Relationship between Economic Development and Intellectual Production

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Plan

- Brief information about related concepts
- Methodology
- Research questions
- Data sources
- Findings
- Conclusion
Economic Development

Economic Development and Democracy Reconsidered
LARRY DIAMOND
Hoover Institution, Stanford University

China, Economic Development and Mortality Decline
Judith Banister
XiaoBo Zhang
DOI: 10.1016/j.worlddev.2004.09.003

Women’s Work and Economic Development
Kristin Mammen and Christina Paxson

Natural resources, education, and economic development
Thorvaldur Gylfason

Geography and Economic Development
John Luke Gallup
Jeffrey D. Sachs
Andrew D. Mellinger

Tourism and economic development: A survey
M. Thea Sinclair

MARKETING AND ECONOMIC DEVELOPMENT
PETER F. DRUCKER
Montclair, New Jersey

ECONOMIC DEVELOPMENT AND ENVIRONMENTAL QUALITY: AN ECONOMETRIC ANALYSIS
By NEMAT SHAFIK
The World Bank, 1818 The H Street NW, Washington, DC 20433, USA

Education, globalization and economic development
Phillip Brown
University of Kent at Canterbury
Hugh Lauder
University of Bath
Methodology

- OECD countries
- Data coverage 1981-2010
- Normalization process
- “Intellectual production”
  - Number of publications
  - National patents
  - Triadic patents
- Economic development indicators
  - R&D expenditures
  - GDP
Research Questions

- Is there any meaningful relationship between GDP and the number of patents (national and triadic)?
- Is there any meaningful relationship between GDP and the number of scientific publications?
- Is there any correlation between R&D expenditures and patent production?
- Is there any correlation between R&D expenditures and the number of scientific publications?
Data Sources

- OECDiLibrary’s National Accounts, Main Science and Technology Indicators
- OECD Patent Statistics
- Thomson Reuters’ InCites
Findings
The Most Productive Countries

![Graph showing publications by country from 1980 to 2010]

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<td>France</td>
<td>132,255</td>
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<td>193,356</td>
<td>241,844</td>
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<td>Germany</td>
<td>165,666</td>
<td>197,023</td>
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<td>Japan</td>
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<td>UK</td>
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# of Publications per Thousand People and GDP per Head

![Graph showing the relationship between number of publications per thousand people and GDP per head for various countries.](image)
# of Triadic Patents per Million Population and GDP per Head
# of Publications per 1000 People and R&D Expenditures per Population
# of Triadic Patents per Million Population and R&D Expenditures per Population
Correlations among Variables

There are positive correlations:
1- GDP per head and the number of publications per population
2- GDP per head and the number of triadic patents per million population
3- GDP per head and the number of national patents per million population
4- R&D expenditures per population and the number of publications per population
5- R&D expenditures per population and the number of triadic patents per million population
6- R&D expenditures per population and the number of national patents per million population
Conclusion

- Countries show continuous improvement in years, both for economic development indicators and intellectual production indicators
- Inequalities
  - National incomes
  - R&D expenditures
Conclusion

- Innovations
  - Scandinavian countries distinctively separated from other countries especially in terms of the number of national patents per population
  - Leading countries for number of triadic patents per population => Switzerland and Japan

- # of publications per population ranking
  - Upstairs => Switzerland, Sweden, Israel, Denmark and Finland
  - Downstairs => Luxembourg, Korea, Chile, Turkey and Mexico
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