Startup Index of Nations, Cities: (Startups Worth $1 Billion Or More)

Gerard J. Tellis

USC Marshall Center for Global Innovation
Takeaways

In terms of new wealth creation from startups

• Contrary to forecasts of the decline of US, US dominates

• Developing markets of China and India are emerging leaders

• Some traditional big European economies and Japan are laggards

• Some small countries (Sweden, Singapore, Israel) do surprisingly well
Rationale

• Innovations are critical for the welfare of consumers, the success of firms, and the wealth of nations

• Tracking billion dollar startups (unicorns) provides an indication of the success of innovations and the creation of new wealth

• Ranking countries and regions on this metric indicates which are most innovative
Sampling & Sources

• Track venture-backed private startups valued at > $1 billion

• Main sources for the Unicorn lists:
  – CB Insights and The Wall Street Journal

• Additional sources for verification:
  – Zephyr, SDC Platinum and news reports

• Time frame:
  – Average of monthly values between January 2014 and December 2015
Procedure

- Capture address of each startup from CB Insights (company profile pages)
  - Verified from other databases, if needed
- Group cities into regions ("greater" city) based on < 50-mile range and countries
- Collect population & GDP from Wikipedia
  - Verified from other sources (e.g., US Census, McKinsey), if needed
Verification

• At least two independent sources for each recorded observation

• Companies missing in either of the main sources
  – Verified from other databases and included in the analysis
  – If not verified, excluded from the analysis (2 companies)

• Inconsistent valuations
  – Verified from other databases and included in the analysis
  – If not verified, an average is taken as the valuation
Selection of Equivalent Countries & Regions Without Startups

- Selected matching countries and regions without billion dollar startups

<table>
<thead>
<tr>
<th></th>
<th># of Countries</th>
<th>% of Global Coverage</th>
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</thead>
<tbody>
<tr>
<td>Population Covered</td>
<td>37</td>
<td><strong>81.5%</strong> of the total population of the world</td>
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<tr>
<td>GDP Covered</td>
<td>21</td>
<td><strong>80.5%</strong> of the total GDP of the world</td>
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Data

**Period:** January 2014 – December 2015

- **18** Countries had at least 1 unicorn
- **40** Regions had at least 1 unicorn
Top Countries Ranked by Share of Unicorns
(above 1%, total of 96.5%)

United States: 64.7%
China: 13.8%
India: 4.1%
United Kingdom: 2.5%
Singapore: 2.2%
Sweden: 2.1%
Germany: 2.0%
Canada: 1.6%
South Korea: 1.5%
Russia: 1.0%
Czech Republic: 1.0%

Threshold Countries (<1%)
- Israel
- Australia
- Netherlands
- Brazil
- Luxembourg
- France
- Taiwan
Large Countries Plotted by Unicorns and Population

(Top 37 countries in population)

Log(Population)

Log(No. of Unicorns)

Tellis - Unicorn Index

USA

R² = 0.24
Select Countries Plotted by Unicorns and Population

(Countries with at least one unicorn)

Bubble sizes indicate Valuations of Unicorns

Log(Population) vs. Log(No. of Unicorns)

R² = 0.27

Tellis - Unicorn Index
Top Countries Ranked by % Valuation of Unicorns
(above 1%, total of 95.7%)

United States: 63.3%
China: 21.7%
India: 4.7%
Sweden: 2.2%
Germany: 1.5%
Singapore: 1.2%
United Kingdom: 1.1%

Threshold Countries
(<1%)
Australia
South Korea
Russia
Canada
Israel
Luxembourg
Czech Republic
Netherlands
Brazil
France
Taiwan

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Large Countries Plotted by Valuation of Unicorns and GDP

(Top 21 Countries by GDP)

Log(Valuation of Unicorns)

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R² = 0.26
Select Countries Plotted by Valuation of Unicorns and GDP
(Countries with at least one unicorn)

Bubble sizes indicate numbers of Unicorns

R² = 0.32

Tellis - Unicorn Index
## Country Codes

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<tr>
<th>Countries</th>
<th>ISO Codes</th>
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Top Regions Ranked by Shares of Unicorns
(regions above 1%, total of 91.8%)

- Silicon Valley: 39.2%
- New York: 9.4%
- Beijing: 6.4%
- Los Angeles: 5.1%
- Boston: 4.0%
- Shanghai: 2.8%
- London: 2.5%
- Singapore: 2.2%
- Stockholm: 2.1%
- Provo, UT: 2.1%
- Berlin: 2.0%
- Hangzhou: 2.0%
- New Delhi: 1.7%
- Seoul: 1.5%
- Shenzhen/Hong Kong: 1.4%
- Mumbai: 1.4%
- Guangzhou: 1.1%
- Chicago: 1.1%
- Jacksonville, FL: 1.1%
- Bangalore: 1.1%
- Moscow: 1.0%
- Prague: 1.0%

Threshold Regions Ranked by No. of Startups
(Threshold value: <1%)

- Sydney
- Ogden, UT
- Vancouver
- Ottawa
- San Diego
- Dania, FL
- Tel Aviv
- Amsterdam
- Seattle
- Washington DC
- Sao Paulo
- Luxembourg
- Jerusalem
- Chongqing
- Paris
- Atlanta
- Waterloo
- Taichung

Tellis - Unicorn Index
Regions Plotted by Number of Unicorns and Population

(Regions with at least one unicorn)

Bubble sizes indicate Valuations of Unicorns

Log(Population)  Log(No. of Unicorns)

Silicon Valley

R² = 0.12

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Regions Plotted by Number of Unicorns and Population

(Regions with at least one unicorn)

Silicon Valley

R² = 0.12

Tellis - Unicorn Index

Regions Plotted by Number of Unicorns and Population

(Regions with at least one unicorn)

Silicon Valley

R² = 0.12

Tellis - Unicorn Index
Regions Ranked by Shares of Valuation of Unicorns

(above 1%, total of 91.3%)

Silicon Valley: 45.0%
Beijing: 15.4%
Los Angeles: 7.6%
New York: 5.3%
Bangalore: 3.0%
Shanghai: 3.0%
Stockholm: 2.2%
Boston: 2.1%
Shenzhen/Hong Kong: 1.9%
Berlin: 1.5%
Singapore: 1.2%
London: 1.1%
Jacksonville, FL: 1.0%
New Delhi: 1.0%

Threshold Regions
(Threshold value: <1%)

Sydney
Provo, UT
Seoul
Bangalore
Hangzhou
Shenzhen/Hong Kong
Berlin
Singapore
Chicago
Luxembourg
Prague
Amsterdam

Tellis - Unicorn Index
Select Regions Plotted by Valuation of Unicorns and GDP

(Regions with at least one unicorn)

Tellis - Unicorn Index

Bubble sizes indicate Numbers of Unicorns

R² = 0.11
Gerard J. Tellis (PhD Michigan) is Professor of Marketing, Management and Organization, Neely Chair of American Enterprise, and Director of the Center for Global Innovation, at the USC Marshall School of Business, Los Angeles, USA. Dr. Tellis is an expert in innovation, advertising, social media, pricing, new product growth, and global market entry. He has published 5 books and over 100 papers (http://www.gtellis.net) that have won over 20 awards. His Google Scholar cites are about 15,000. He is a distinguished Professor Marketing Research, Erasmus University Rotterdam, Netherlands, a Fellow of Sidney Sussex College, Cambridge University, UK, and an Associate Editor of Marketing Science and Journal of Marketing Research.

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