

AUSTRALIAN CONFERENCE OF ECONOMISTS
6-9 JULY 2025, SYDNEY
ECONOMICS FOR A CHANGING WORLD

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Green Finance and High-Quality Economic Development

—Regional Innovation Efficiency and Talent Dividend in China

ANU Kerong Song 08 July, 2025

ACE2025 ECONOMICS FOR A
CHANGING WORLD



Background and Motivation

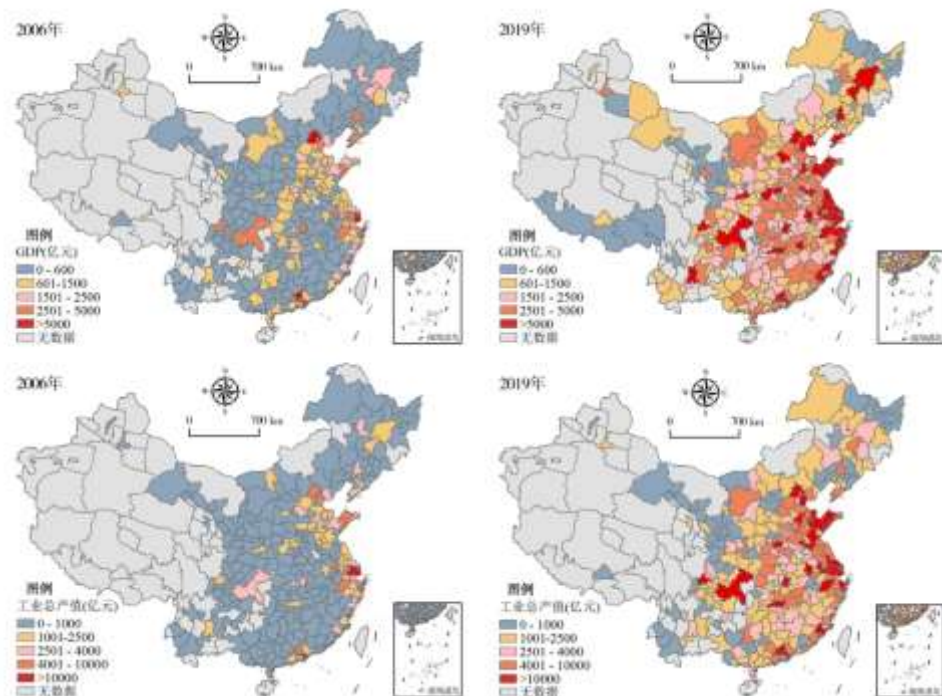
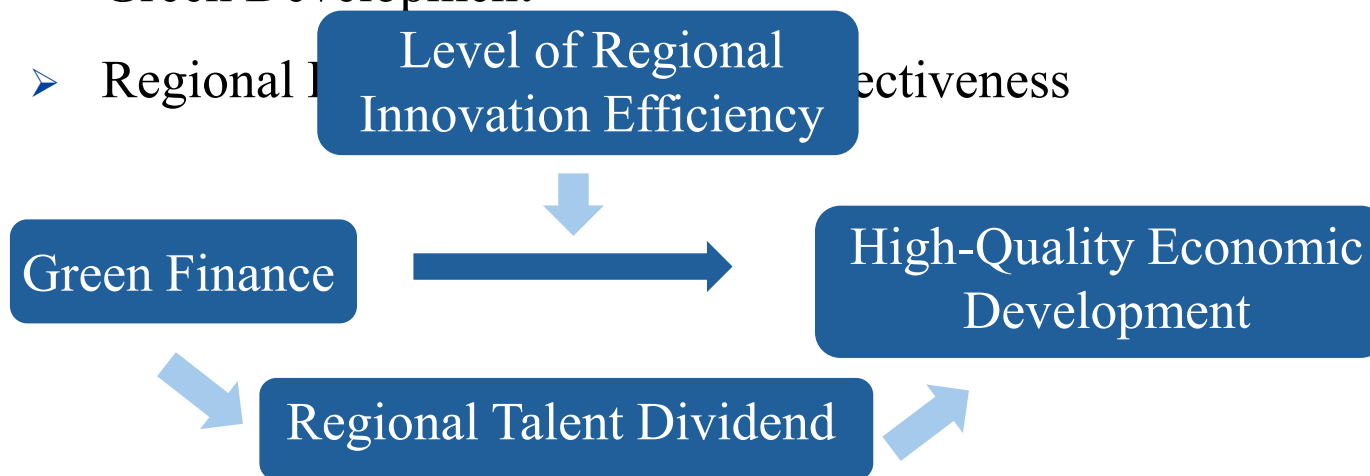


Fig1. Evolution of spatial pattern of GDP, industrial production and number of patents in 2006 and 2019

- Environmental and Economic Challenges Driving Green Finance as a Key Tool
- China's Leadership and Transformative Goals in Green Development
- Regional Innovation Efficiency



Research Gap

➤ Human Capital Theory

CONCEPTUAL

Individuals' skills, knowledge, and abilities = fundamental drivers of productivity and growth.

Building a **four-variable**
In green finance: Skilled labour enables adoption of sustainable technology.
framework:

- **Green Finance** and mediates the effect of **Green Finance** on **Development**.
- **Talent Dividend**
- **High-Quality**
- **Endogenous Growth Theory**
- **Innovation Efficiency** as **moderator**
- **Growth** driven by innovation, R&D, human capital
- **Talent Dividend** as **mediator**
- **Education & R&D** → long-term spillovers

METHODOLOGICAL

Mixed-method strategy:
In green finance: Skilled labour enables adoption of sustainable technology.

- **Quantitative:**
- **Hypothesis testing** via econometric models
- **Qualitative:**
- **Semi-structured** interviews for contextual depth

EMPIRICAL

- Applying **Provincial-level panel data** from China
- Considering **regional heterogeneity** in:
 - Industrial structure
 - Resource endowment
 - Innovation capacity

→ Innovation Efficiency moderates the **Green Finance** → **Development** link.

Hypothesis Development

➤ **Regional Talent Dividend** = Skilled & educated labour force

• **From env** $Y_{it} = \beta_0 + \beta_1 \text{GreenFinance}_{it} + \beta_2 \text{InnovationEfficiency}_{it} + \beta_3 (\text{GreenFinance}_{it} \times \text{InnovationEfficiency}_{it}) + \beta_4 X_{it} + \mu_i + \varepsilon_{it}$

• **High** Encourages job creation, market expansion, environmental

• **Low** efficiency → weaker transformation capacity

improvement

• **Talent** $Y_{it} = \beta_0 + \beta_1 \text{GreenFinance}_{it} + \beta_2 X_{it} + \mu_i + \varepsilon_{it}$

• **The** Mediator variable model:

• **Em** $M_{it} = \alpha_0 + \alpha_1 \text{GreenFinance}_{it} + \alpha_2 X_{it} + \mu_i + \varepsilon_{it}$

• **Em** Mediation effect model:

• **Global** $Y_{it} = Y_0 + Y_1 \text{GreenFinance}_{it} + Y_2 M_{it} + Y_3 X_{it} + \mu_i + \varepsilon_{it}$

• **Green**

• **Sta**

mediates the relationship

ed

Research Methodology - Quantitative Approach

Table 3 Table 2 Table 1

Primary Indicator	Influencing factors	Measurement Indicator	Indicator Properties	Unit
Innovation Development	Innovation Output	Domestic patent applications per year	Positive	Units
		Proportion of high-tech industry output in GDP	Positive	%
Coordination Development	Urban-Rural Coordination	Urban-rural income ratio	Negative	%
	Economic Structure Coordination	Proportion of tertiary industry added value in GDP	Positive	%
Green Development	Environmental Sustainability	Proportion of treated harmless household waste	Positive	%
	Resource Sustainability	Energy consumption per unit GDP	Negative	Metric tons
Opening Development	Opening Efficiency	Proportion of imports and exports in GDP	Positive	%
Shared Development	Social Security	Hospital beds per 10,000 people	Positive	Numbers
	Common Prosperity	Urban registered unemployment rate	Negative	%
		Proportion of urban population	Positive	%

Research Methodology - Quantitative Approach

- Advanced statistical methods in **STATA** will be used to find patterns and correlations; this will include descriptive analysis, normality test, VIF test, correlation test, hypothesis test, robust analysis and fixed effect analysis in quantitative datasets.
- To organise and understand qualitative interview data, **NVivo** will be used for coding and thematic analysis.
- This mixed methods approach will provide a holistic view of study phenomena by integrating statistical evaluation with qualitative observations.

THANK YOU!

Questions and feedback are warmly welcome!

- Selecting representative provinces in eastern, central and western China
- Respondents include: Local government officials, green finance managers in banks, executives from green enterprises, scholars in environmental economics or green finance

The Australian National University

Kerong Song, 08 July, 2025