Putting the Experience of Chinese Inventors into Context

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Outline

• Data and Methods
• Growth in PTO Filings
  – Focus on foreign co-invention
• Patent examination findings
• Issue and citation rates
Data and Methods

• Data come from internal USPTO data systems
  – Used by patent examiners at USPTO to manage the prosecution of applications on their dockets
  – Data includes information on the applicants, the subject matter of the inventions, actions taken by examiners, applicant responses, current status, final disposition of the application, etc.

• Forward citations data from TAF
How do we determine country of origin?

• We define an application’s country of origin as the country of residence of the application’s first-named inventor.

• For example, an application is considered to be from China, if the residence of the first-named inventor is listed as mainland China.
  – We do not include applications from Hong Kong, Macau, or Taiwan.
  – Can include cases where foreign nationals living in China are first-named inventor.
GROWTH IN APPLICATION FILINGS AND FOREIGN CO-INVENTION
Regular Utility Application Filings to PTO from Mainland China, 2000 - 2011

Year of filing

Number of applications

One Inventor  Multiple:Chinese Only  Multiple:Chinese + Other
Shares of Filings from Mainland China with Multiple Inventors and at Least One Non-Chinese Inventor, 2000-2011

- **One Inventor**
- **Multiple: Chinese Only**
- **Multiple: Chinese + Other**
Percentage of Applications with at Least One Co-Inventor from Various Countries/Regions, by Year

Note: “Other China” includes Taiwan, Hong Kong and Macao
Note: “Other East Asia” includes the ASEAN countries and Mongolia
Note: EU includes all EU members plus Switzerland
Percentage of applications with at least one foreign co-inventor, South Korea and China high-growth periods

Note: The white bars indicate the results for South Korea for 1997-2006
Percentage of applications with at least one foreign co-inventor, applications received 2012-2014

- Japan
- South Korea
- Taiwan
- China
- Germany
- Canada
- United Kingdom
- India

Percentage of applications with at least one foreign co-inventor.
A LOOK AT THE EXAMINATION OF RECENT FILINGS WITH COMPARISONS TO FILINGS FROM OTHER JURISDICTIONS

The Chinese Experience at USPTO
Comparison Groups

• Asian
  – Japan, South Korea, Taiwan, Hong Kong/Macau, Other East Asian, India

• European
  – Germany, United Kingdom, Other EU Countries

• Other Developed
  – Canada, Australia/New Zealand
Patent Examination Trends

Examination Milestones

Application

Docketed with Examiner

Allowed

Rejected

Appeal

File RCE

Abandon

First Action On the Merits (FAOM)

Initial Processing

Repeat as Necessary

Applicant Response
Examination Milestones
Getting to FAOM

Application
Docketed with Examiner

Initial Processing

Allowed
Rejected

Appeal
File RCE
Abandon

First Action On the Merits (FAOM)

Repeat as Necessary

Applicant Response
Median Pendency from Filing to FAOM, for Applications with FAOMs between 2012 and 2014

- Other East Asia
- Japan
- China
- Canada
- Australia/N Zealand
- India
- Taiwan
- South Korea
- Other European Union
- Hong Kong/Macau
- United Kingdom
- Germany

Median pendency from filing to FAOM (days)
Percentage of First Actions on the Merits That Are Allowances, 2012-2014

- Taiwan: 16%
- Japan: 16%
- China: 12%
- Hong Kong/Macau: 10%
- Other East Asia: 9%
- Korea: 9%
- Other European Union: 8%
- India: 8%
- Canada: 8%
- Germany: 8%
- United Kingdom: 6%
- Australia/N Zealand: 6%

Allowances as percentage of all FAOM
Examination Milestones
Dealing with Rejection

- Application
- Docketed with Examiner

Initial Processing

Allowed
- Appeal
- File RCE
- Abandon

Rejected
- First Action On the Merits (FAOM)
- Applicant Response

Repeat as Necessary
Applicant Responses

- Final rejections aren’t *final*, but they terminate initial examination.
- Applicants must respond within 90 days.
  - Up to three 30-day extensions of time can be purchased.
- Requests for continued examination (RCEs) can be used to re-open an existing examination without filing a new application.
- Applicants can also file appeals with the Patent Trial and Appeal Board (PTAB).
Share of Final Rejections Followed by an Appeal within 6 Months, Final Rejections Issued 2005-12

- United Kingdom
- Other European Union
- India
- Germany
- Other East Asia
- Canada
- Hong Kong/Macau
- Australia/New Zealand
- China
- Japan
- South Korea
- Taiwan

Percent of final rejections appealed
Share of Final Rejections Followed by an RCE within 6 Months, Final Rejections Issued 2005-12

- Japan
- South Korea
- India
- Australia/New Zealand
- Other East Asia
- Canada
- Other European Union
- United Kingdom
- Germany
- Hong Kong/Macau
- China
- Taiwan

Percentage of final rejections followed by RCEs
Examination Milestones
Final Disposition

Application → Docketed with Examiner

Initial Processing

Allowed → Appeal
Rejected → File RCE
Abandon → Applicant Response

First Action On the Merits (FAOM)

Repeat as Necessary
Median Pendency from Filing to Disposal, All Applications Abandoned between 2012-14

- Hong Kong/Macau
- China
- Taiwan
- Australia/N Zealand
- Canada
- United Kingdom
- Other East Asia
- India
- Other European Union
- Japan
- South Korea
- Germany

Median pendency from filing to abandonment (days)
Median Pendency from Filing to Disposal, All Patents Issued between 2012-14

- Taiwan
- China
- Japan
- Other East Asia
- Hong Kong/Macau
- South Korea
- Canada
- India
- Other European Union
- Germany
- Australia/N Zealand
- United Kingdom

Allowances as a percentage of total disposals

- Japan
- India
- Other East Asia
- South Korea
- Canada
- Germany
- Other European Union
- China
- United Kingdom
- Hong Kong/Macau
- Taiwan
- Australia/New Zealand

40% 45% 50% 55% 60% 65% 70% 75% 80%
Epilogue

CITATION RATES
Average Number of 3-Year Forward Citations, by Country of Origin, Patents Issued Between 2001 and 2008

Note: Cited by patents issued by USPTO
Average Number of 5-Year Forward Citations, by Country of Origin, Patents Issued Between 2001 and 2008

Note: Cited by patents issued by USPTO
Summary

- The number of Chinese applications to USPTO has grown at a 31-percent annual rate since 2000.
  - Compared to 6-percent rate for all international applications
- Foreign co-invention rate is comparable to those for applications from other countries
- Relatively short pendency to first action and disposal
- First action allowance rate is relatively high
- Relatively low use of appeals to USPTO
- Relatively low use of RCEs
- Average issue and forward citation rates
Other East Asian Countries

- Singapore
- Malaysia
- Indonesia
- Thailand
- Cambodia
- Myanmar
- Vietnam
- Philippines
- Laos
- Mongolia
- Brunei
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RCE rates by year of final rejection, selected countries, 2005-2012
Change in Technology Mix, Applications to the PTO from Various Countries, 2000-02 to 2010-12

(a) China

(b) Other BRICS

(c) Japan and South Korea

(d) All Countries
The Geographic Mix of Applications from China, 2000-12

Percent of applications

Guangdong | Beijing | Shanghai | Jiangsu | Zhejiang | Other
