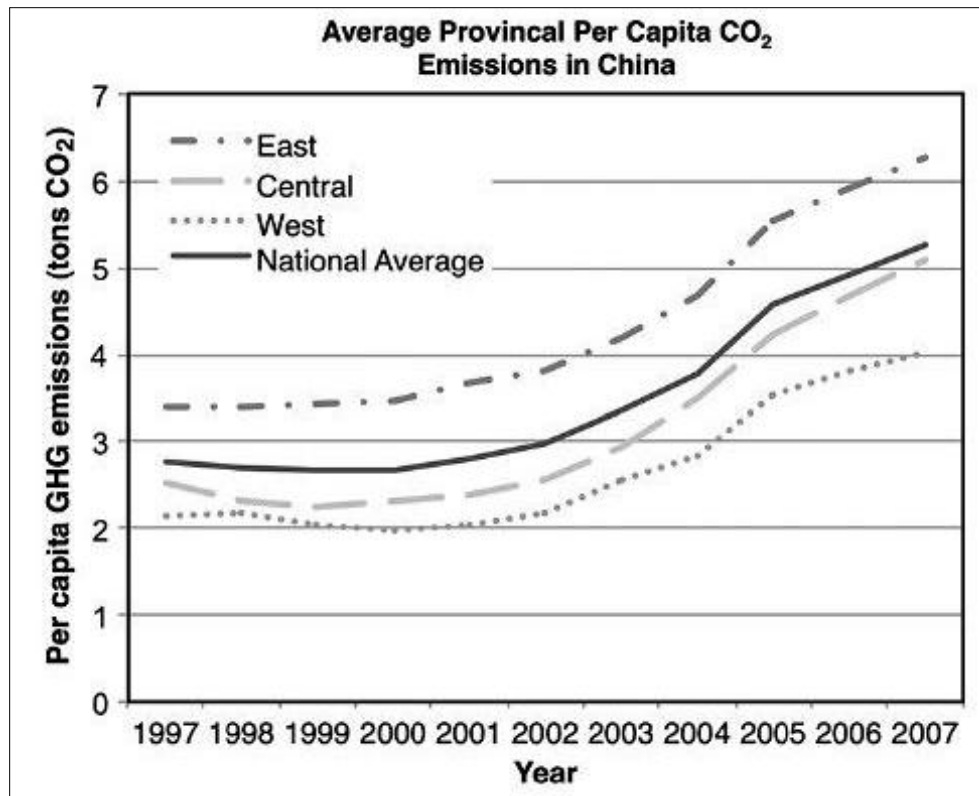
Carbon emission of US、China、OECD、European UNION、
Total World in 1965-2009

(Data source: CDIAC)

2.The differences of China's provincial carbon emissions



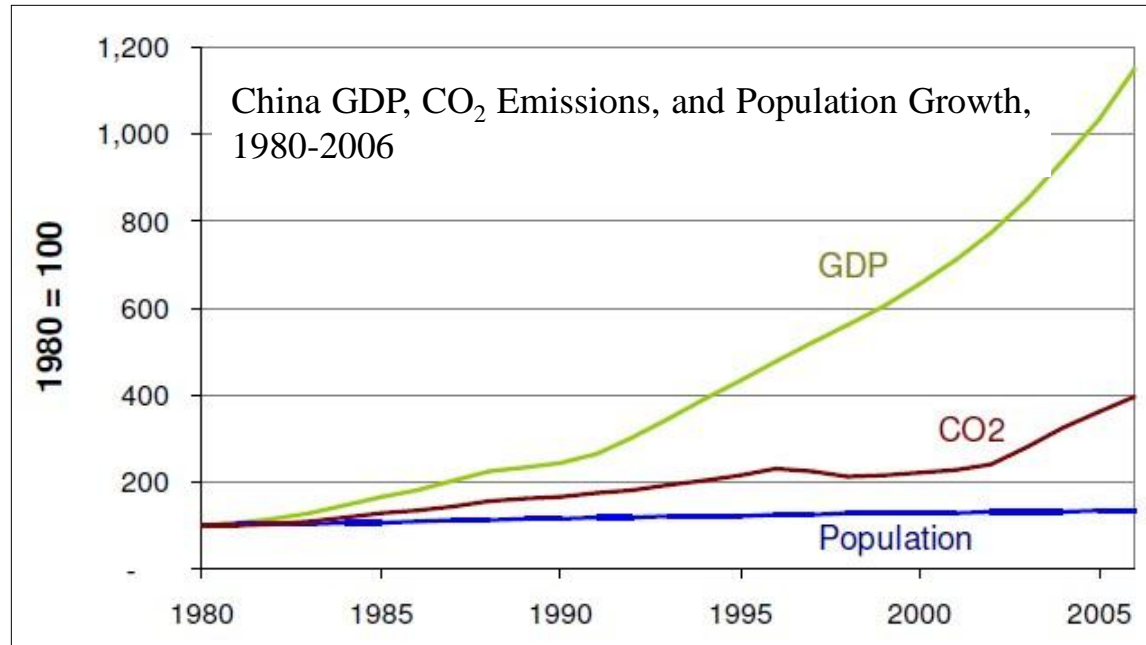
2. The differences of China's provincial carbon emissions



It is clear that over the past decade per capita CO₂ emission in China have risen rapidly. This can be seen in this figure, which tracks the average emissions of each region as well as the national average for all provinces for the decade of study. Two patterns are clear from this graph.

(Afton Clarke-Sather, Jiansheng Qu, Qin Wang. Carbon inequality at the subnational scale: A case study of provincial-level inequality in CO₂ emissions in China 1997–2007.)

2.The differences of China's provincial carbon emissions

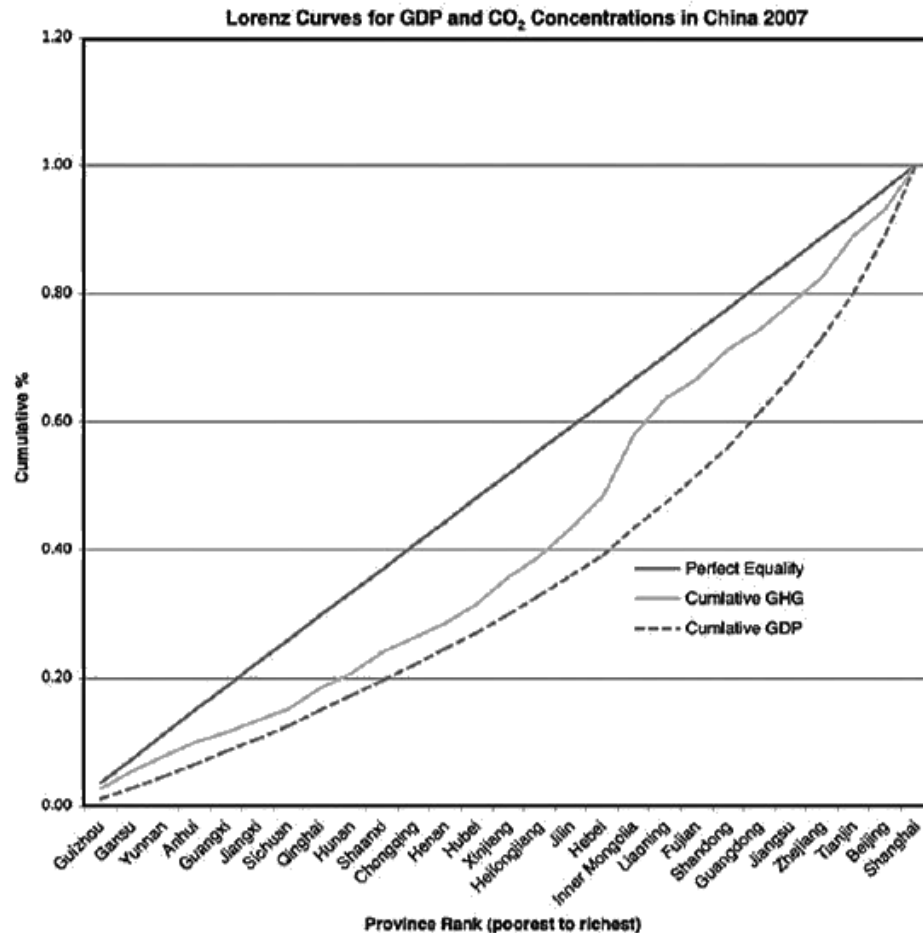


the separate growth trajectories of China's GDP, energy-related carbon emissions, and population relative to 1980 levels. Whereas GDP increased ten-fold and population grew by one third, energy-related carbon emissions quadrupled between 1980 and 2006.

(Mark D. Levine and Nathaniel T. Aden. Global Carbon Emissions in the Coming Decades: The Case of China)

2. The differences of China's provincial carbon emissions

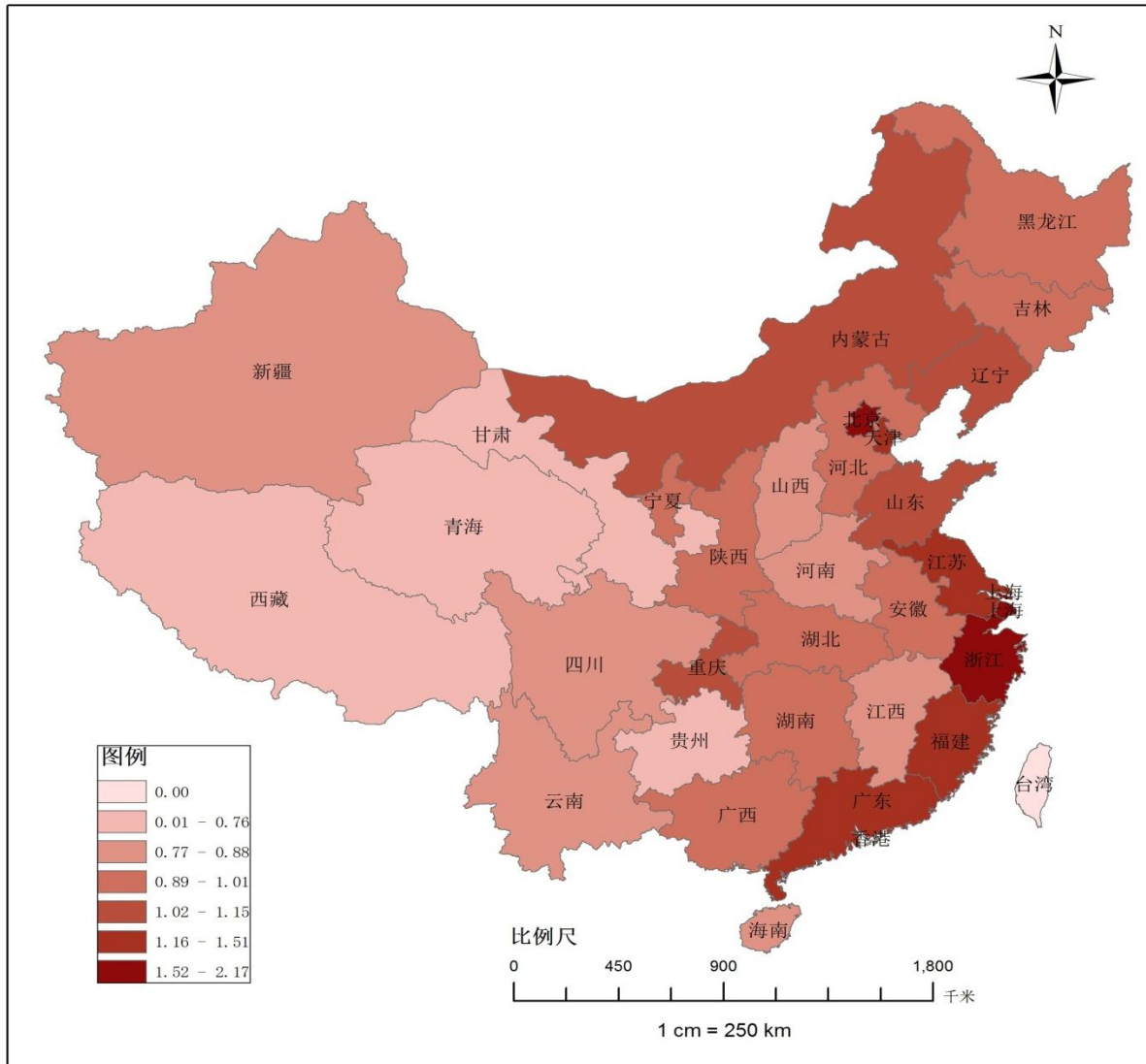
China's GDP, CO₂ Emissions



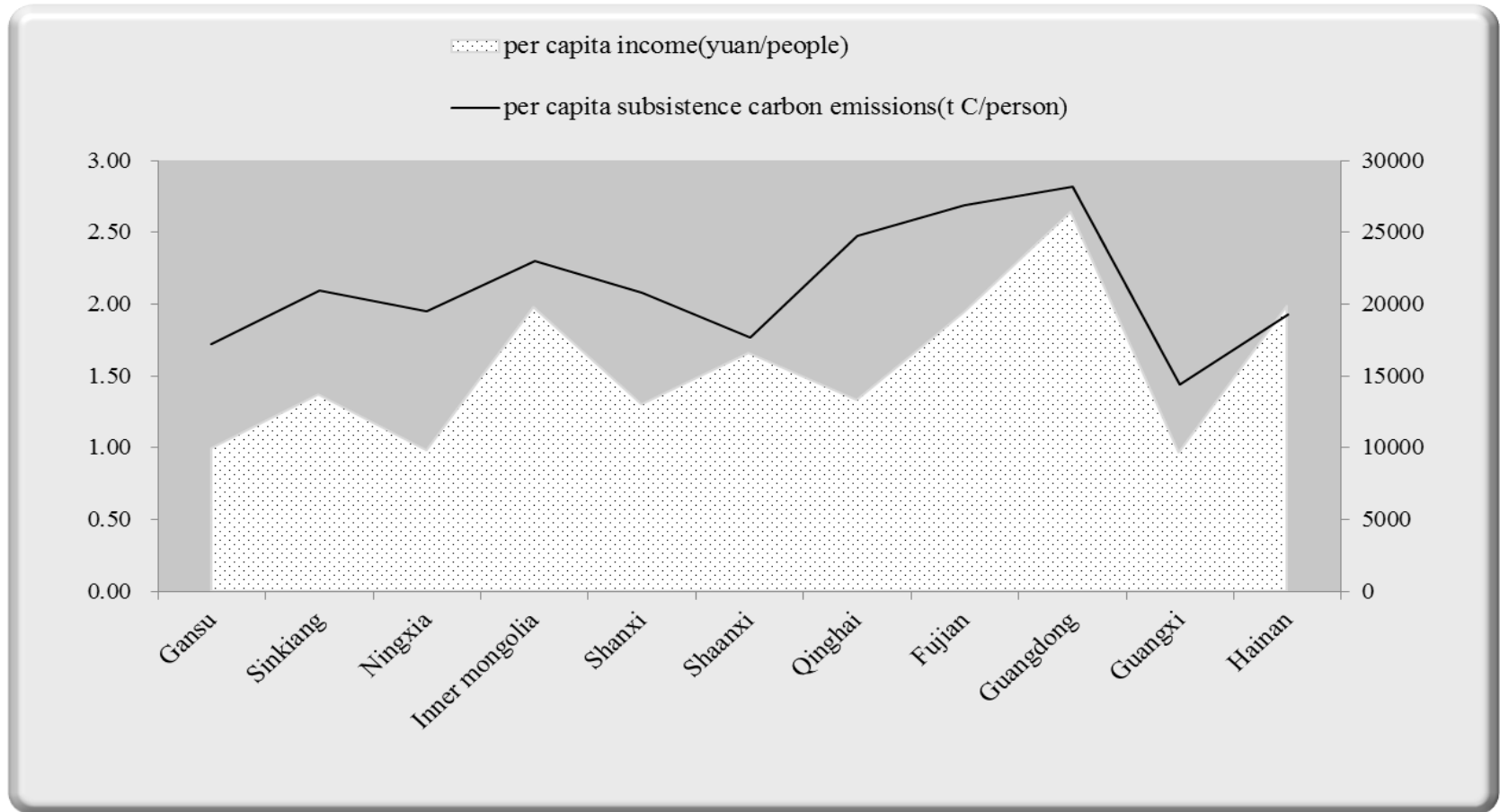
this point using the Lorenz curves for per capita GDP and the per capita CO₂ emissions used to calculate the Kakwani Index in for 2007. The Lorenz curve for per capita CO₂ emissions is notably closer to a perfectly even distribution than the Lorenz curve for per capita GDP.

(Afton Clarke-Sather, Jiansheng Qu, Qin Wang. Carbon inequality at the subnational scale: A case study of provincial-level inequality in CO₂ emissions in China 1997–2007)

3. Driving factors for the differences of carbon footprints

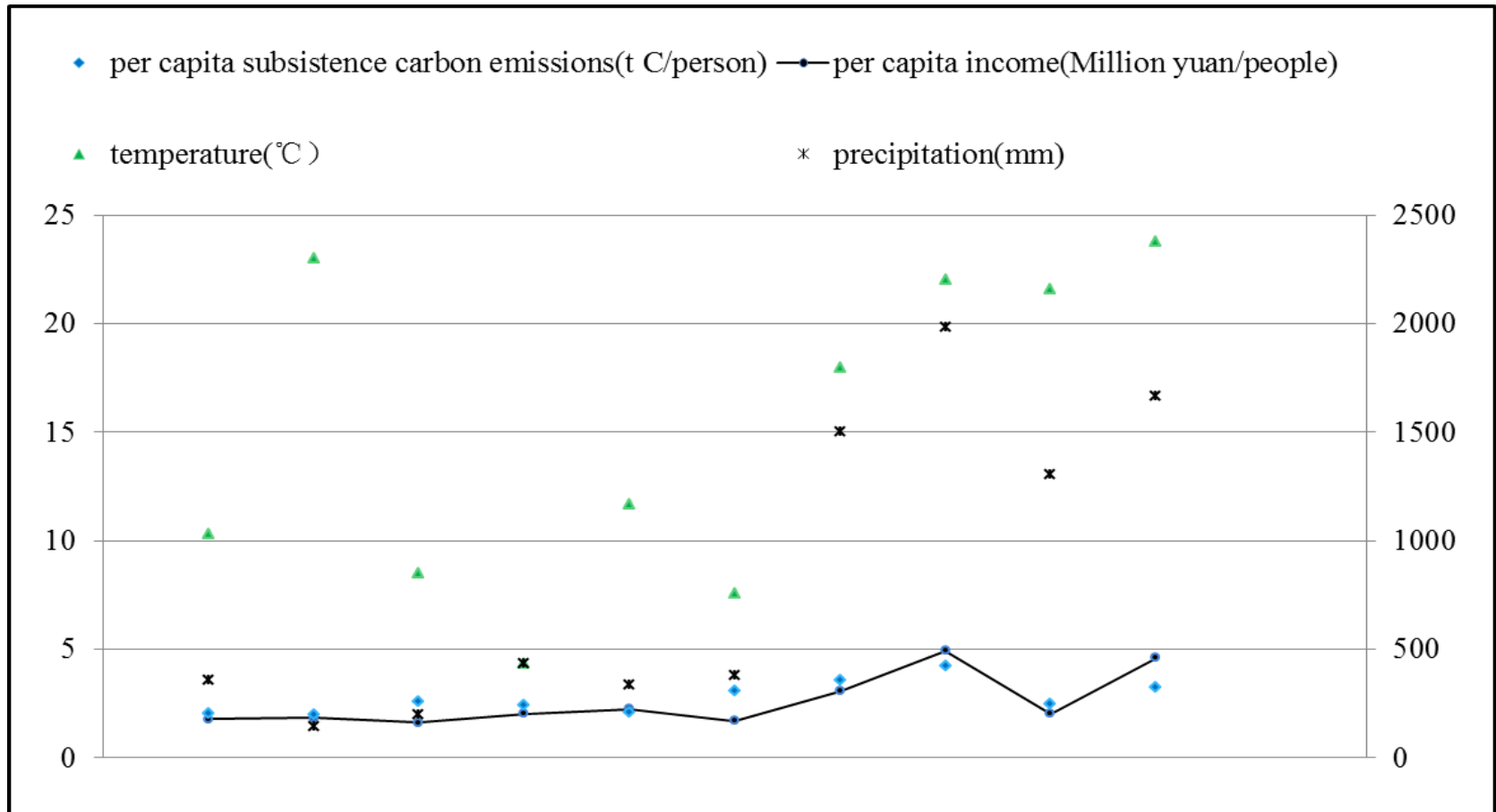


3. Driving factors for the differences of carbon footprints



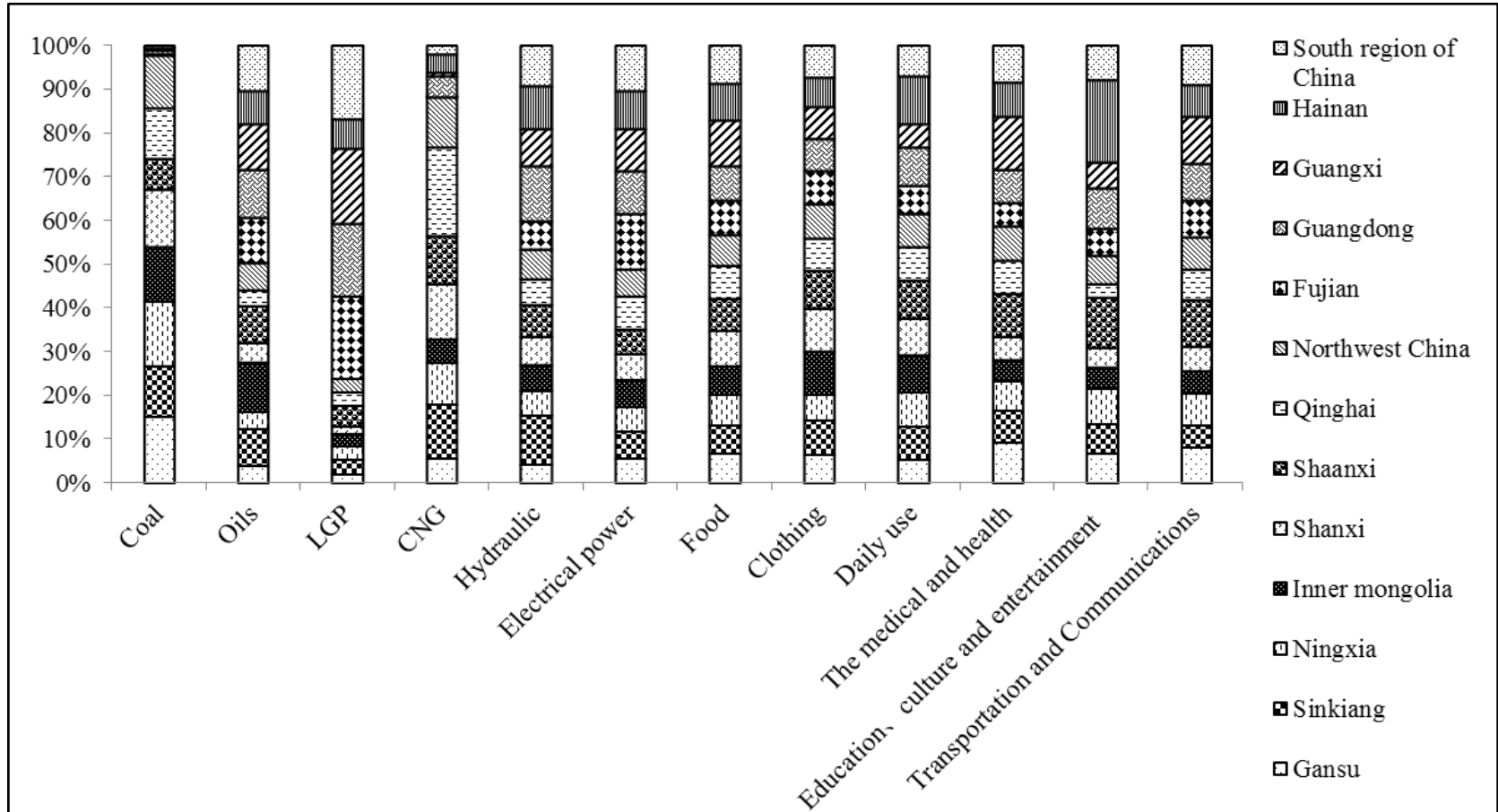
Comparison studies on per capita subsistence carbon emission, per capita income among all provinces between Northwest China and South region of China

3. Driving factors for the differences of carbon footprints



Comparison studies on per capita subsistence carbon emission, per capita income, temperature, precipitation among all capital city between Northwest China and South region of China

3. Driving factors for the differences of carbon footprints



Comparison studies on carbon structure among all provinces between Northwest China and South region of China

4. The conclusion

- **There are obvious gaps among different countries as well as the differences in the sub-national level. The emission differences mostly reflected the developing level.**

China's total carbon emission is in a rapidly increasing channel, which is benefit from the economic development and the export economic which is account for 25% of the emission. we have also noticed that in most regions of China, the emission level is not high, and there are still great gaps between the under-developed and the developed regions.

- **The differences are driven by the economic level, the income, energy structure, and local nature conditions etc.. We should pay attention to the emission demands of the low income group.**

There are still about 128 million poor people in China and 1.7 billion in the world, we should pay more attentions on their demands of life and development instead of a simple reduction policy framework.

Thanks for your attention

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