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## Select Figures and Tables of Japan's Startup Ecosystem

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# Select Figures and Tables of Japan's Startup Ecosystem

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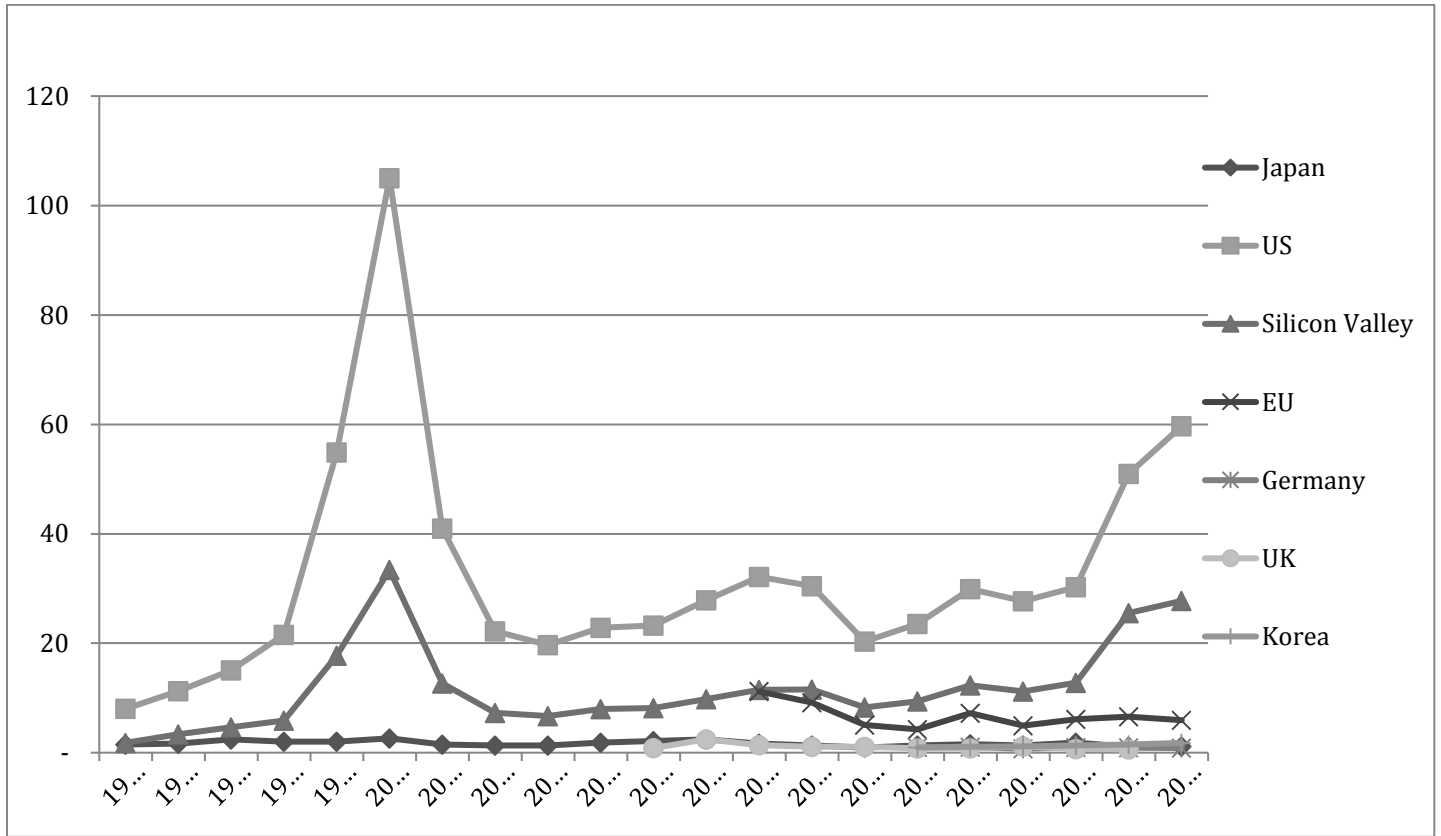
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**Figure 1. Some Regulatory Changes to Foster Japan’s Startup Ecosystem**

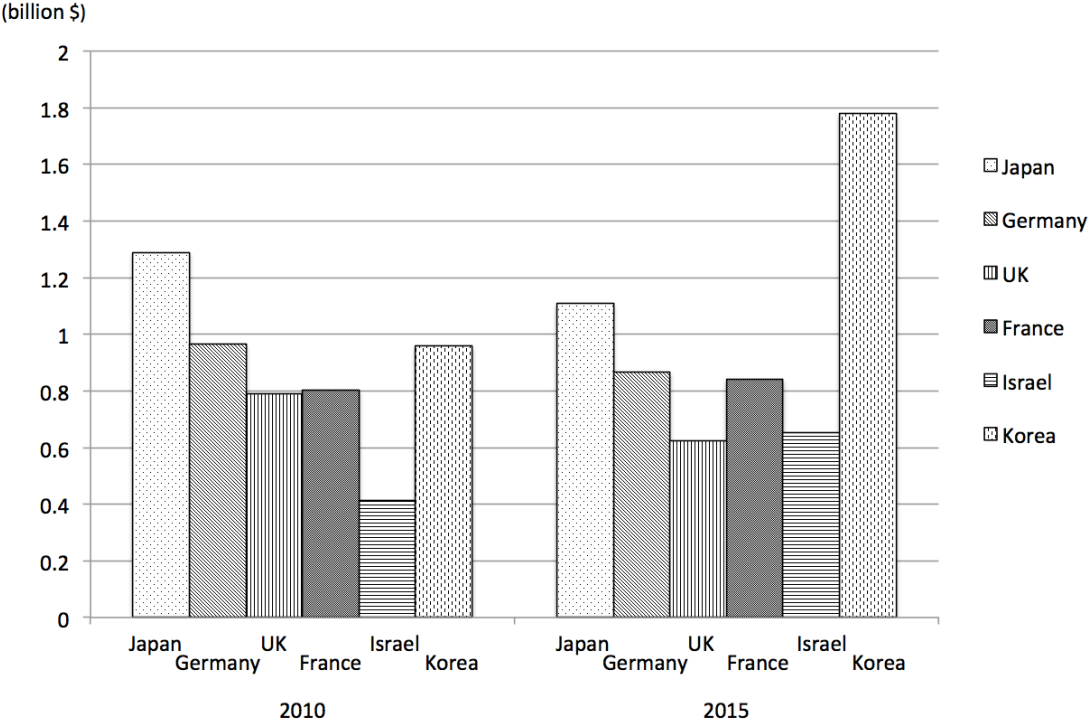
<b>Policy Area</b>	<b>Year(s)</b>	<b>Law, Goal</b>
Stock Options	1997, 2001	Commercial Code amended to introduce, then expand stock options
Angel Investor Tax	1997, 2008	Amendment of “Act on Special Measures Concerning Taxation” introducing and expanding Angel investment tax incentives
Corporate Organization	1997, 2005, 2006	Creation of “Limited Partnership Act For Investment” enabling LPs, Creation of “Limited Liability Partnership Act” enabling LLPs, amendment of “Companies Act” enabling LLCs.
University-Industry Ties	1998, 1999	Creation of TLO incentives with “Act to Facilitate Technology Transfer from Universities to the Private Sector,” and Japanese version of Bayh-Dole Act giving intellectual property for government-funded research to universities and research institutes.
Funding Entrepreneurship	2009	Creation of Innovation Network Corporate of Japan (INCJ),
	2014	Creation of “Industrial Competitiveness Enhancement Act” allowing national universities to invest in venture capital funds and other entities.
Stock Options	1998, 2000	Amendment of “Securities and Exchange Act” deregulation stock exchanges

Figure 2. Amount Invested by Venture Capitalists (billions USD)



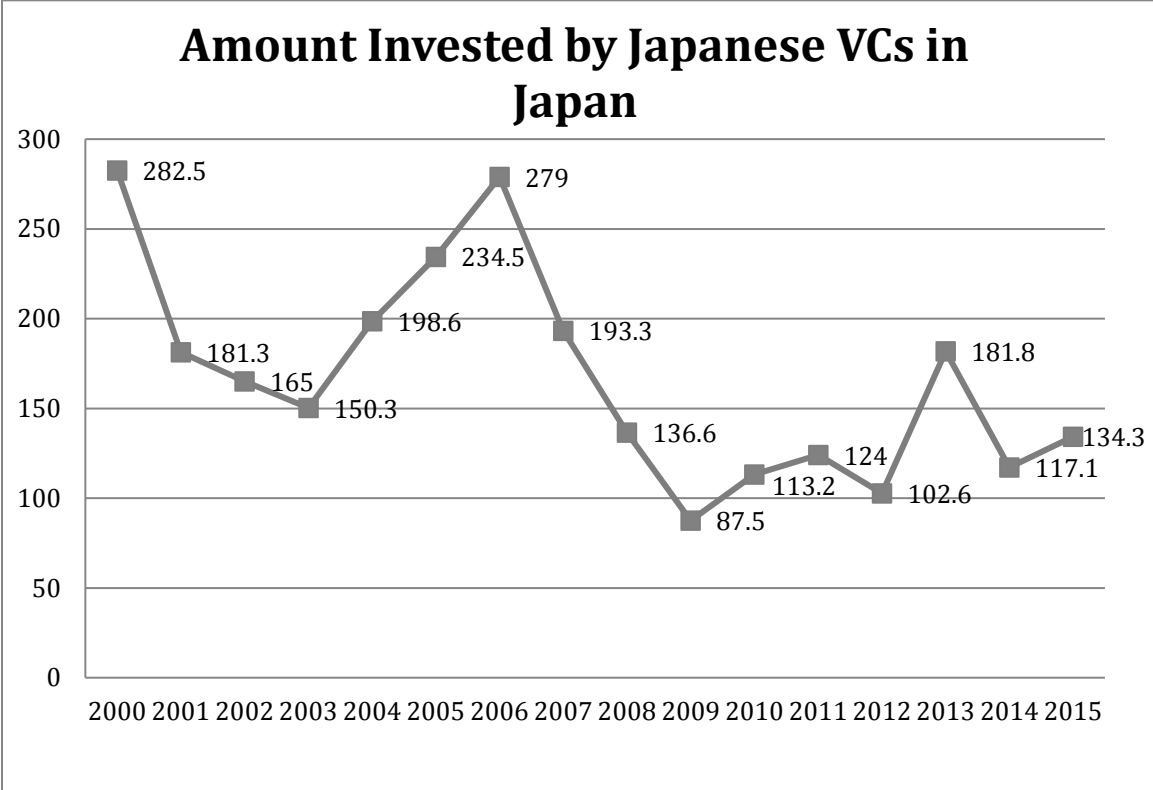
Source: Venture Enterprise Center, NVCA, EVCA, BVCA, GVCA, KVCA

**Figure 3. Venture Capital Investments, Selected Countries, 2010, 2015**



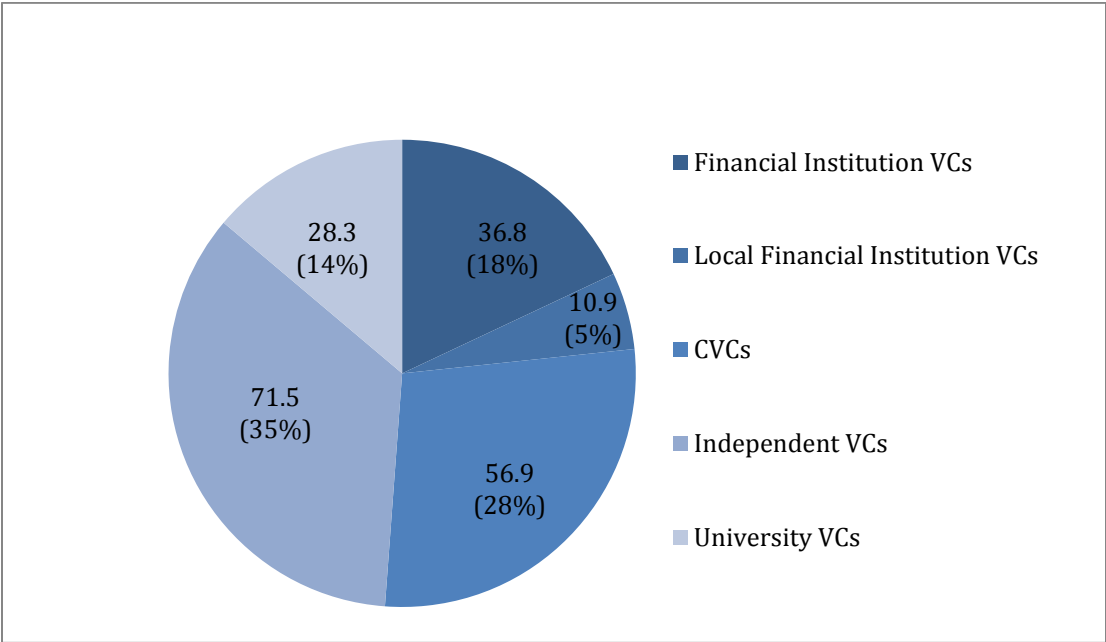
Source: Venture Enterprise Center, GVCA, BVCA, AFIC, IVC Research Center, KVCA  
 \*Note that UK's data is as of 2014.

Figure 4. VC Investments in Japan



Source: Venture Enterprise Center

Figure 5. Total Capital in Japanese VC Funds Created in 2015



Source: JVCA

**Figure 6. Major Venture Capital Fundraising by Japanese Startups, 2015**

<b>Company</b>	<b>Amount Raised (billion yen)</b>	<b>Description</b>	<b>Founder</b>	<b>Education</b>
Spiber	10.54	New-generation biomaterial development	Kazuhide Sekiyama	Keio University
Metaps	4.89	Marketing tools and consulting service in mobile business	Katsuaki Sato	Waseda University
Freee	4.49	Cloud-based accounting software	Daisuke Sasaki	Hitotshbashi University
Raksul	3.99	Commercial printing service	Yasukane Matsumoto	Keio University
Megakaryon	2.54	Producing platelet products from iPS cells	Genjiro Miwa	University of Tokyo, Harvard University
Quantum Biosystems	2.4	Commercial DNA sequencer	Toshihiko Honkura	University of Tokyo, Columbia University
Plus One Marketing	2.13	Mobility hardware products made by Japan	Kaoru Masuda	Waseda University
Preferred Networks	1.9	Industrial IoT applications with AI	Toru Nishikawa, Daisuke Okanohara	University of Tokyo, University of Tokyo
AXELSPACE	1.89	Commercial microsatellite imaging and data service	Yuya Nakamura	University of Tokyo
Treasure Data, Inc.	1.77	Cloud data management platform	Hiro Yoshikawa	Waseda University
GLM	1.69	EV Development / providing EV platform	Hiroyasu Koma	Kyoto University
Origami	1.59	Mobile payment service	Yoshiki Yasui	Waseda University, University of Sydney
iPS PORTAL	1.53	Instruments to analyze and measure iPS cells	Syosaku Murayama	Doshisya University
seven dreamers	1.52	R&D of carbon tool and medical equipment	Shin Sakane	University of Delaware
Money Design	1.5	Financial portfolio design with AI	Mamoru Taniya, Tomoyoshi Hirose	University of Tokyo, Yokohama National University
CYFUSE	1.41	3D tissue-engineering technology	Koji Kuchiishi	Keio University
from scratch	1.29	Next-generation marketing platform	Yasuhiro Abe	Nihon University
SmartNews	1.19	News discovery app	Ken Suzuki	Keio University, University of Tokyo
Ptmind	1.1	Data analysis and monitoring	Zheng Yuan, Takashi Ando	Nihon University, Rikkyo University



Money Forward	1.03	Online application for personal accounting	Yosuke Tsuji	Kyoto University, University of Pennsylvania
AnyPerk	1.02	Integrated perks and rewards platform	Taro Fukuyama	Keio University
FOODiSON	1.01	Fresh fish distribution platform	Tohru Yamamoto	Hokkaido University
JOMDD	1.01	Medical device incubator	Takahiro Uchida	Fukushima Medical University, Harvard University
Retty	1.0	Social gourmet site	Kazuya Takeda	Aoyama Gakuin University
LOCONDO	1.0	Shoes and fashion e-commerce service, buy first and then choose	Yusuke Tanaka	Hitotsubashi University, UC Berkeley

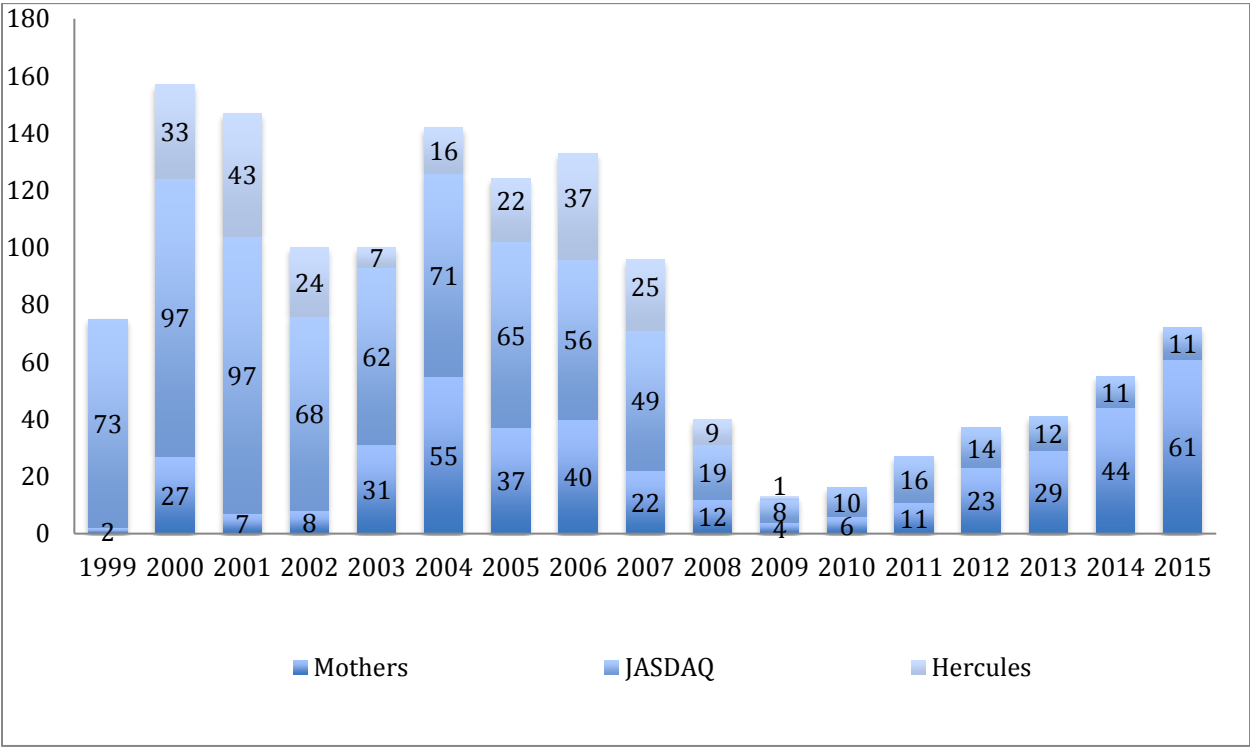
Sources: Japan Venture Research Co., LTD

**Figure 7. Amounts Raised in IPO, Small-cap Markets in Japan, US**

	Average (million \$)		Median (million \$)	
	Japan (Mothers/JQ)	US NASDAQ	Japan (Mothers/JQ)	US NASDAQ
2015	7.6	116.0	3.5	75.0
2014	8.7	121.6	5.7	65.0

Source: Tokyo Stock Exchange, NASDAQ

**Figure 8. Number of IPOs on Japan’s Small Capitalization Markets, 1999-2015 (Fiscal Years)**



Sources: Tokyo Stock Exchange, METI

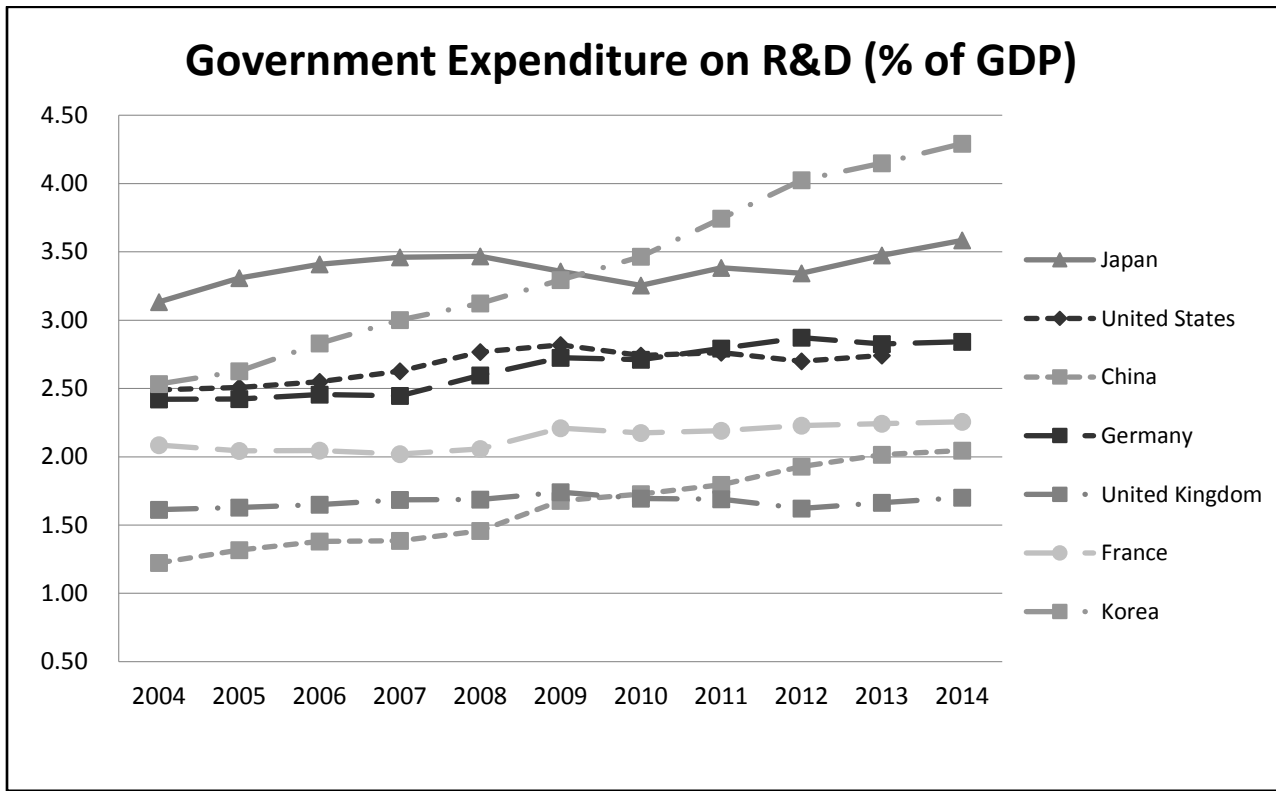
**Figure 9. Examples of IPOs in Japan**

<b>Company</b>	<b>Date</b>	<b>Description</b>	<b>Estimated Amount* (million \$)</b>
metaps	2015/08/28	Marketing tools and consulting service in mobile business	31.4
Healios	2015/06/16	iPSC regenerative medicine products	60.1
Gunosy	2015/04/28	News curation service	43.9
SHIFT	2014/11/13	Software testing service	1.2
CYBERDYNE	2014/03/26	Robot suit	42.8
Minnano Wedding	2014/03/25	Wedding-related buzz marketing site	22.5

Figure 10. Some Acquisitions of Japanese Startups

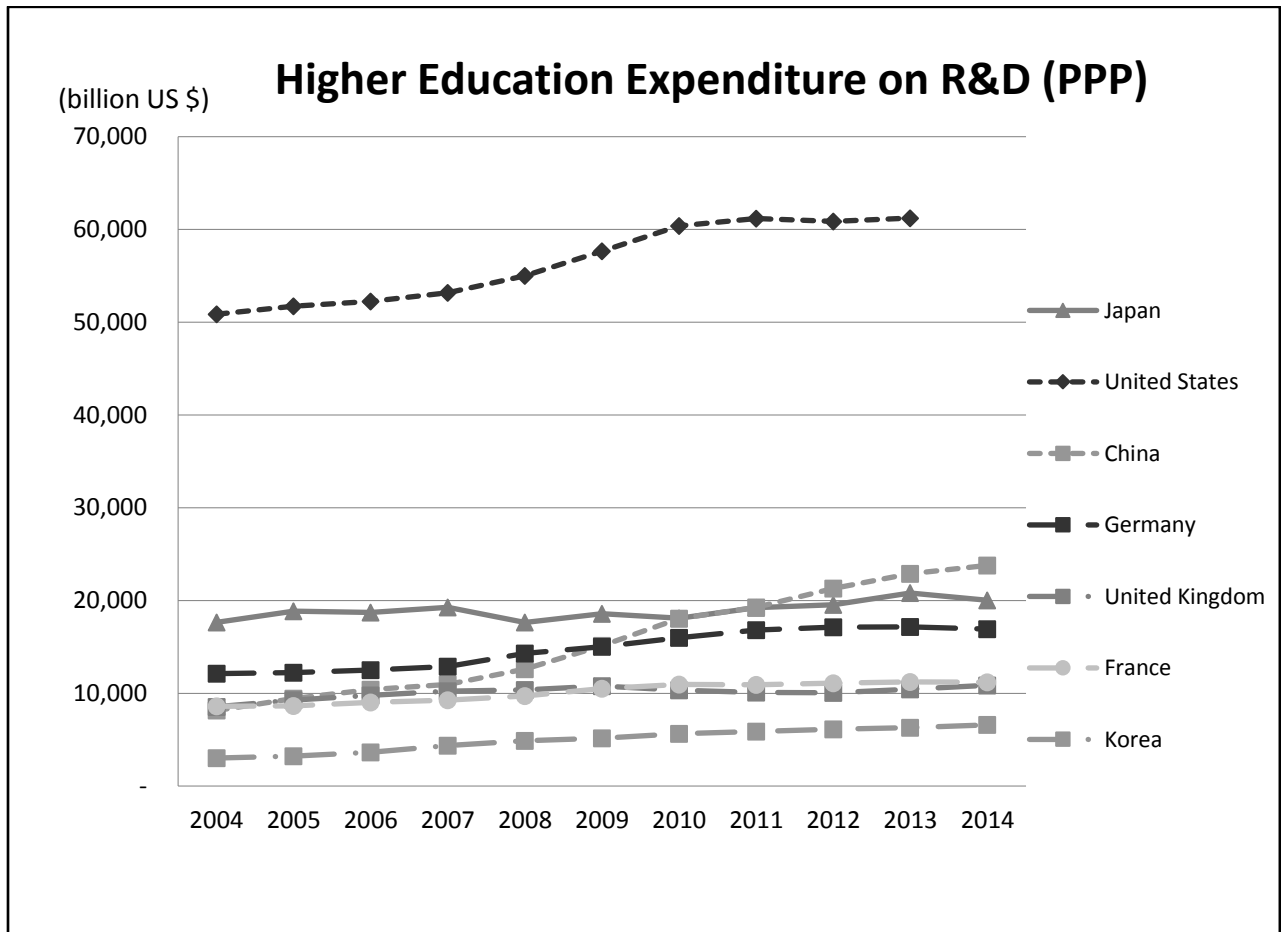
<b>Date Announced</b>	<b>Acquirer</b>	<b>Target</b>	<b>Target Company's Business</b>	<b>Estimated Amount (billion yen)</b>
04/2015	Cookpad	Minnano Wedding	Wedding-related buzz marketing site	2.865
03/2015	start today	Aratana	E-commerce solution provider	2.9
03/2015	mixi	Hunza	Online ticket flea market service	11.5
02/2015	mixi	Muse & Co.	Women's fashion online shopping	1.76
12/2014	GREE	sekaie	Online fixed-price renovation service	1.3
10/2014	DeNA	MERY	Peroli: Ladies fashion curation service.	5
		iemo	Home-design curation service.	
09/2014	KDDI	nanapi	Japan's largest lifehack media site	?
09/2104	KDDI	FxCamera	Smartphone camera apps	?
10/2013	Rakuten	spotlight	sumapo: Rewarding app for customers who visit participating stores	?
09/2013	Cookpad	Coach United	cyta: C2C market place for coaches and people who seeks lessons	1
07/2013	start today	Bracket	STORES: Service allows anyone to quickly get into the online selling business	0.6

Figure 11. Government Expenditure on R&D (% of GDP), 2004-2014



Source: SourceOECD

Figure 12. Higher Education Expenditure on R&D (PPP), 2004-2014



Source: SourceOECD

**Figure 13. Employment Cutbacks in Large Japanese Corporations, 2010-2015**

<b>Company</b>	<b>Number of Employees Cut 2010-2015 (persons)</b>	<b>Percentage of Workforce Cut 2010-2015 (%)</b>
NEC	42,413	30
Hitachi	41,071	11
Sony	30,400	18
Panasonic	20,461	7
Ark	15,128	82
Mabuchi Motor	13,196	32
Nissan	12,734	8
Pioneer	9,922	31
Uniden	8,130	83
TEPCO	6,762	13
Nippon Express	6,190	9
Olympus	5,801	16
Taiheiyo Cement	5,447	29
USEN	5,204	63
Isetan Mitsukoshi Holdings	4,749	27
Nippon Sheet Glass Co	4,357	14
TOTOKU	3,960	79
Sharp	3,891	7
Tokyu	3,739	15
Teijin	3,697	19

Source: <http://toyokeizai.net/articles/-/61157?page=2>



**Figure 14. Japanese Participants in Y Combinator, 500 Startups**

Y Combinator

<b>Participant</b>	<b>Company</b>	<b>Education</b>	<b>Description</b>	<b>Program Year</b>
Taro Fukuyama	AnyPerk	Keio University	Integrated perks and rewards platform	2012(*1)
Meg Nakamura	Shift Payments	Princeton University	Bitcoin debit card	2014(*2)

\*1. Total participants (company): 46 (2012 Winter)

\*2. Total participants (company): 53 (2014 Spring)

500 Startups

<b>Participant</b>	<b>Company</b>	<b>Education</b>	<b>Description</b>	<b>Program Year</b>
Naoki Shibata	SearchMan	University of Tokyo, Stanford University	App recommendation engine	2011(*1)
Koichi Fujikawa	FlyData (formerly Hapyrus)	University of Tokyo	Big data warehousing platform	2011(*2)
Tomohide Kamei	Tokyo Otaku Mode	Unknown	Japanese pop culture community	2012(*3)
Yusuke Takahashi	AppSocially	Keio University	Tool for integrating customer-acquisition function into mobile apps	2013(*4)
Satoshi Sugie	WHILL	Ritsumeikan University	Personal mobility device with FDA clearance	2013(*4)

\*1. Total participants (company): 25 (Batch2)

\*2. Total participants (company): 34 (Batch3)

\*3. Total participants (company): 24 (Batch4)

\*4. Total participants (company): 29 (Batch6)

**Figure 15. Silicon Valley Startup Ecosystem Characteristics Compared to Japan in mid-100s, Japan in 2016**

<b>Silicon Valley Startup Ecosystem Characteristic</b>	<b>Japan in the mid-1990s: impediments</b>	<b>Japan in 2016: changes that facilitate startup ecosystem</b>
<b>Financial System: Venture capital</b>	Bank-centered, traditional financial markets	New small cap financial markets, growing VC industry, rise of independent VCs
<b>Labor Market: fluid, diverse, highly skilled</b>	Long term employment with seniority ties creating illiquid labor markets. Best and brightest locked into large firms for entire career	Increasing labor mobility, especially in IT sector and with foreign firms. Lower prestige and opportunity with large firms
<b>Industry-University-Government Ties</b>	Numerous formal regulatory constraints	Active efforts by universities, private venture capital, and government to spin out successful startups with university technology
<b>“Open” innovation with large firms and small firm symbiosis</b>	Closed innovation with large firms in-house R&D and uninterested in business with startups	Firms more interested in open innovation, participation in VC funds, business with startups.
<b>Social system encouraging entrepreneurship</b>	Entrepreneurship seen as low prestige vis-à-vis large firms and government	Rising attractiveness of entrepreneurship as large firms enter competitive crises, increases cases of successful startups
<b>Professional services ecosystem</b>	Small size of professional ecosystem	Law firms and accounting firms setting up startup-focused practice areas to foster and benefit from growing startup ecosystem