


**EE-402T Entrepreneurship in Asian High-Tech Industries**  
**Stanford University**  
**11 April 2017**

A horizontal yellow brushstroke with a textured, painterly appearance, extending across the width of the slide.

# **Asia Entrepreneurship Update 2017: Current Ecosystem Trends**

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**Adjunct Professor, Stanford University**

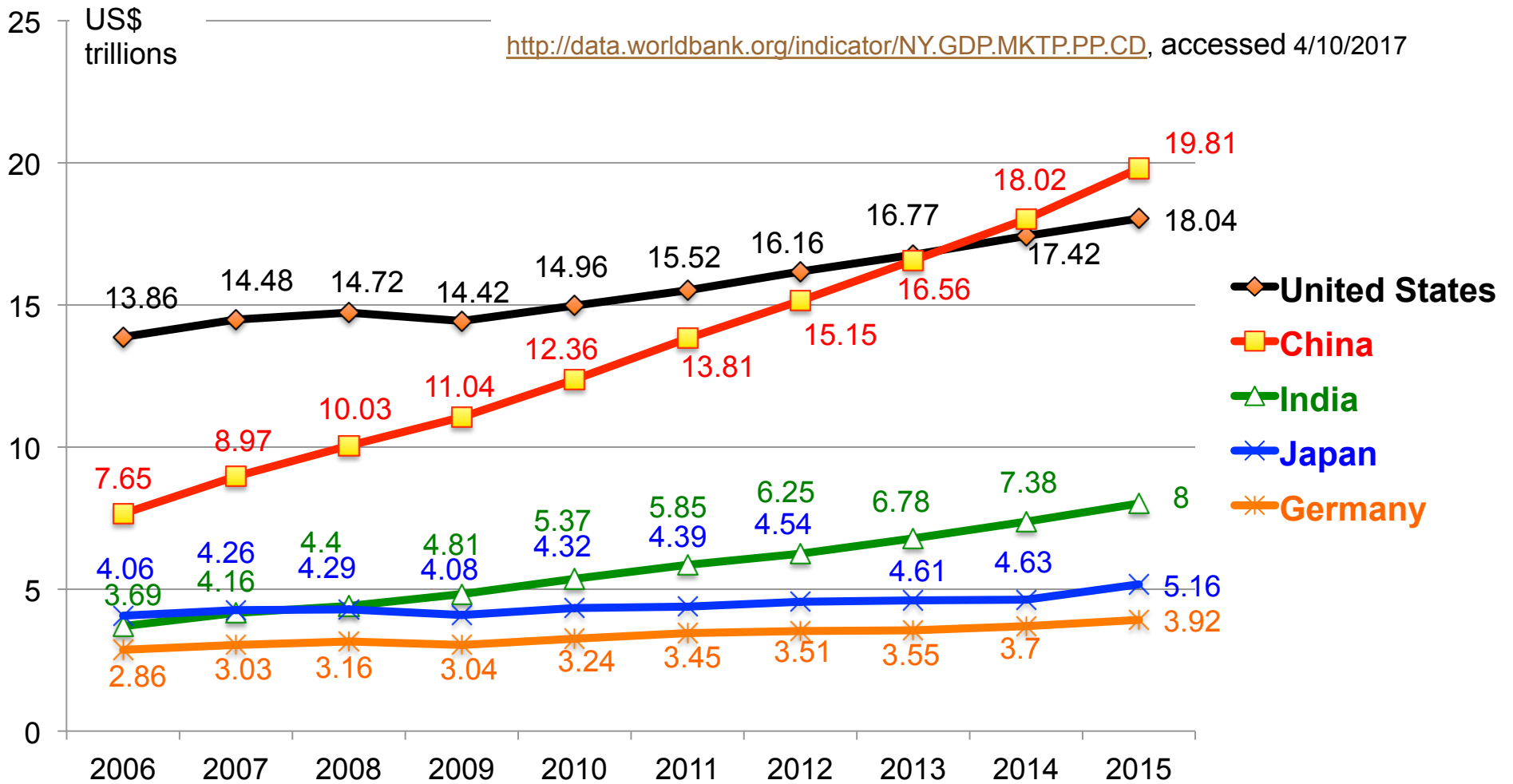
# Outline

- 
- ◆ **Introduction: some general trends of major Asia economies**
  - ◆ **Participation and attitudes toward entrepreneurship in Asia**
  - ◆ **Ecosystems for entrepreneurial innovation in Asia economies**
  - ◆ **Discussion**



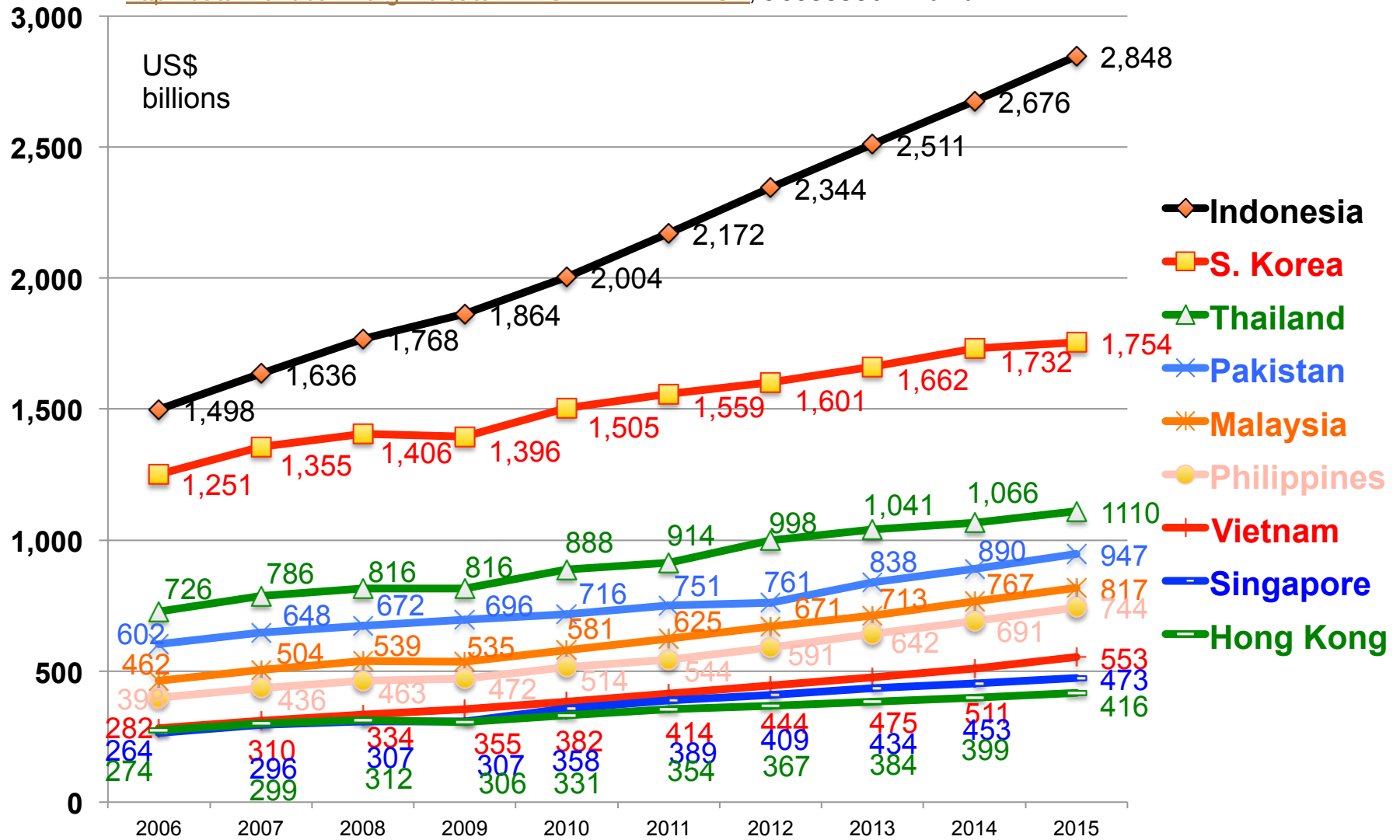
# **General trends in major Asia economies**

# GDP of world's five largest economies (at PPP calculation, current dollars)



# GDP of other Asia economies in world's 50 largest

<http://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD>, accessed 4/10/2017





# **Participation and attitudes in Asia toward entrepreneurship**

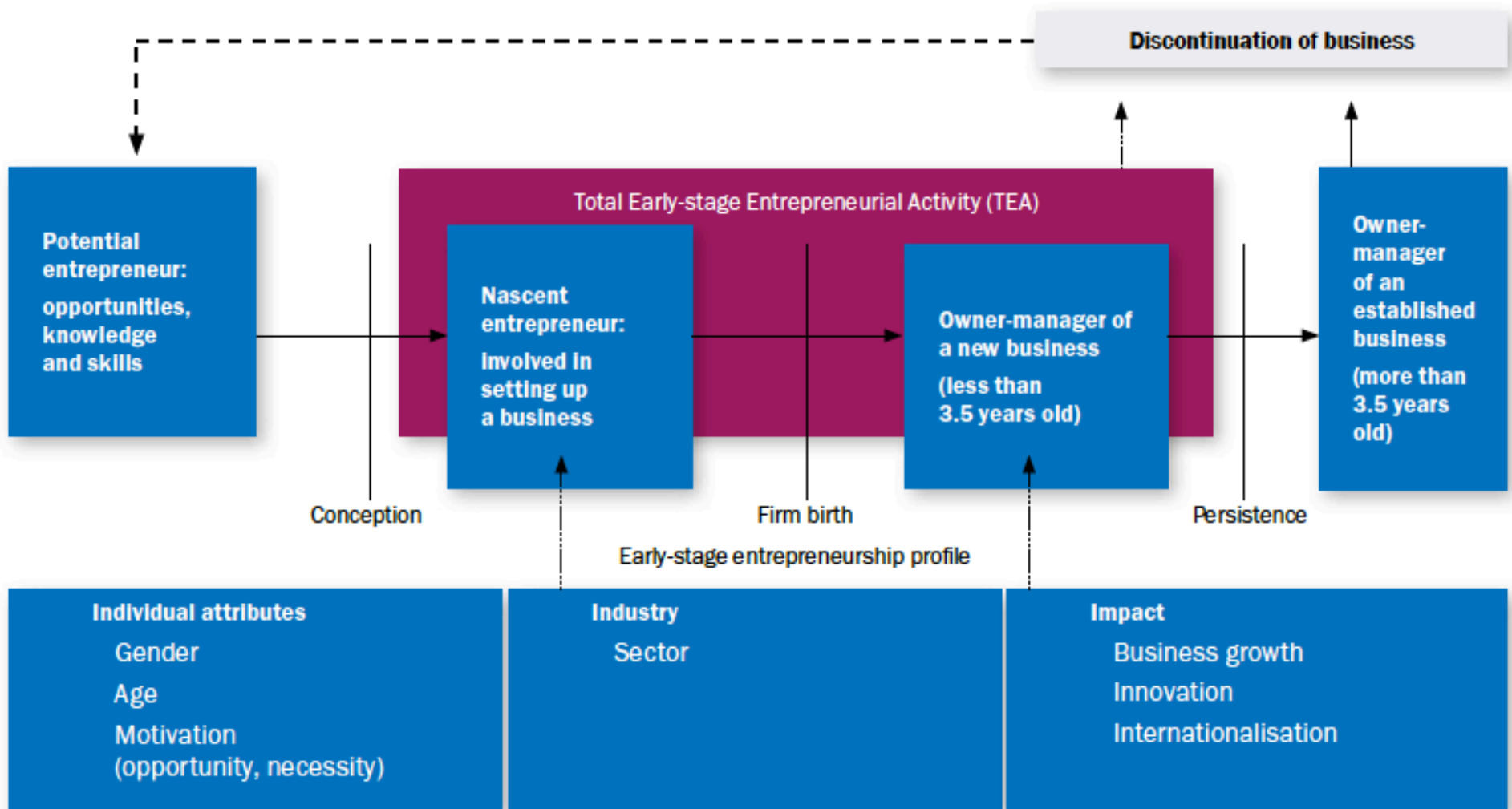
# Introduction: Global Entrepreneurship Monitor

- ◆ **Two yearly surveys of 66+ economies (countries) around the world – Babson College + four partner universities**
  - ◆ **Adult Population Survey of at least 2,000 adults in each economy described – often many more people**
    - ◆ Conducted by national teams (e.g. China survey done by Tsinghua University)
    - ◆ Six lead universities ensure compliance with standards – data not reported if, for example, insufficient number surveyed
  - ◆ **(Not using data from National Expert Survey in this presentation)**
    - ◆ Survey of opinions of experts in each economy: they provide (subjective) assessments of ecosystem factors
      - Government programs to support entrepreneurship
      - Physical infrastructure for entrepreneurship
      - Cultural / social norms, etc....
- ◆ **Now 18 years of survey results – most recent is 2016-17 GEM Report**

# GEM's "TEA Rate"

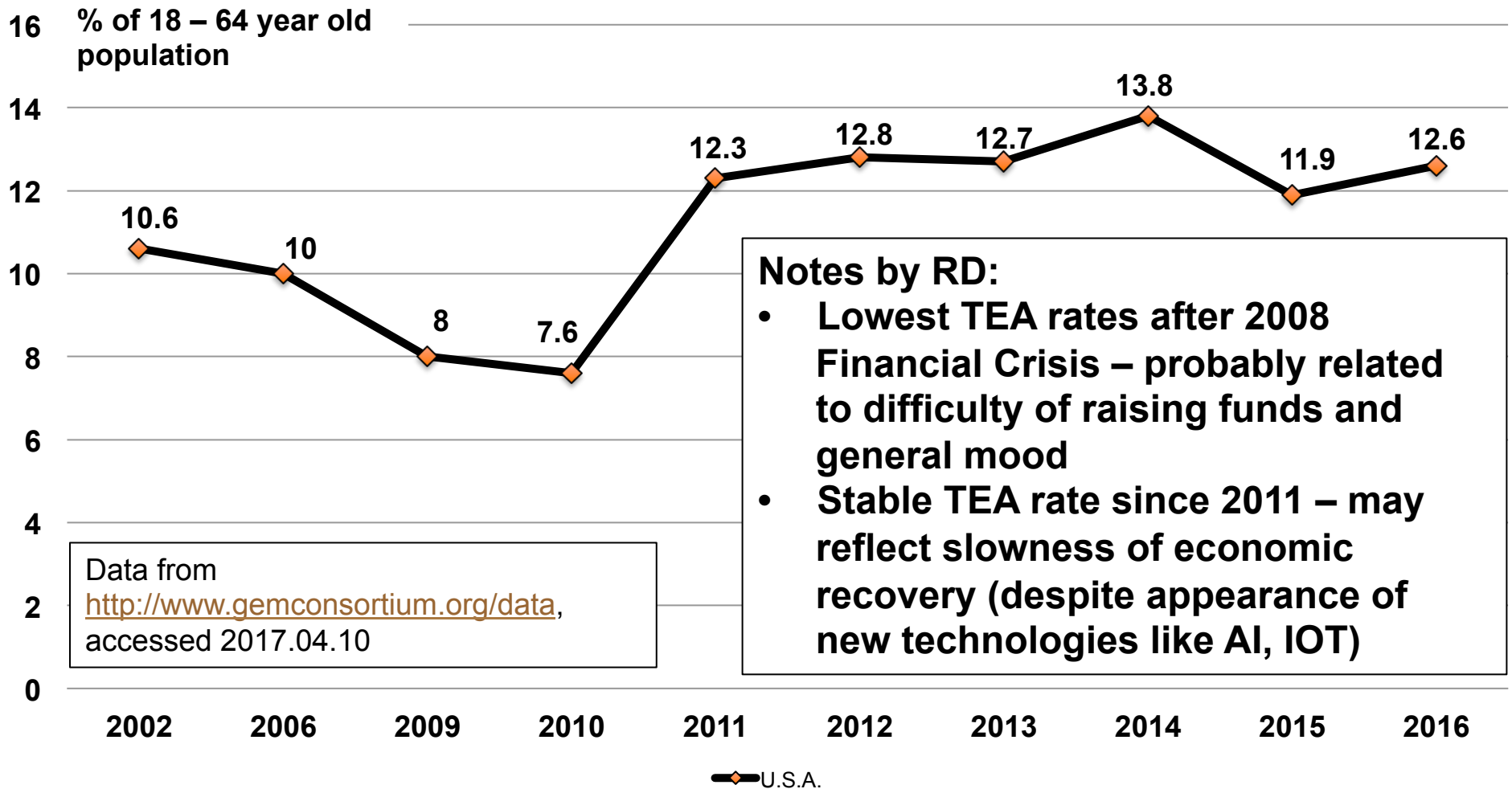
Figure 3: GEM model of business phases and entrepreneurship characteristics

From *GEM Global Report 2016-17*,  
p. 15

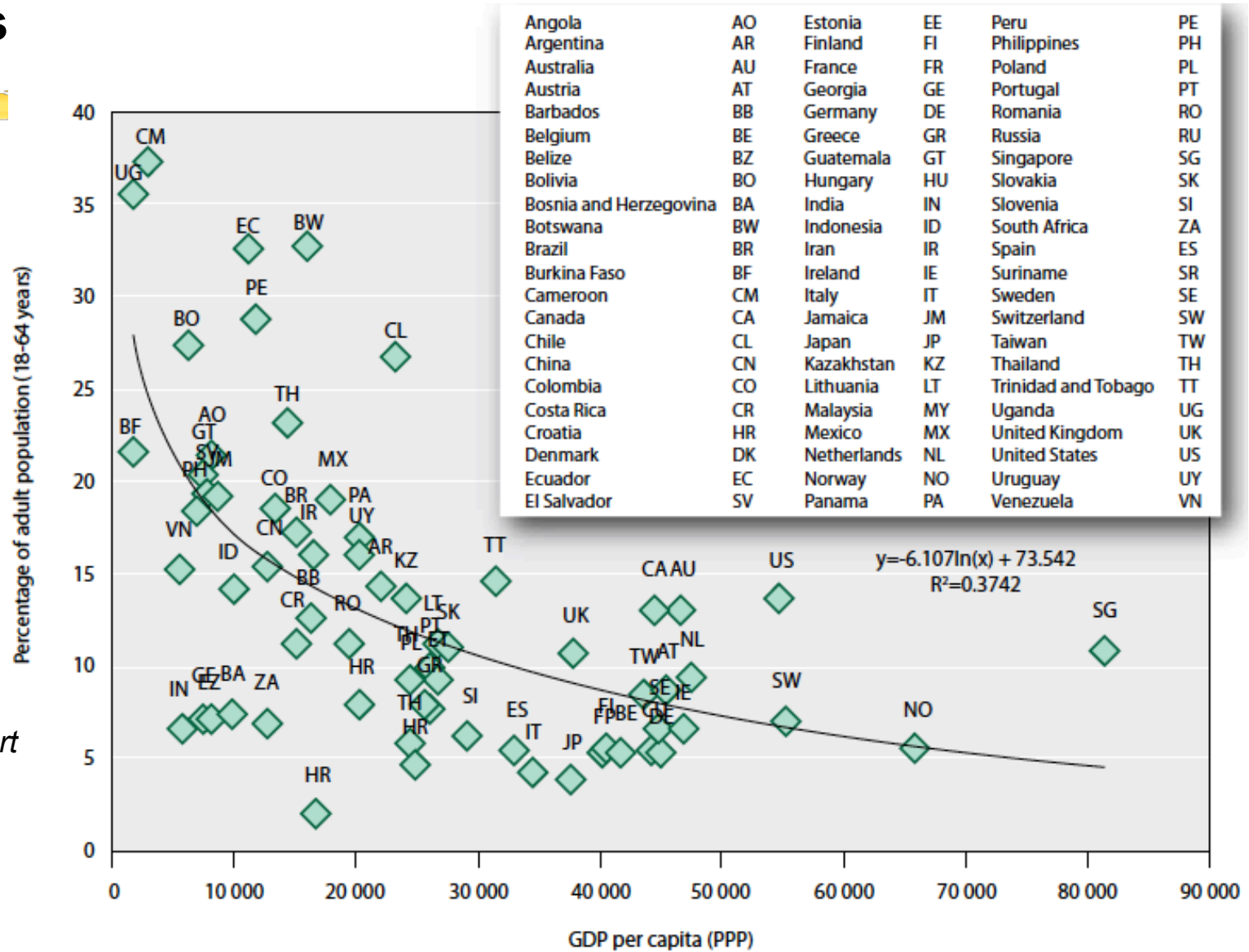




# Historical TEA rate – U.S.A.

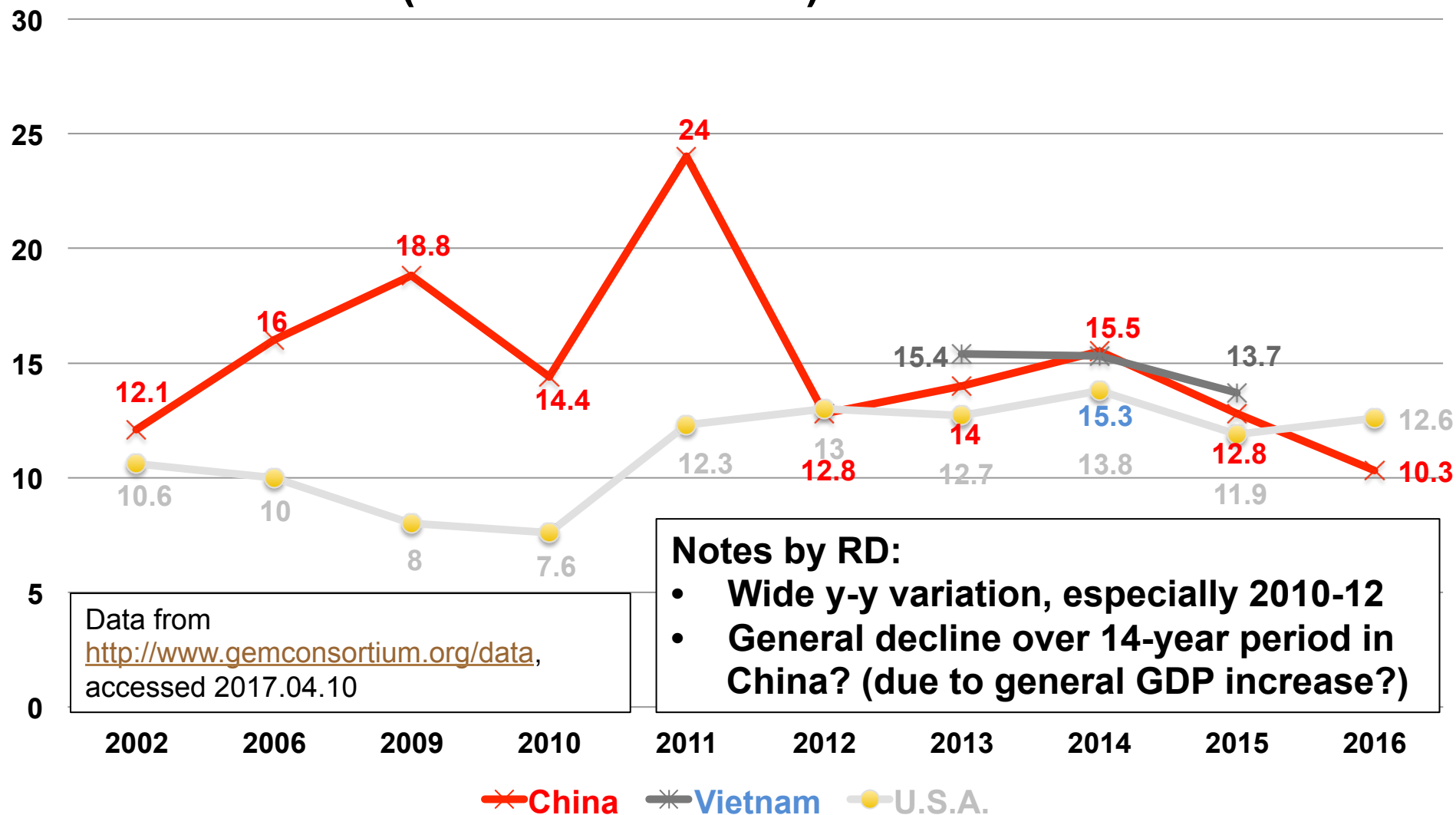


# General trend: TEA rate decreases as per cap GDP increases

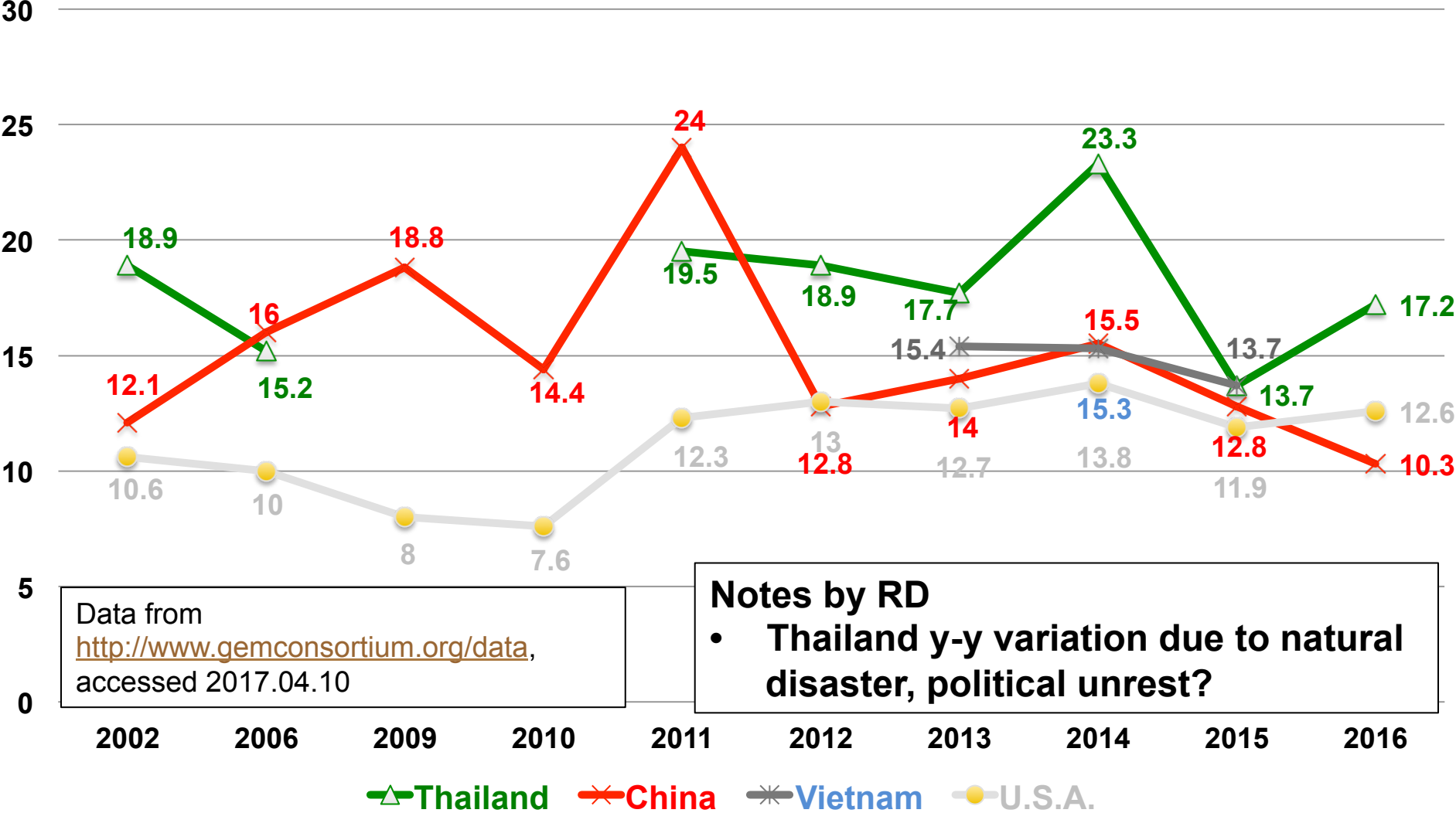


GEM Global Report  
2014, Figure 2.18  
(p. 53)

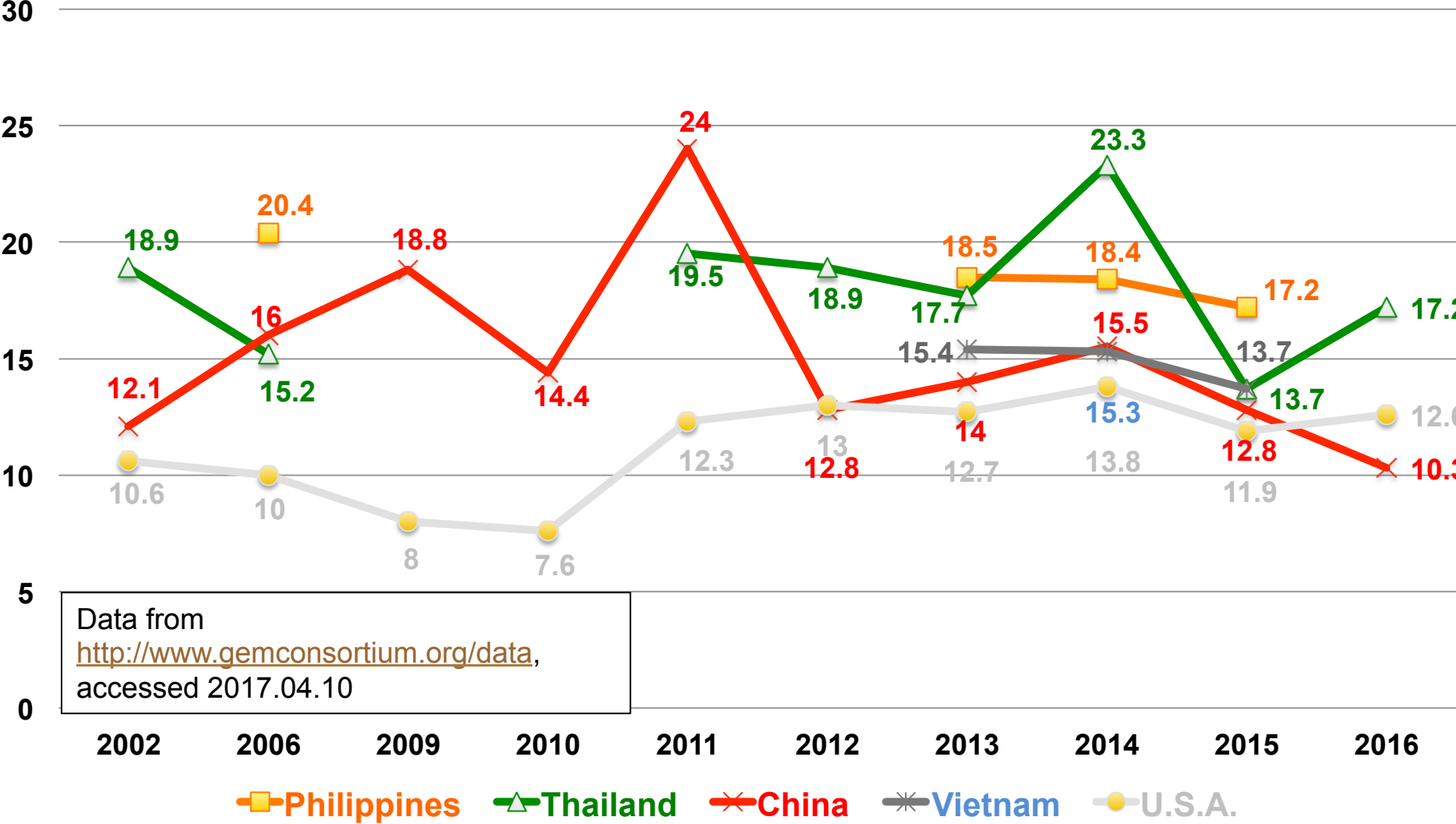
# Asia economies with historically higher TEA rate than U.S. – 1 (China & Vietnam)



# Asia economies with historically higher TEA rate than U.S. – 2 (add Thailand)

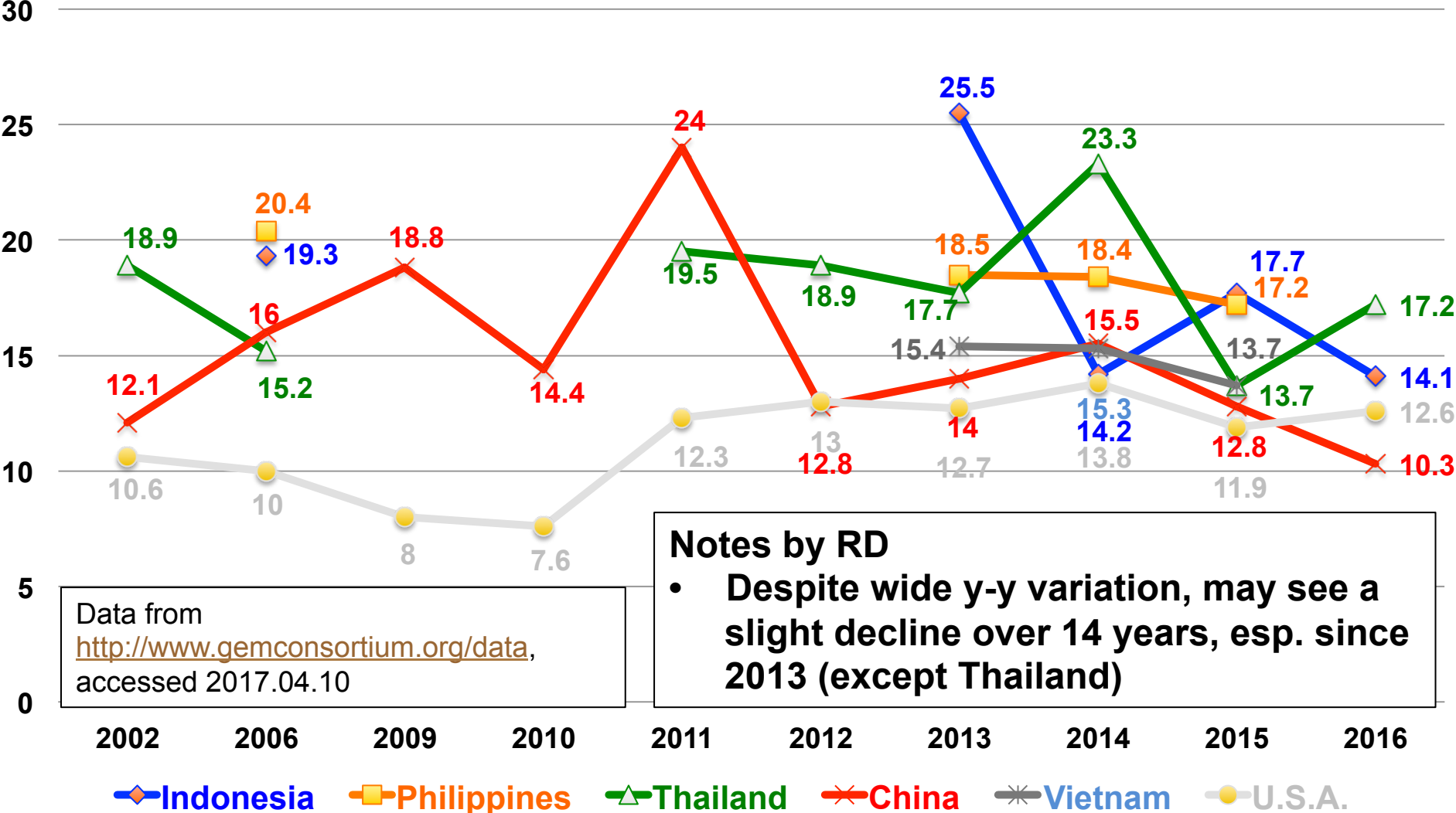


# Asia economies with historically higher TEA rate than U.S. – 3 (add Philippines)



Data from <http://www.gemconsortium.org/data>, accessed 2017.04.10

# Asia economies with historically higher TEA rate than U.S. – complete (include Indonesia)

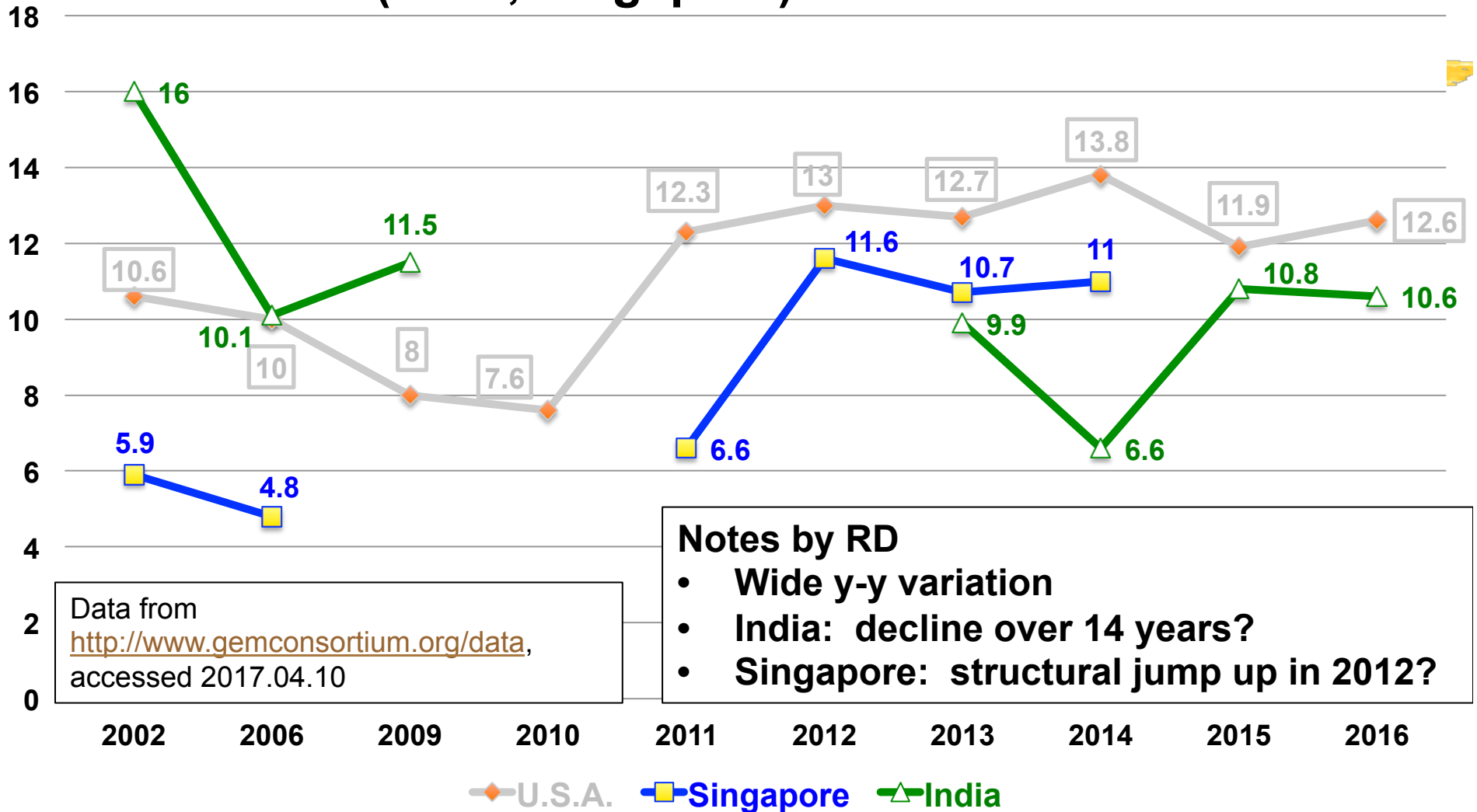


Data from <http://www.gemconsortium.org/data>, accessed 2017.04.10

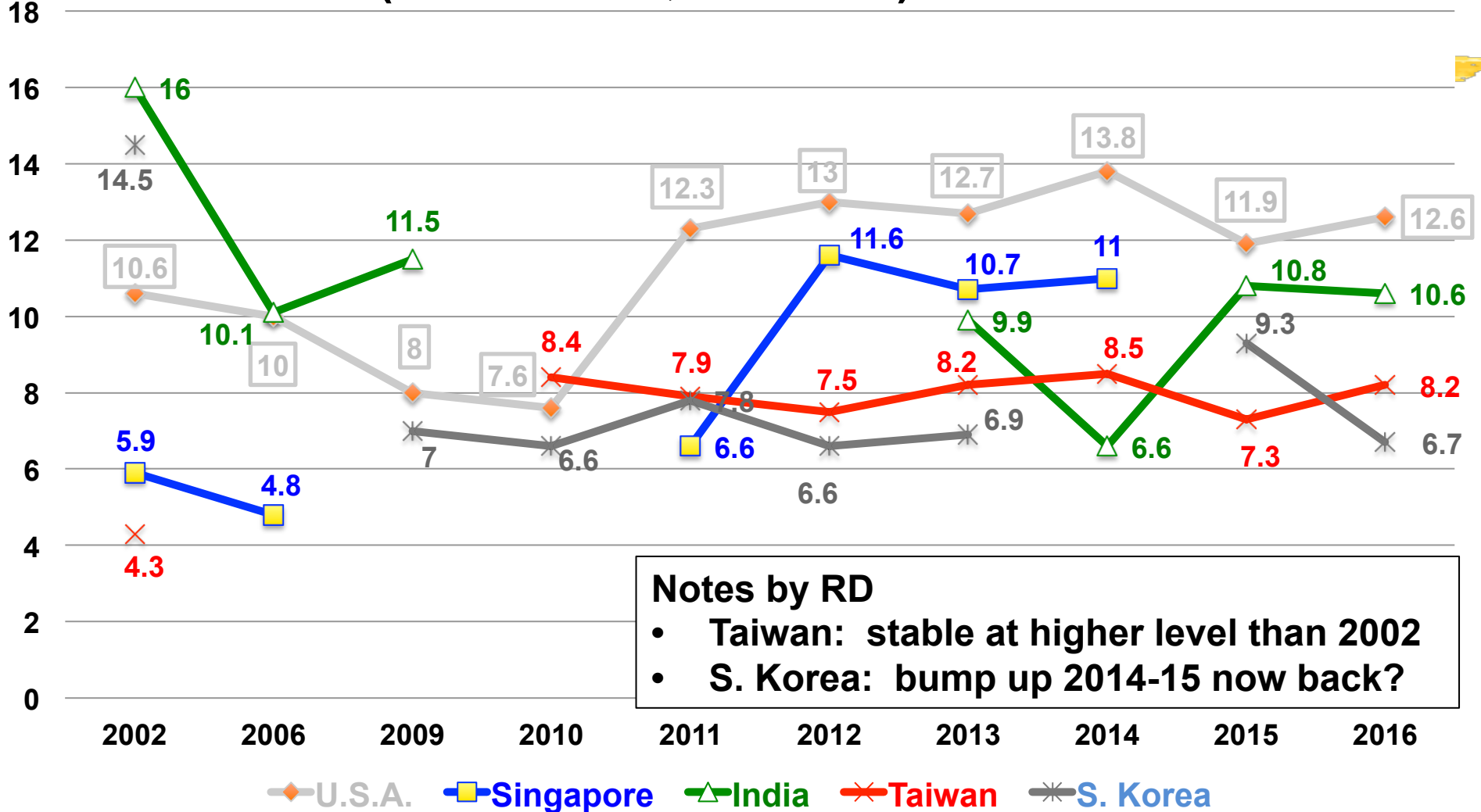
**Notes by RD**

- Despite wide y-y variation, may see a slight decline over 14 years, esp. since 2013 (except Thailand)

# Asia economies with historically lower TEA rates than U.S. – 1 (India, Singapore)

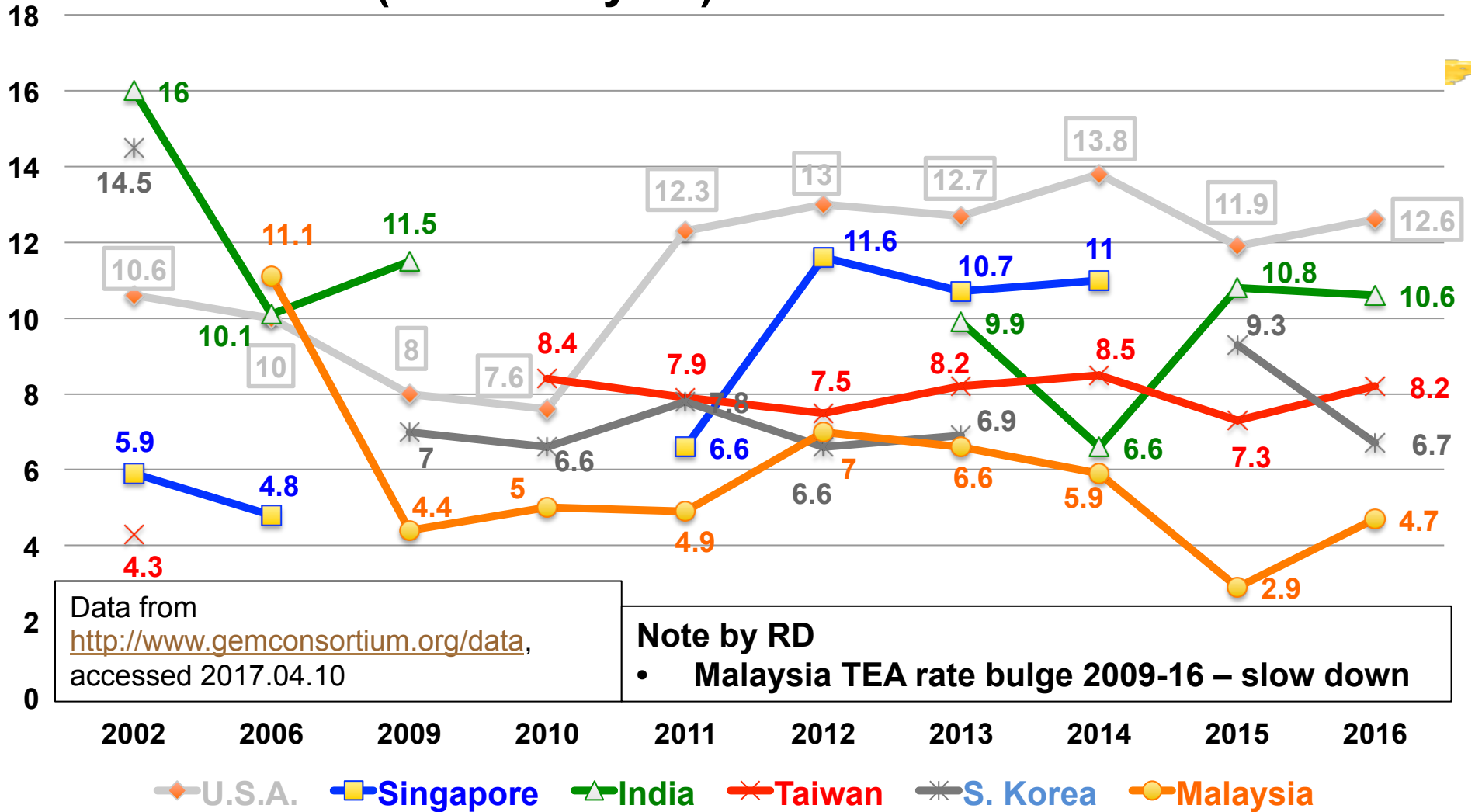


# Asia economies with historically lower TEA rates than U.S. – 2 (add Taiwan, S. Korea)

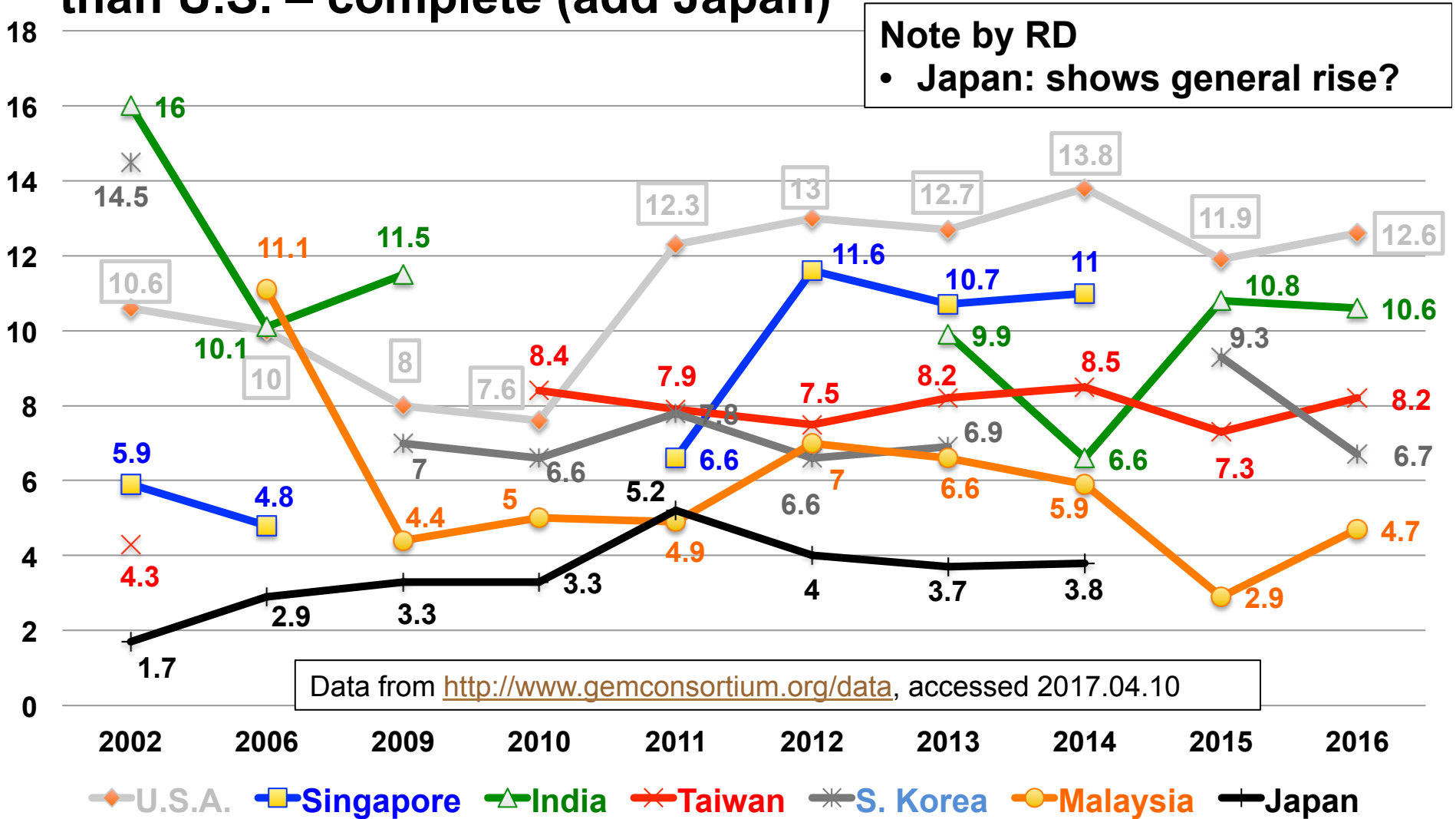




# Asia economies with historically lower TEA rates than U.S. – 3 (add Malaysia)



# Asia economies with historically lower TEA rates than U.S. – complete (add Japan)



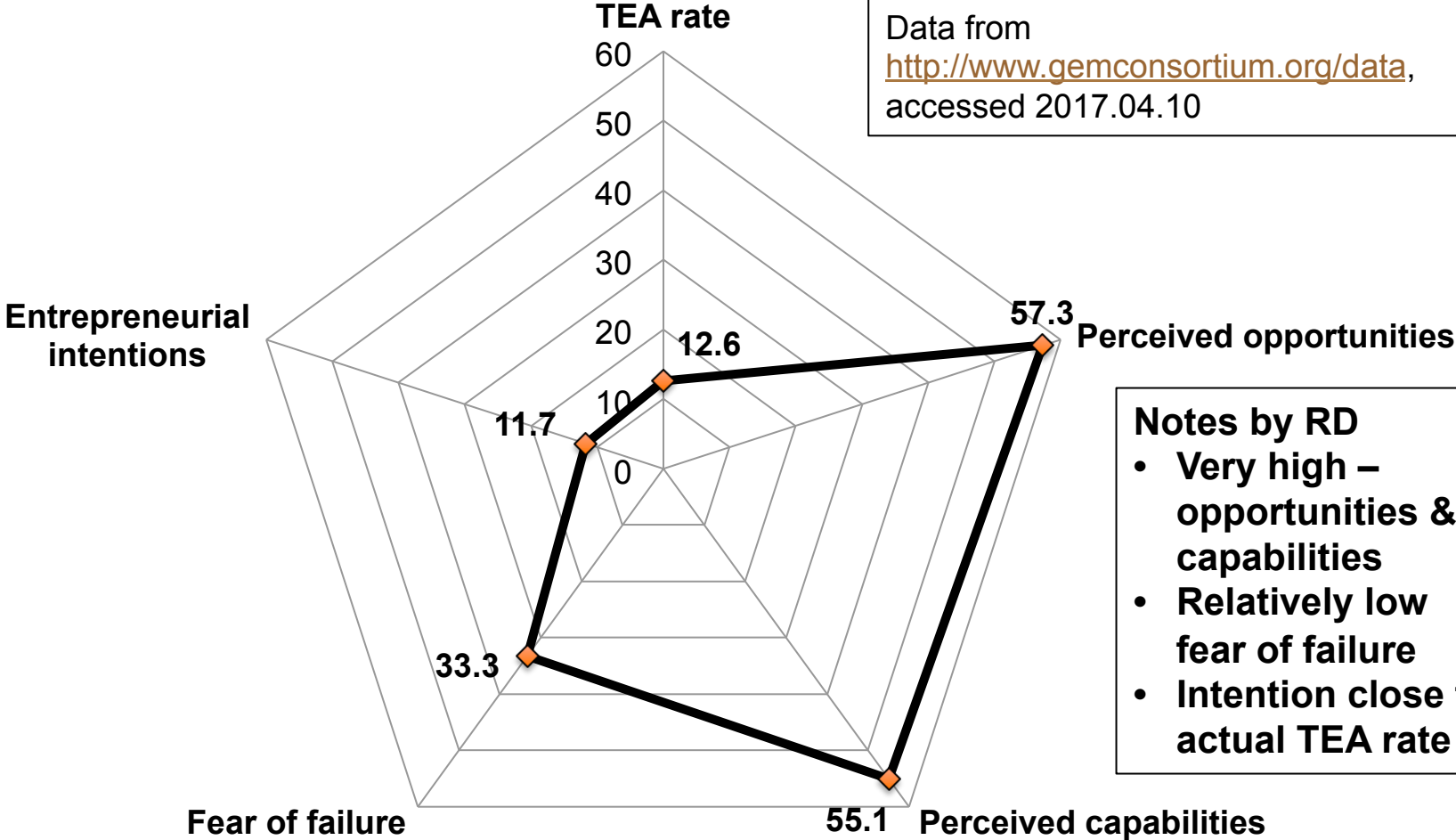
# General comments on participation in entrepreneurship in Asia economies



- ◆ **Given the amazing rise in GDP in many Asia countries, surprising that there are not more noticeable declines in TEA rates**
  - ◆ **China decline \*may\* be related to slowdown of economy**
    - ◆ **But as we will see, offset by remarkable increase in available funding**
  - ◆ **Some structural changes in China**
    - ◆ **Appearance of global MNC size domestic firms (Baidu, Alibaba, Tencent, Huawei, etc.)**
      - **Their hiring may have negative effect on TEA rate: siphoning off potential entrepreneurs from startup activities**
- ◆ **What do attitudes toward entrepreneurship in Asia reveal?**

# Attitudes toward entrepreneurship (by non-entrepreneurs) + TEA rate: USA, 2016

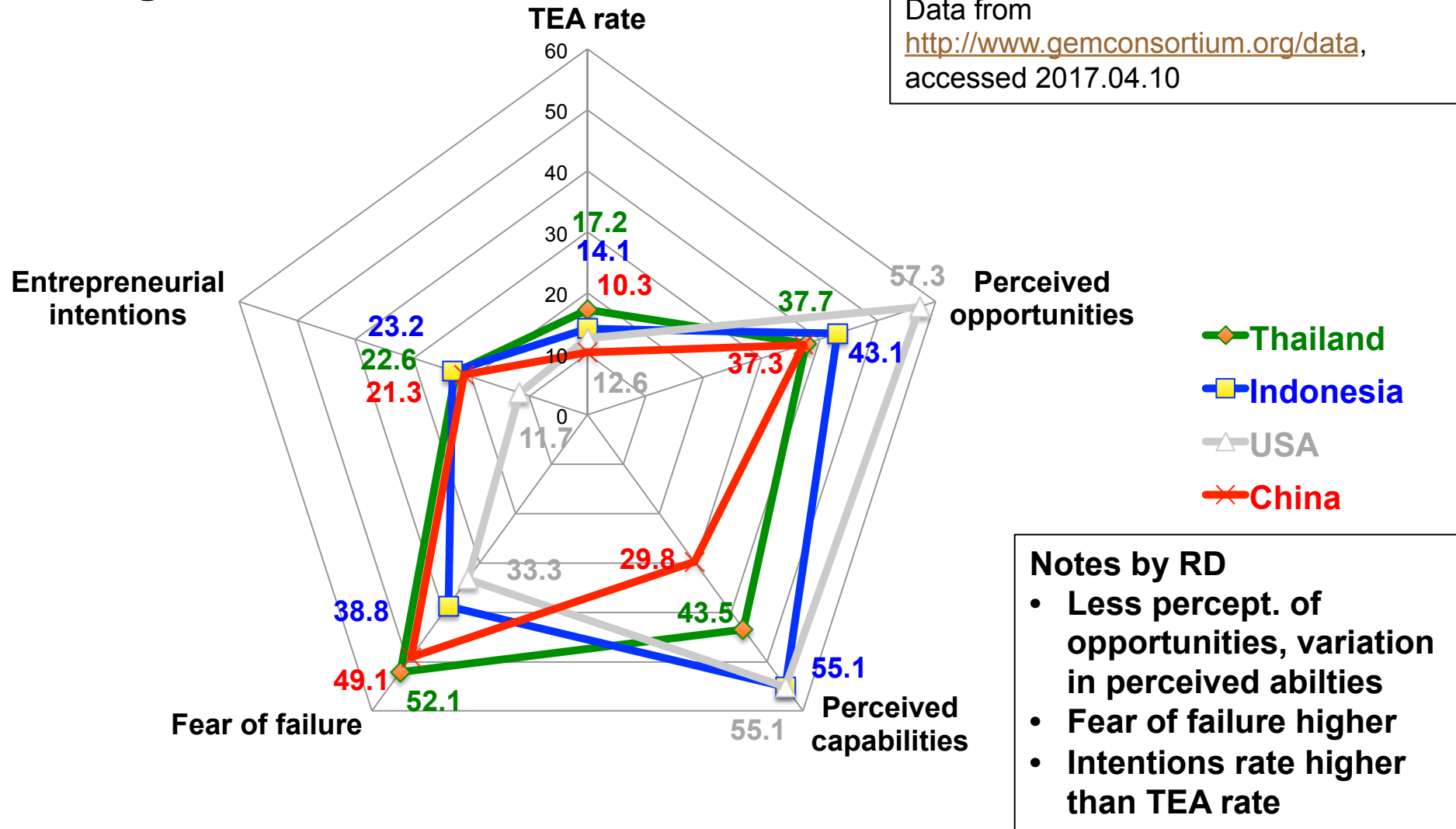
Data from <http://www.gemconsortium.org/data>,  
accessed 2017.04.10



- Notes by RD**
- Very high – opportunities & capabilities
  - Relatively low fear of failure
  - Intention close to actual TEA rate

# Attitudes toward entrepreneurship – high TEA rate countries, 2016

Data from <http://www.gemconsortium.org/data>, accessed 2017.04.10

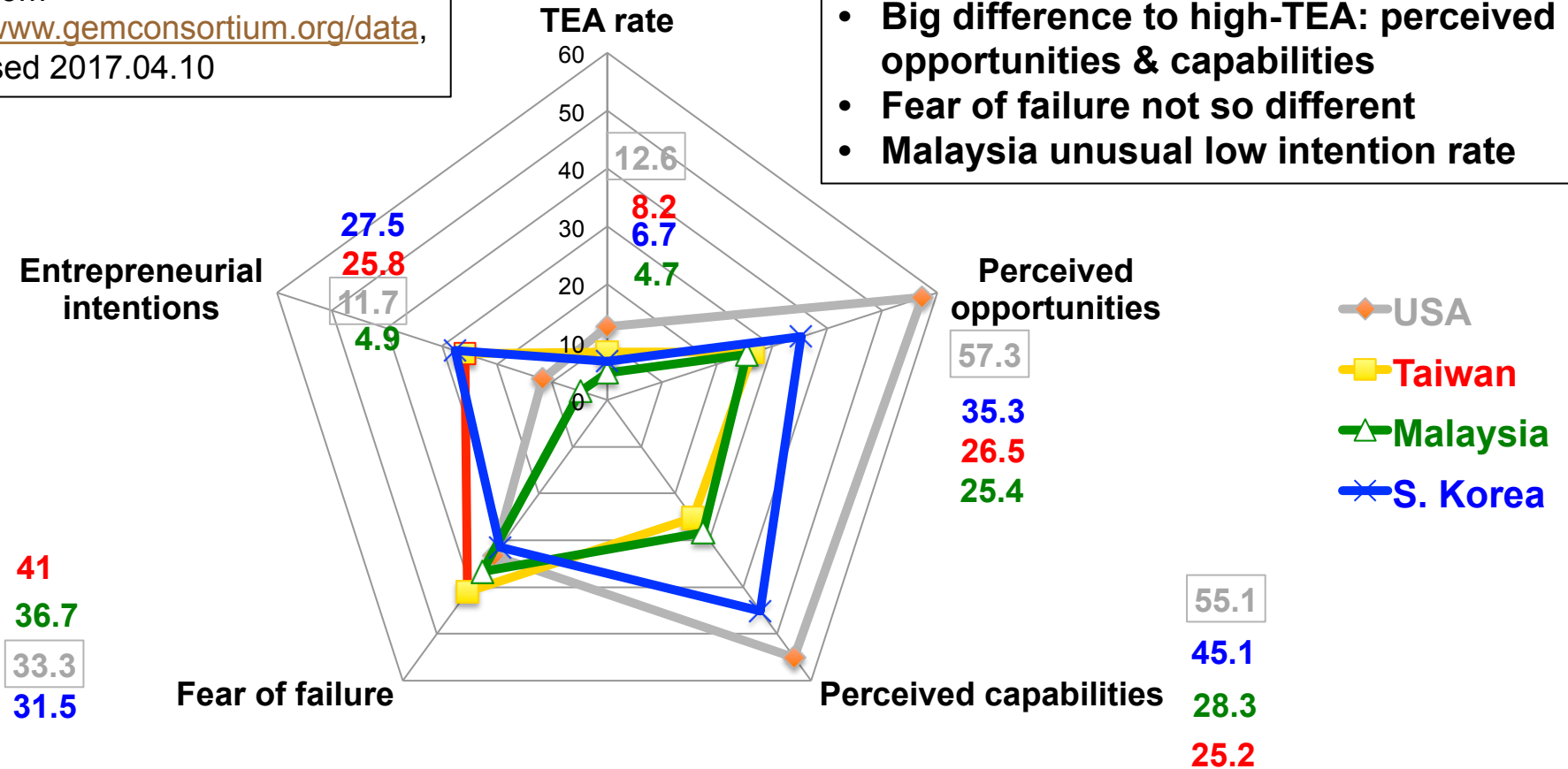


# Attitudes toward entrepreneurship – lower TEA rate countries, 2016

Data from  
<http://www.gemconsortium.org/data>,  
 accessed 2017.04.10

**Notes by RD**

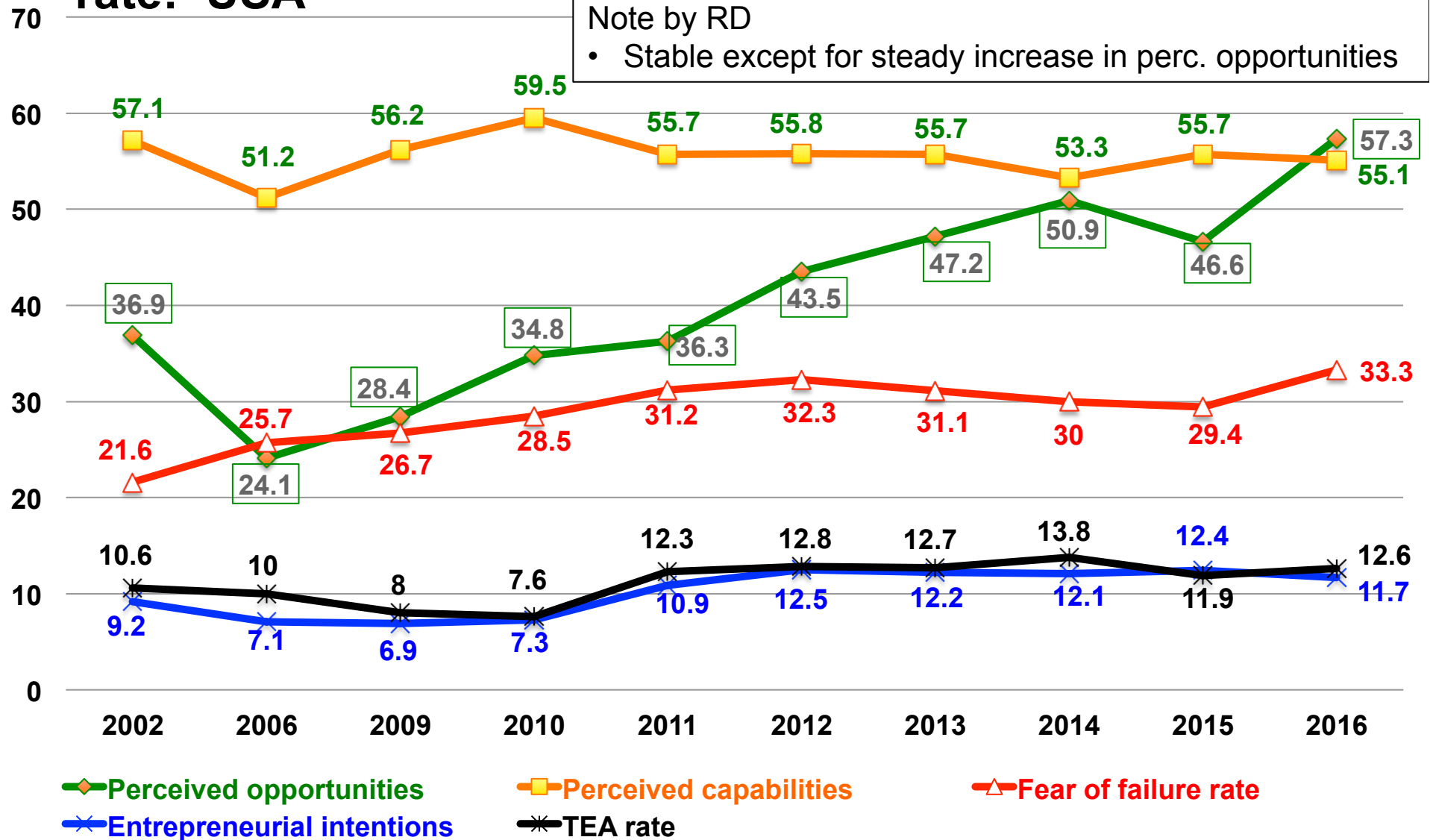
- Big difference to high-TEA: perceived opportunities & capabilities
- Fear of failure not so different
- Malaysia unusual low intention rate



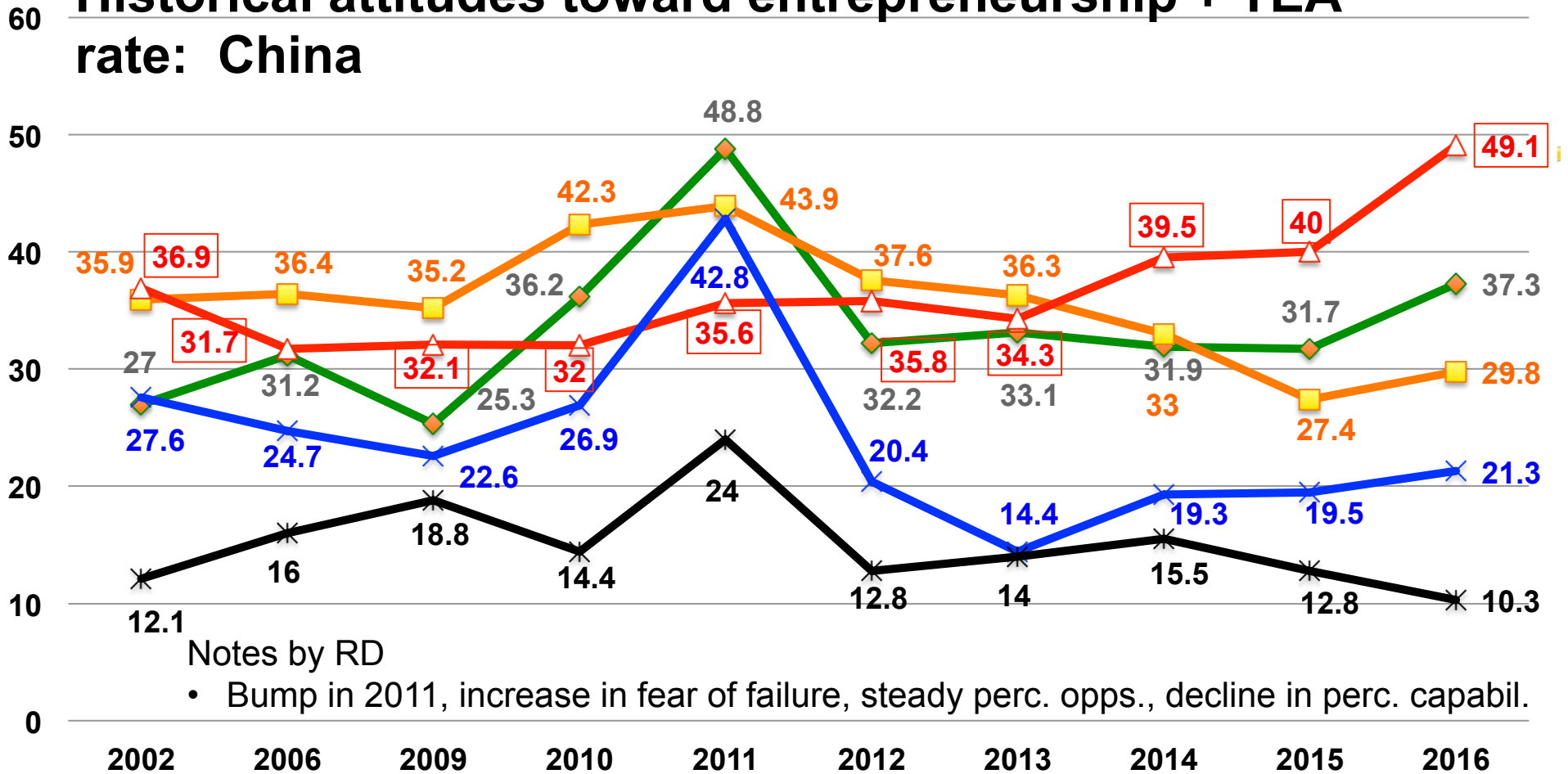
# Historical attitudes toward entrepreneurship + TEA

## rate: USA

Note by RD  
 • Stable except for steady increase in perc. opportunities



# Historical attitudes toward entrepreneurship + TEA rate: China



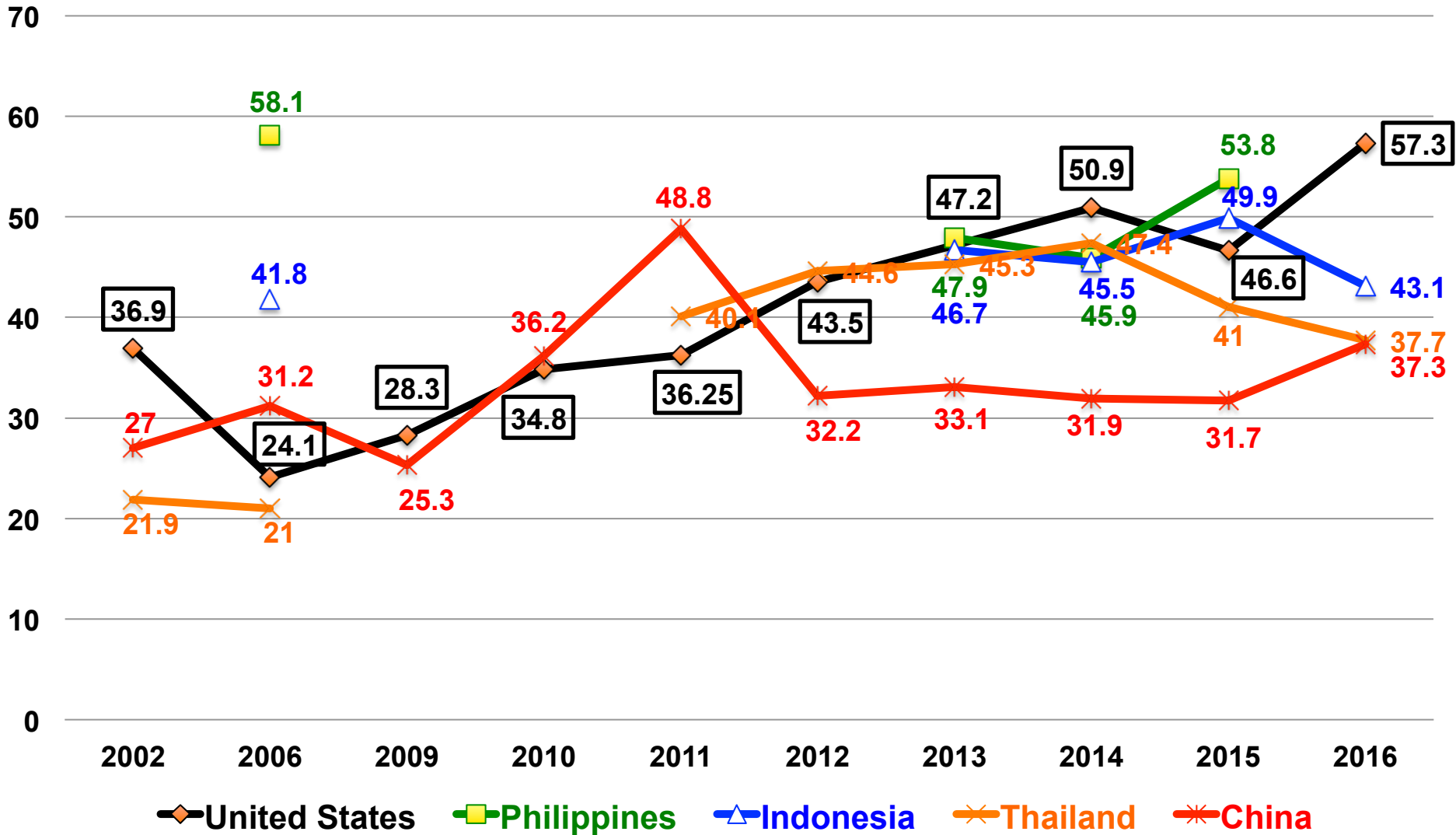
Notes by RD

- Bump in 2011, increase in fear of failure, steady perc. opps., decline in perc. capabil.

◆ Perceived opportunities   
 ■ Perceived capabilities   
 ▲ Fear of failure rate  
✕ Entrepreneurial intentions   
 ✱ TEA rate



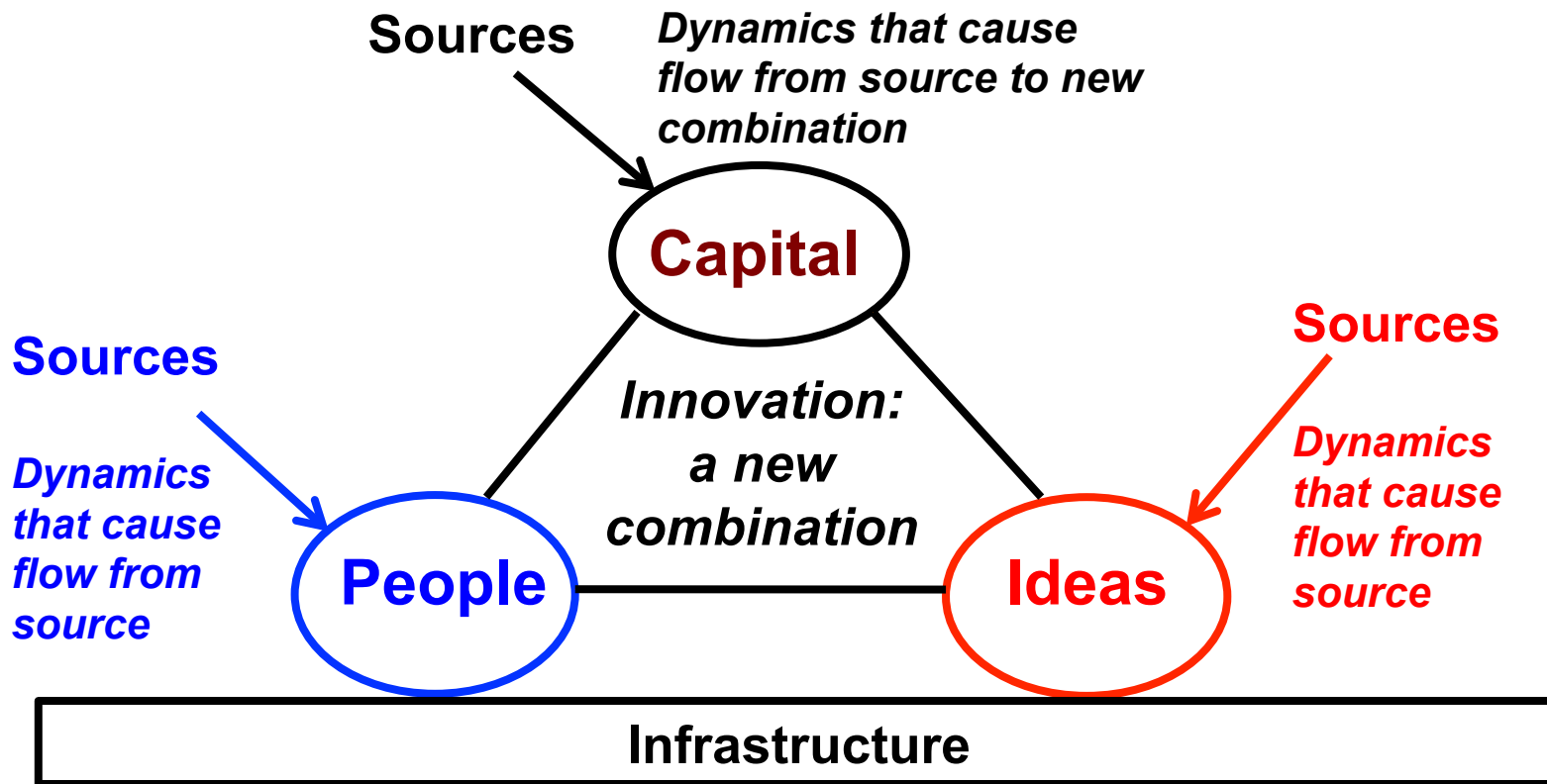
# Perceived opportunities – among historically high group





# **Entrepreneurship ecosystems in Asia**

# Basic elements of an innovation system -- applies to entrepreneurial innovation



*As an idea is incubated, the needed inflow of people, capital, knowledge may change during the process*

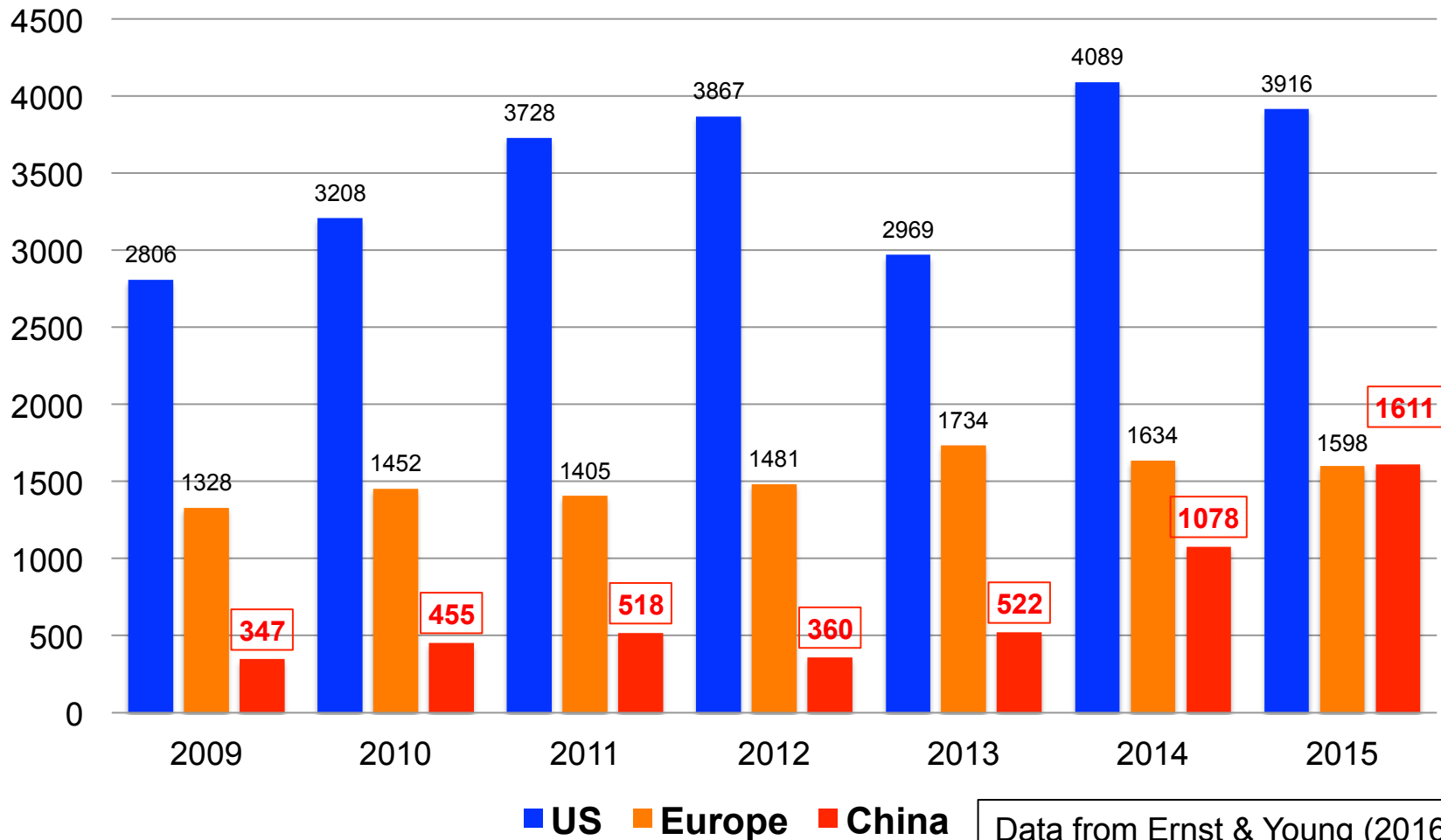
# Key elements of ecosystem for startup companies

	<b>Startup creation</b>	<b>Company growth</b>	<b>Exit</b>
<b>Capital</b>	Angel funds	VC funds, (later stage: debt)	M&A or IPO
<b>People</b>	Founders, advisors	Labor force (a) willing to work in startup (b) Capable of growing company	Flexible labor market: post-exit opportunities for founders, employees
<b>Ideas/ knowledge</b>	Access to R&D output, design thinking, access to market & business knowledge	Lean-startup principles, rapid prototyping, investor relations	Probability of realization of idea potential (not killing it) after M&A or IPO
<b>Infrastruc- ture</b>	Physical: incubators Legal and accounting infrastructure, consultants / mentors	Physical location, access to markets, Legal & accounting infra., etc.	Business infra: bankruptcy law, transparent accounting, etc.

## Capital flow patterns in Asia

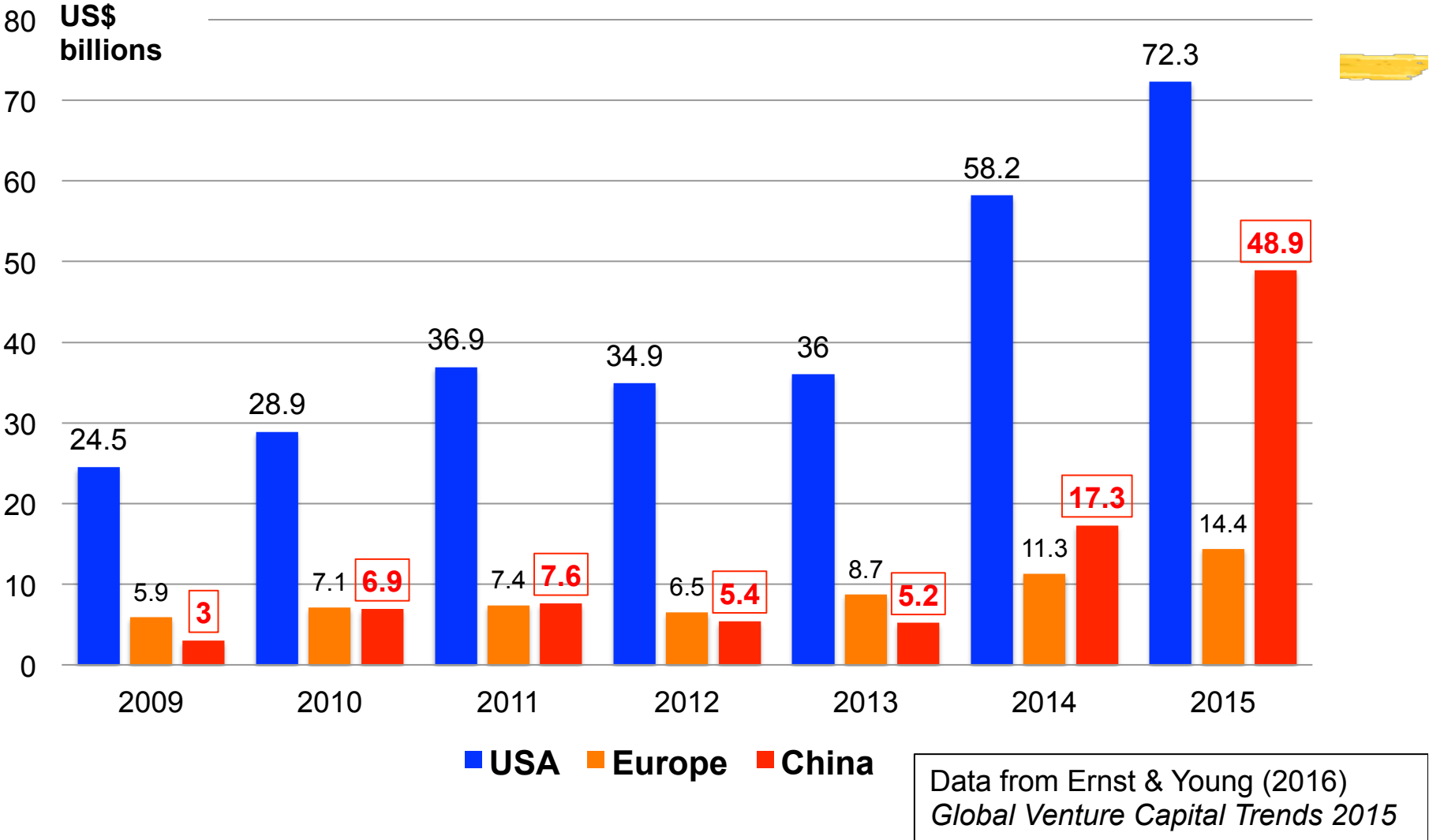
- ◆ **Begin with friends and family money: feature of all economies**
- ◆ **Most Asia economies have insufficient angel investors**
  - ◆ **See following discussion of people: as much a mentoring problem as a financial problem**
- ◆ **Venture capital investments have grown in Asia (although some recent slowdowns)**
  - ◆ **Flood of VC funds in China**
  - ◆ **Domestic VCs tend to reflect traditional financial institution investing**
  - ◆ **More Silicon Valley influence: initiatives by SV investors, local investors with SV background**
- ◆ **Exit patterns differ greatly**
  - ◆ **U.S.: 90% via acquisition, much larger IPOs, smaller % held by founders (in comparison to Asia patterns)**
  - ◆ **S. Korea, Japan: 85 – 90% of exits are by IPO, entrepreneur may keep over 50% of stock**

# Number of VC deals (all stages)

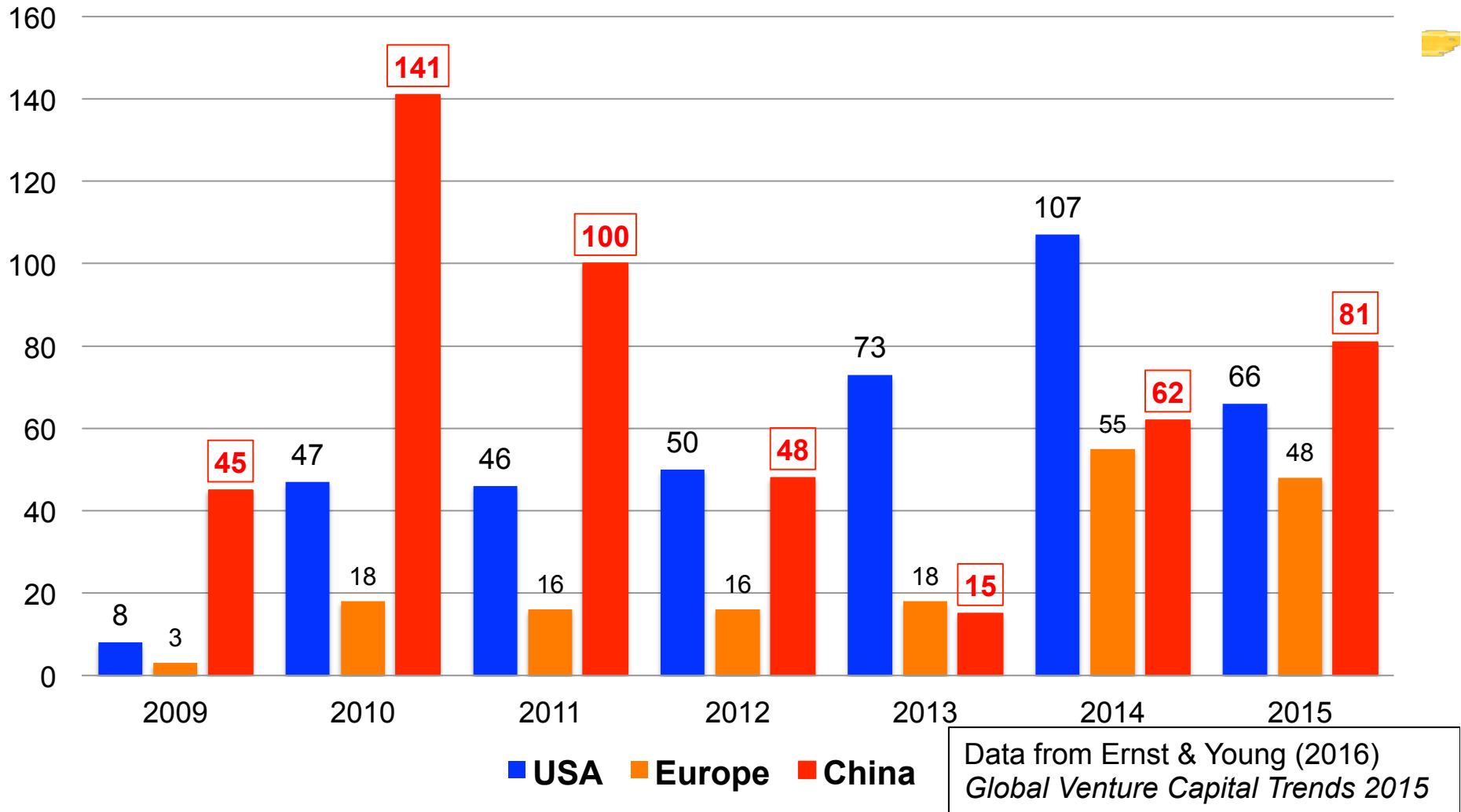


Data from Ernst & Young (2016)  
*Global Venture Capital Trends 2015*

# Amount of funds raised by startups in VC deals (all stages)

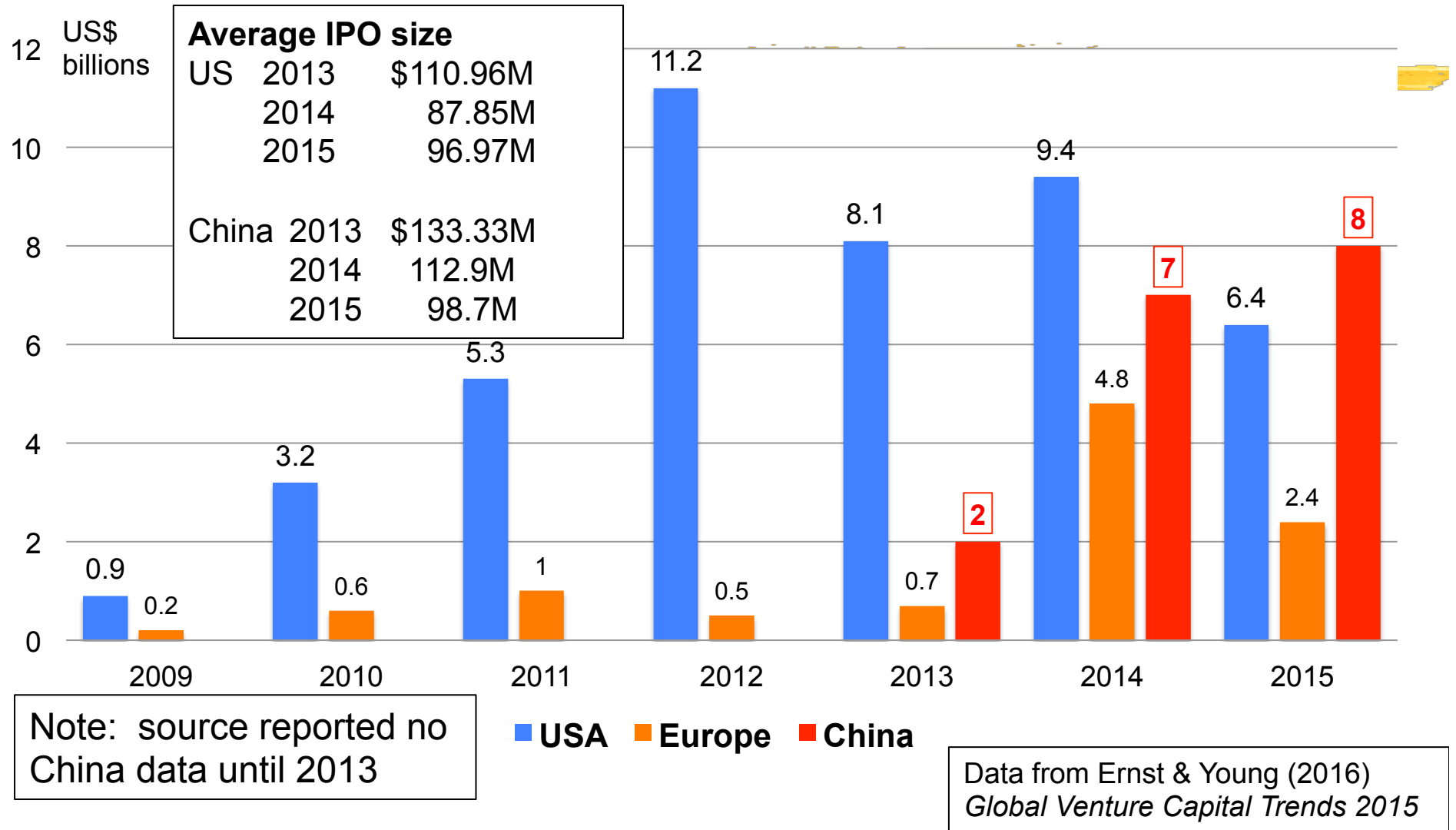


# Number of VC-backed exits by IPO

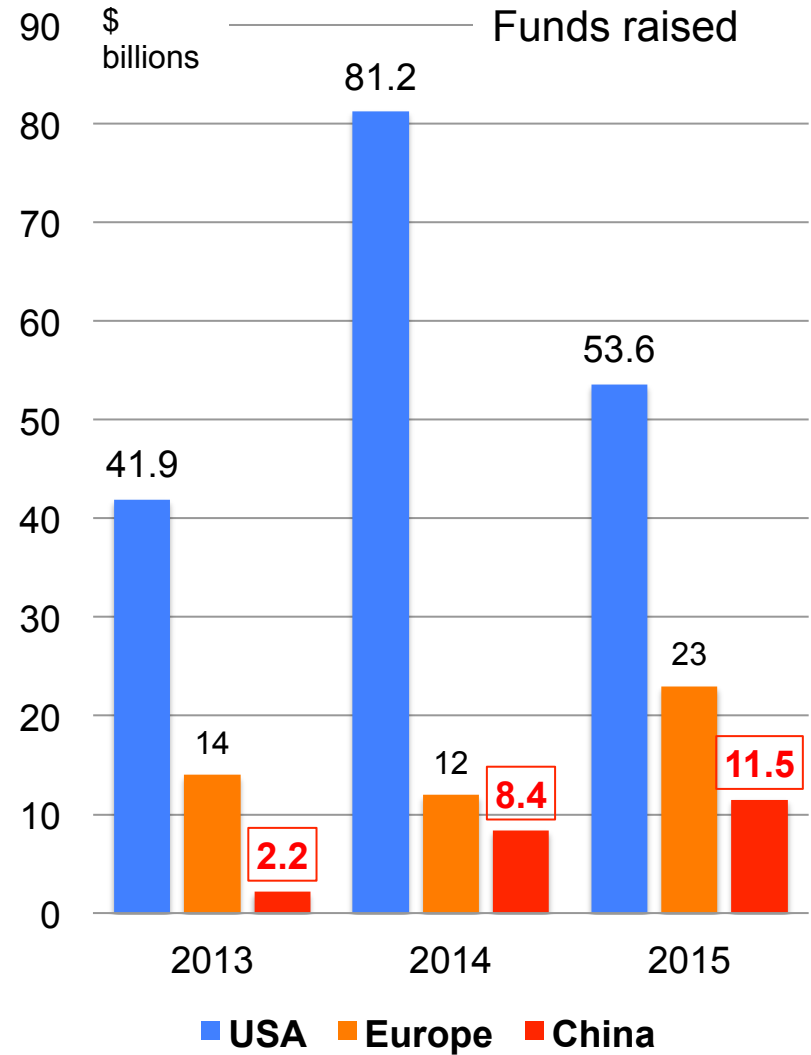
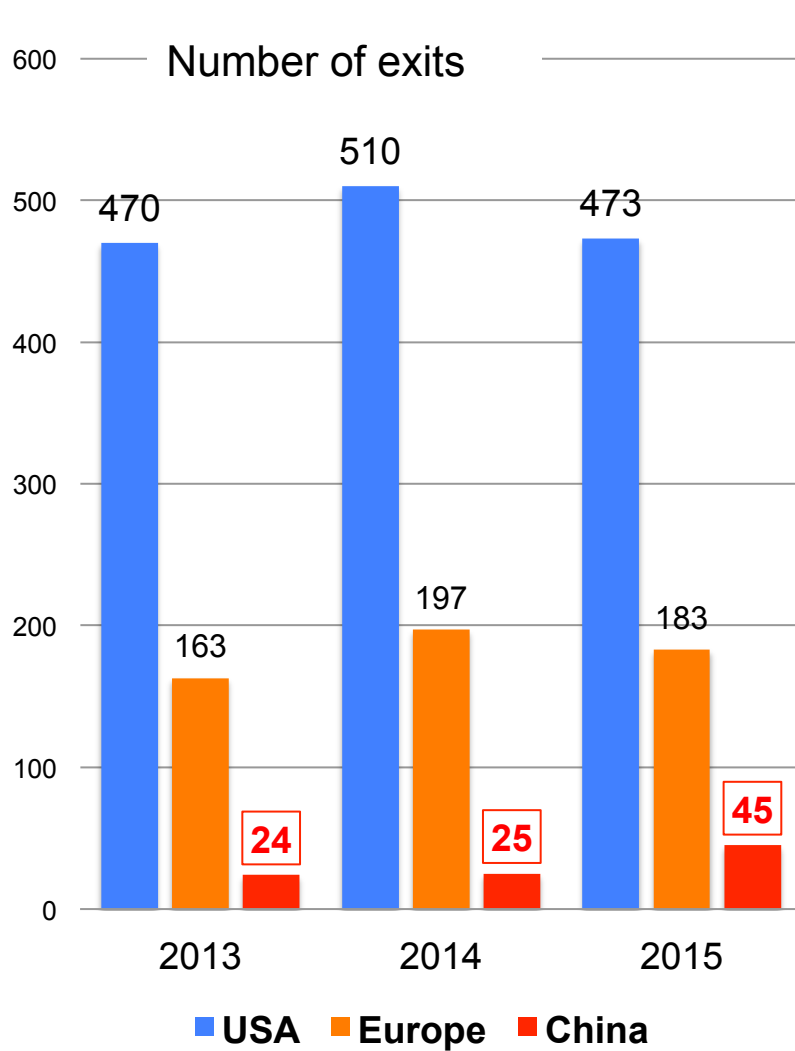




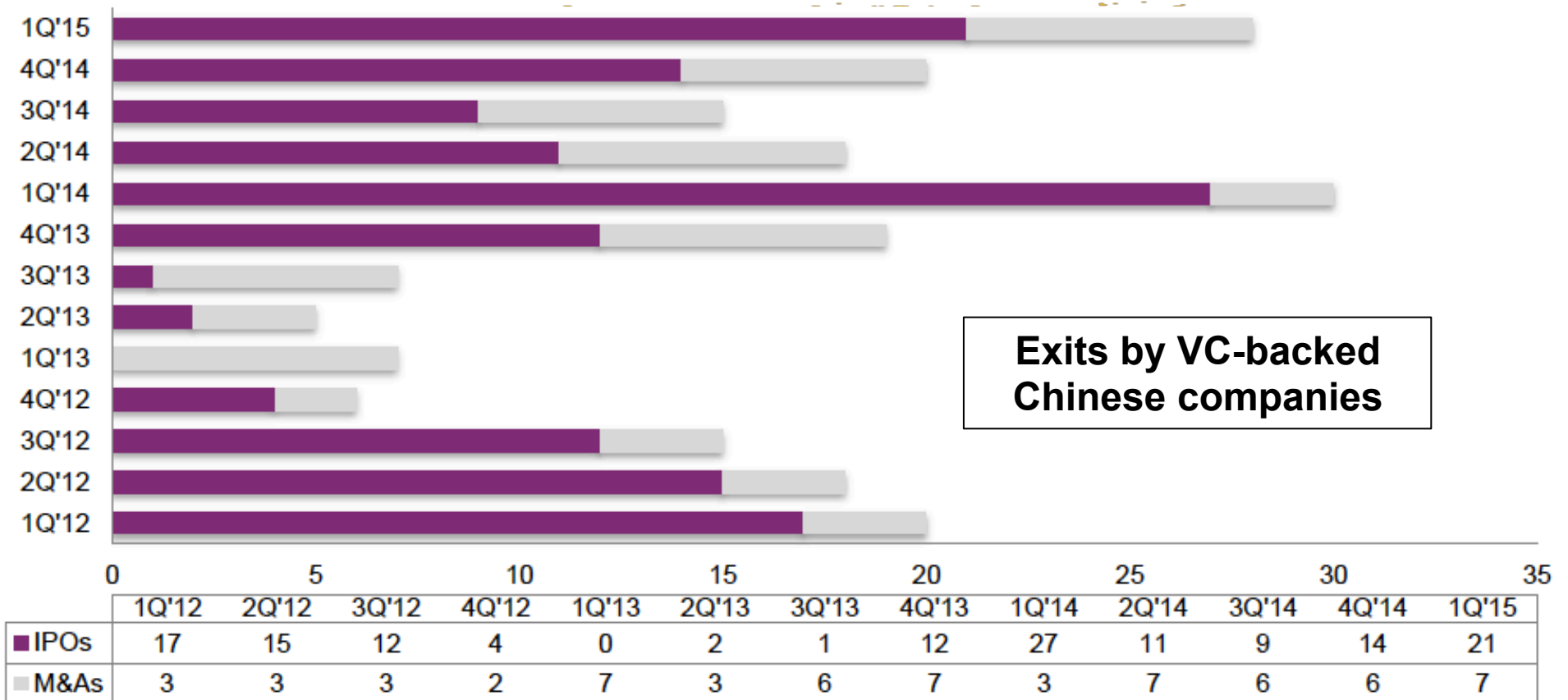
# Funds raised at IPO by VC-backed companies



# M&A exits by VC-backed companies



# Exits in China still predominantly via IPO



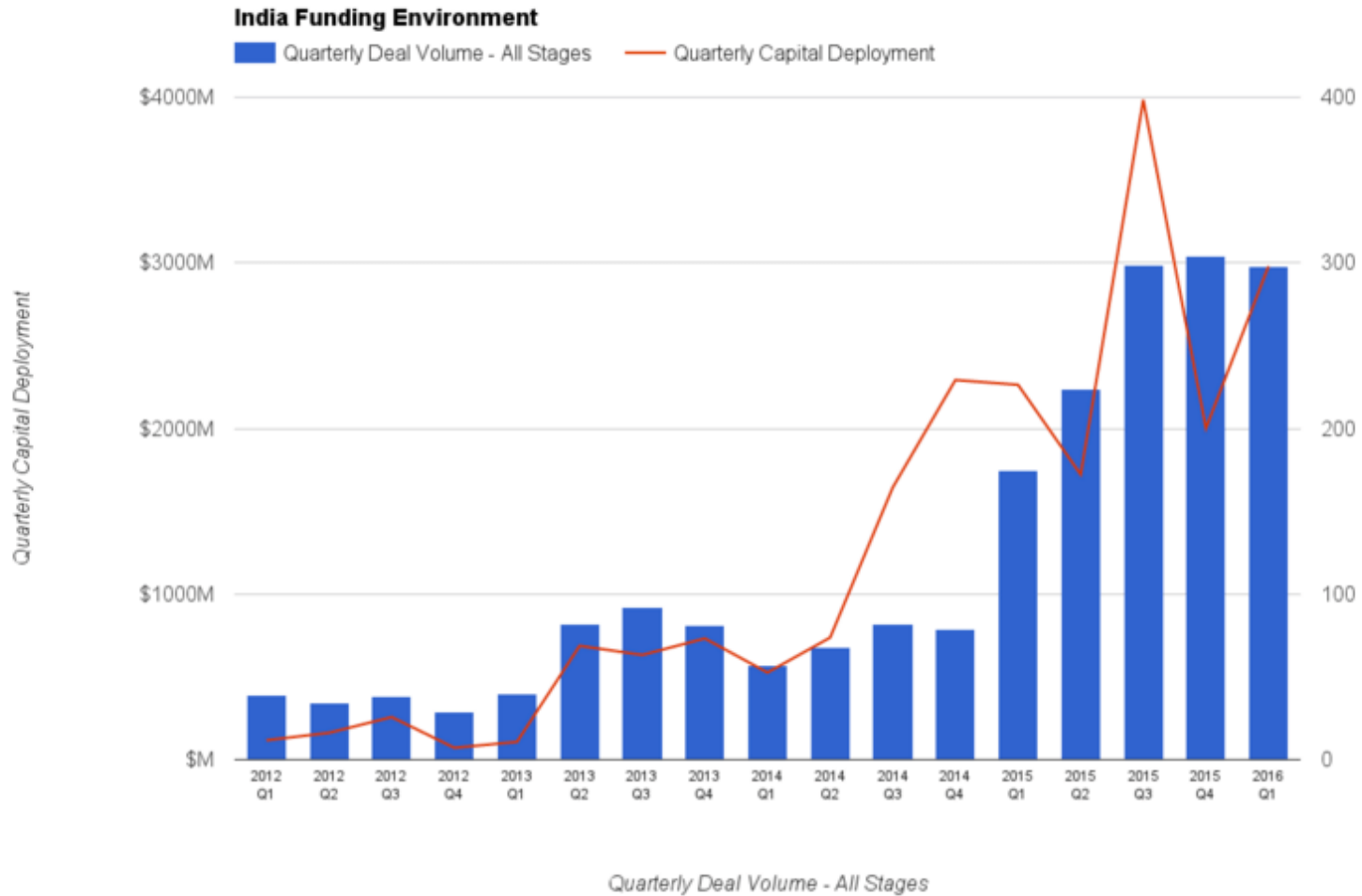
**For comparison: Exits by VC-backed companies in U.S. 2012:  
M&A = 449, IPO = 49 (NVCA)**

# Investing in startups in India



- ◆ **Definition problem: venture capital versus private equity**
- ◆ **Measurements of total amount invested in (VC?) in 2016**
  - ◆ **\$1.441 billion (405 deals) – *Business Standard*, 2016.12.31**
    - ◆ Down 29% from \$2.018 billion in 2015 (511 deals)
    - ◆ \$945M in 2012 (267 deals), \$892M in 2013 (275 deals), \$1,191M in 2014 (324 deals)
  - ◆ **\$4 billion (including angel, PE) – *YourStory Research***
    - ◆ Value down by 55% from \$9 billion in 2015
    - ◆ Number of deals increased by 3% over 2015
  - ◆ **\$216M – *LiveMint*, 2017.02.22 (quoting KPMG report)**
    - ◆ Down from \$1.6 billion in 2015

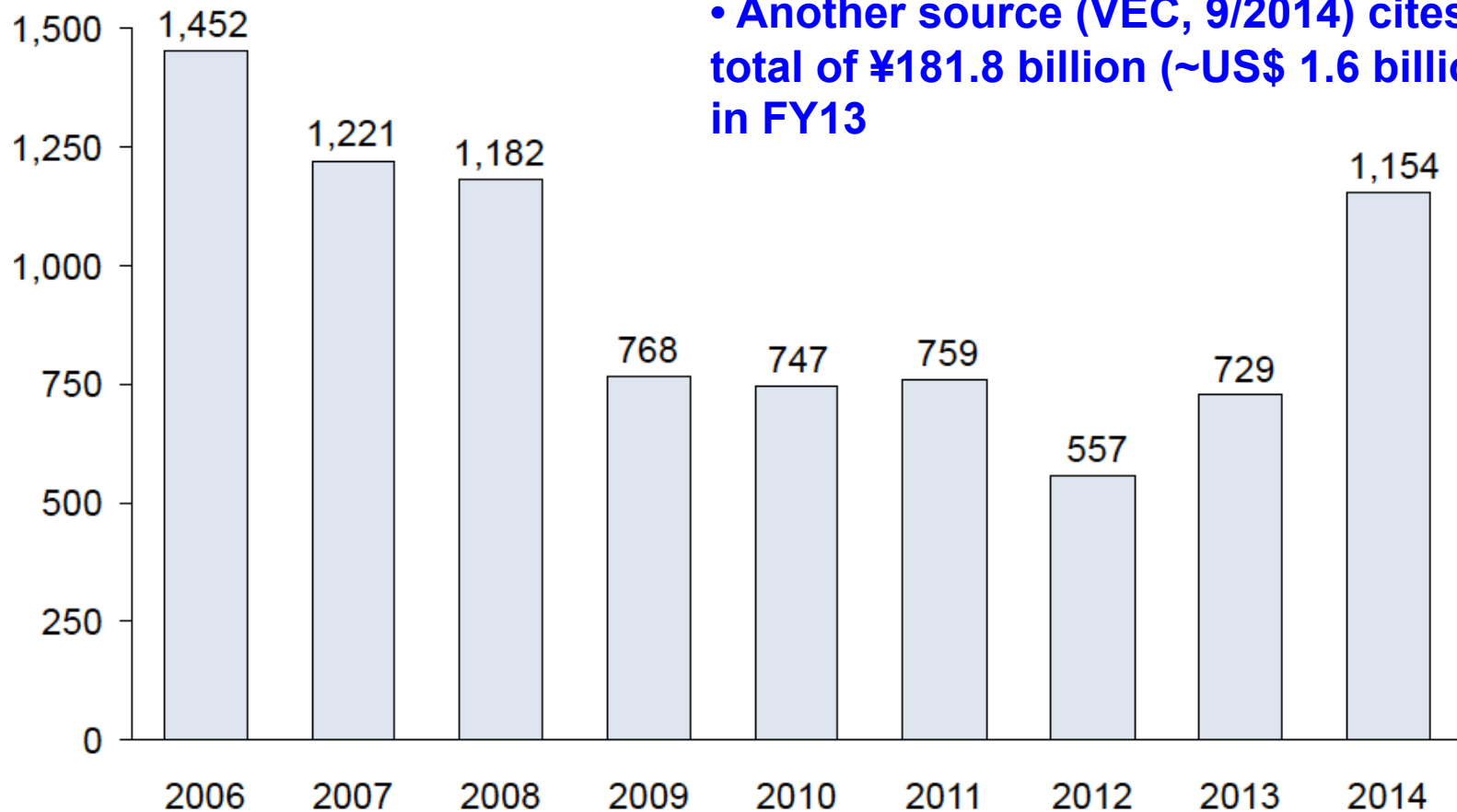
# Still, obvious that VC is growing in India



# Volume of Japanese Venture Capital Investments

## Volume of VC investment\*

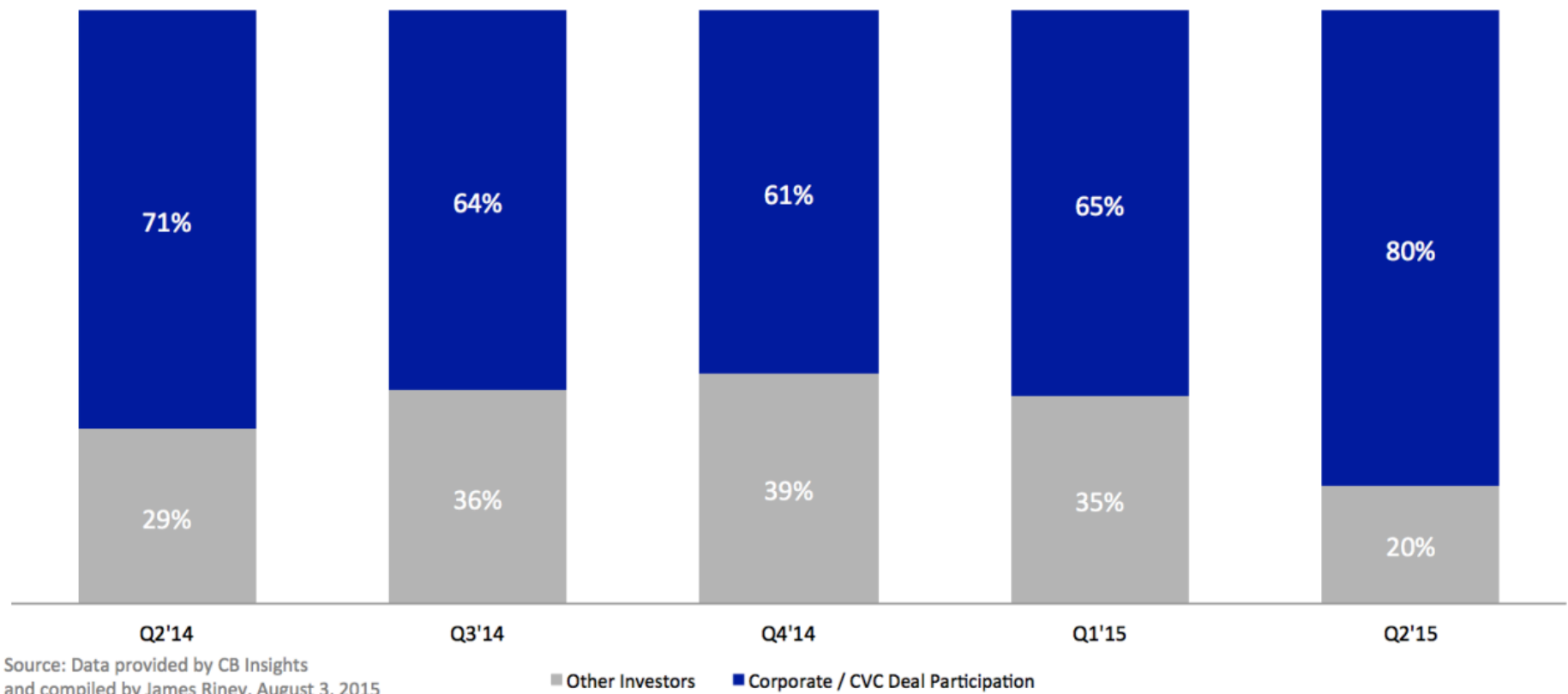
(USD million; USD 1 = JPY 100)



- Source: Japan Venture Research
- Another source (VEC, 9/2014) cites total of ¥181.8 billion (~US\$ 1.6 billion) in FY13

# Corporate venture capital predominates in Japan

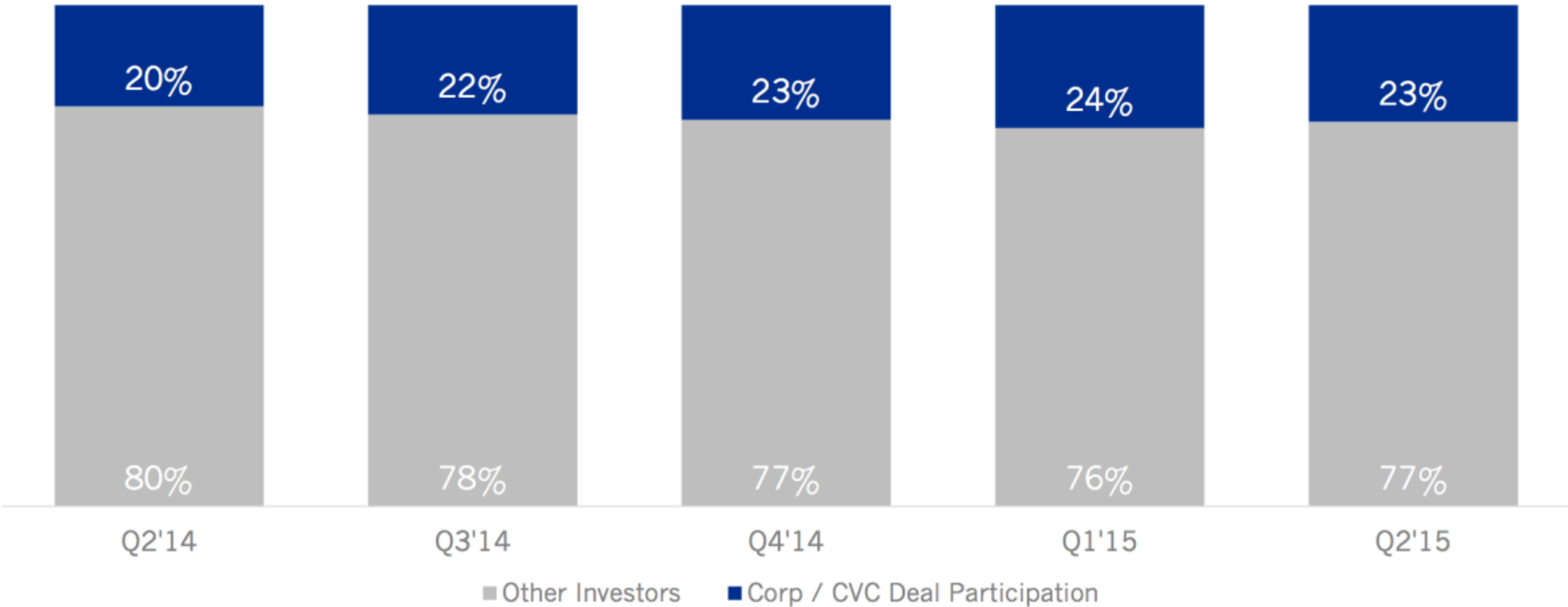
CVC Participation in Japan Deals to VC-Backed Companies  
Q2'14 - Q2'15



From <<http://techcrunch.com/2015/08/13/in-japan-corporate-venture-capital-is-king/>>

# For comparison: CVC participation in deals in U.S.

## CVC Participation in North American Deals to VC-Backed Companies Q2'14 - Q2'15



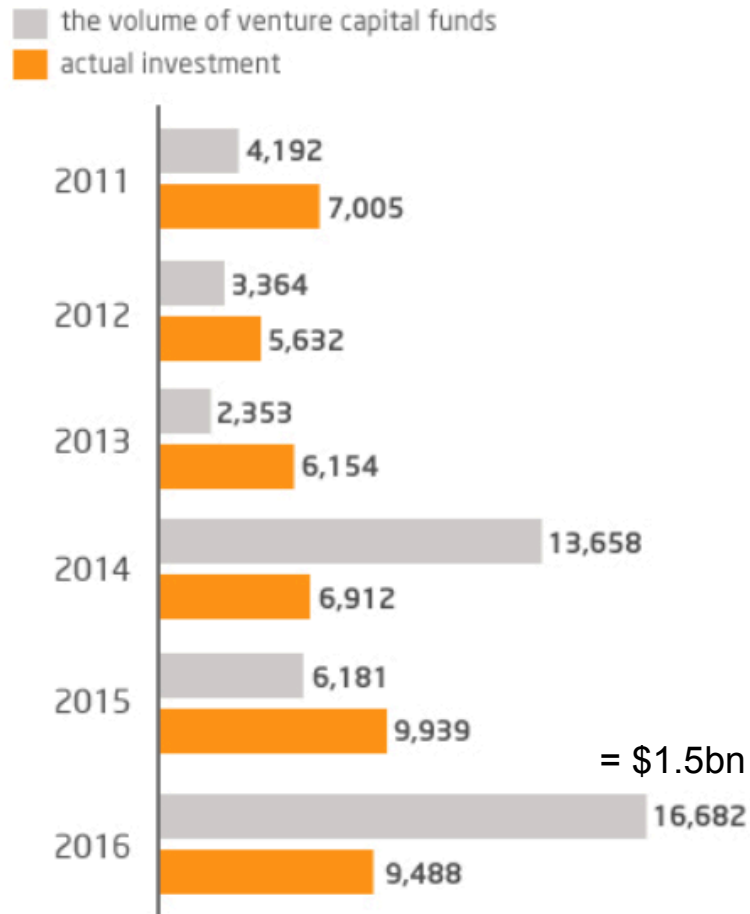
Source: Data provided by CB Insights, July 23, 2015

From <<http://techcrunch.com/2015/08/13/in-japan-corporate-venture-capital-is-king/>>



# South Korean VC investments

Venture capital funds and investment in H1  
(unit: 100 million won)



- ◆ Available funds (raised by VCs) have increased, but amount of investment has not kept pace
- ◆ Tax incentives have increased participation by “non-public” institutions
- ◆ Source: *Pulse* (Maeil Business News, 2016.07.26)

# Funding for startups in S. Korea, another view

**\$513.8M**

Funding in last year

**-70.31%**

YoY Funding Growth

**58**

Deals in last year

**-6.45%**

YoY Deal Growth

**15**

Avg Deals per Quarter

**\$280.6M**

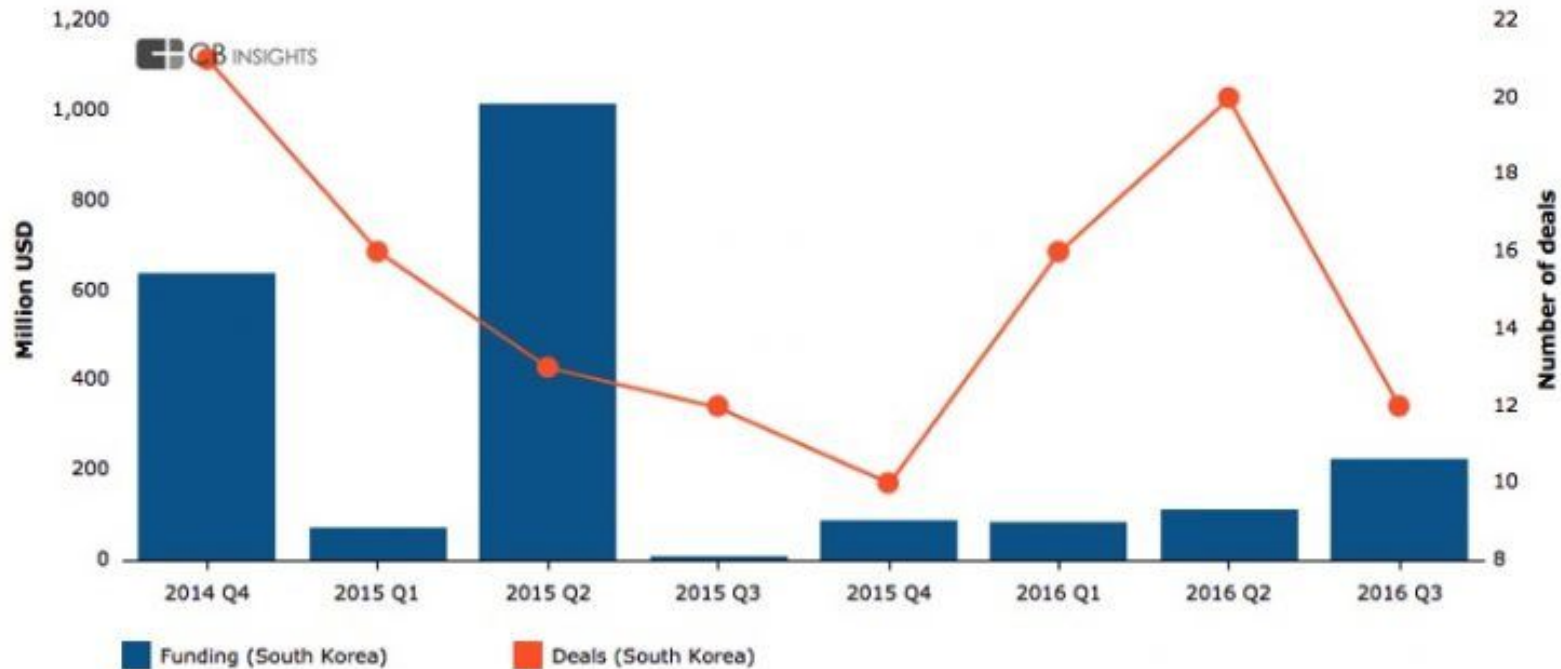
Avg Funding per Quarter

**Q2'15**

Biggest Quarter  
(\$ Funding)

**Q4'14**

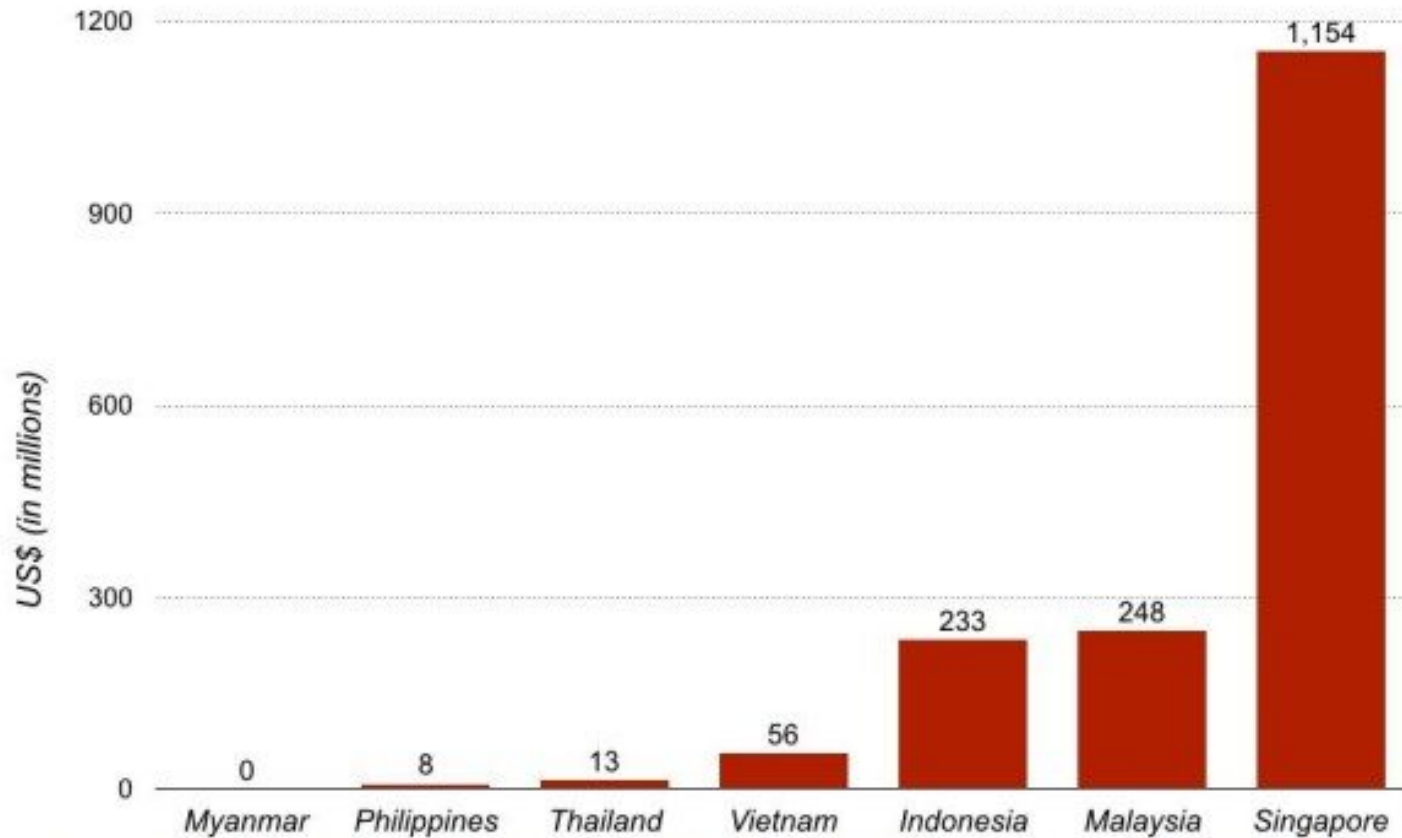
Biggest Quarter  
(# of deals)



# VC funding in SE Asia



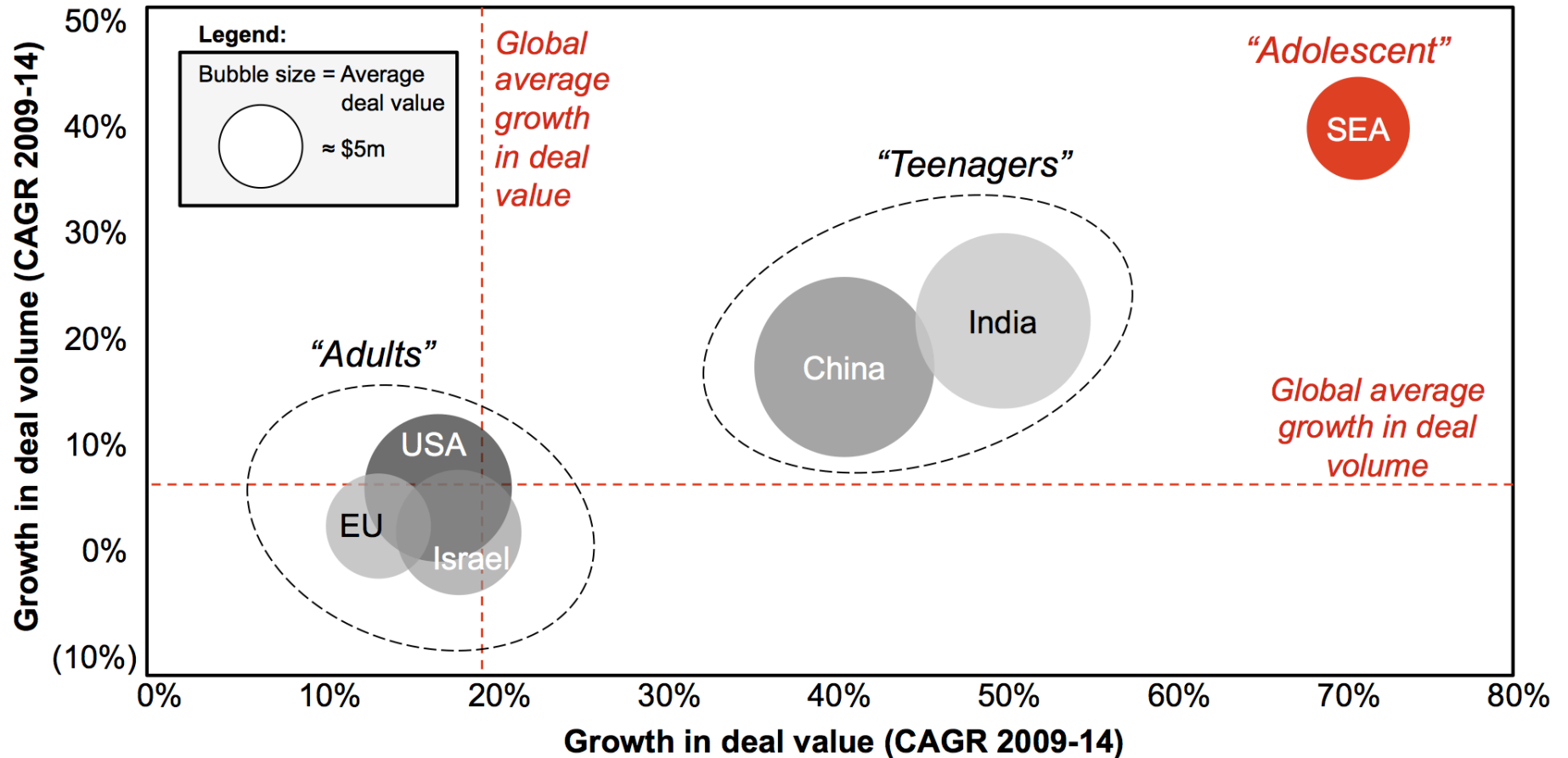
# SE Asia funding is happening mostly in Singapore



**Figure 1: Venture Capital Investments in Southeast Asia from January - May 2016  
(in US\$ millions)**

# Interesting summation of VC investing

Growth in both deal value and volume, 2009-14



Source: Preqin, AVCJ, Dow Jones Venture Source, EVCA, NVCA, Bain & Co, Ernst & Young, DTaslim Analysis  
Note: CAGR - Cumulative Annual Growth Rate

<https://dimitaslim.com/vc-startup-list/southeast-asia-versus-the-world>,  
February 15, 2016

# People flow patterns in Asia



- ◆ **Entrepreneurs do exist everywhere**
- ◆ **Growth stage is the bigger problem: Asia labor markets tend to lack good people who are willing to work for (other people's) startups**
  - ◆ **Incentivization by start-up companies is not sophisticated (startup wages cheap, little equity – creates less team cohesion)**
  - ◆ **“BAT” (Baidu, Alibaba, Tencent) draining off good workers in China**
- ◆ **Social stigma: not only fear of failure, but also reluctance to go to a nonprestige company – family pressure**
- ◆ **Relative lack of mobility – career cost of failure high**
  - ◆ **Entrepreneurs tend to stay with their company after exit – relative lack of clear expectations about exit: so far, few serial entrepreneurs in Asia**

# Idea and knowledge flow in Asia

- ◆ **Most Asia countries have focused on increasing IP output from universities, research institutions; emphasis on tech transfer**
  - ◆ Not enough attention to flow of business knowledge to founders
- ◆ **Mentoring is not well-developed**
  - ◆ Considerations of “face”
  - ◆ Less confrontational board – management relations
  - ◆ Confucian traditions of apprenticeship (imitate the master, don’t expect explanations or analysis)
- ◆ **Start-up companies arguably have more difficulty getting to market in Asia (except China)**
- ◆ **Failure of open innovation systems – start-up companies lack recipients for ideas**
  - ◆ Big companies may buy start-ups, but usually fail to realize the potential of the external idea

# Summary and final comments

- ◆ **Entrepreneurship is a major topic of interest all across Asia**
  - ◆ See sustained interest as well as minor slowdown in keeping with per capital GDP increase across major Asia economies
- ◆ **More resources flowing into Asia ecosystems; US investors are active**
  - ◆ Exits are still not as well developed as in U.S.
  - ◆ People flow is still constrained by preference for stability
- ◆ **Factors for 2017**
  - ◆ Concern about overall economic conditions: trade war?
  - ◆ Nature of the current macro-economic upturn: finally getting away from influence of 2008 crash – or going into the next bubble?
- ◆ **SE Asia seems to be the hottest region: demographics and new middle class spending (remember April 4, 2017 seminar)**