

Stock Price Performance of a Portfolio of Japanese Ventures After IPO

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Abstract

The paper examines stock market performance of a portfolio of 47 Japanese ventures that were founded by young entrepreneurs after 1995 and held an initial public offering between 2000 and 2021. Assuming investments were made on the day of the IPO of each venture, it is found that the ventures portfolio significantly outperformed the Nikkei Average in most years between 2000 and 2023. However much of the performance differential is attributable to one or several of the ventures in the portfolio.

Keywords: startups, ventures, IPO, stock market, entrepreneurship, Japan

JEL classification: G11, G24, L26

1. Introduction

Initial public offerings (IPO) receive much attention, especially if the company began as a startup founded by young entrepreneurs, developed an innovative product, and demonstrated exceptionally fast growth. Much less attention is paid to how such new venture stocks perform in the years after the IPO. To pursue this topic, this paper examines post-IPO stock market performance by constructing a portfolio of ventures that went public in Japan during the first two decades of the 21st century.

Although there is no clear-cut definition of a “venture,” many of the companies considered to be ventures are young, and had been founded by young entrepreneurs. To study such ventures, a portfolio was assembled by searching for all firms that were established in Japan after 1995, were publicly traded on a Japanese exchange until 2023, and whose founder began his or her entrepreneurial career before turning 30 years of age. Despite an institutional environment that makes entrepreneurship by the young more difficult than in the United States (Rtischev 2017), 47 such firms have been identified and included in the portfolio. The goal of the paper is to compare stock market performance of this portfolio from 2000 to 2023 to the performance of the Nikkei Average stock index over the same period, assuming equal investments were made on the day of the IPO of each of the firms.

The results indicate that the ventures portfolio significantly outperformed the Nikkei Average in most years. However, much of this performance advantage is attributable to one of the ventures in the portfolio. Moreover, at the end of the analysis period in mid-2023, although the portfolio was significantly ahead of the Nikkei Average, only about half of the firms were yielding a positive return, and less than a quarter of the firms were outperforming the Nikkei. The dispersion of returns across firms

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in the portfolio and price movements of the portfolio as a whole over the 24 years were large.

Previous research analyzing post-IPO performance of ventures has lumped firms started by young entrepreneurs with firms founded by industry veterans and those that were spinoffs from large established firms. For instance, Krishnan et al. (2011) documented the positive relationship between post-IPO performance of ventures and the reputation of the venture capital firms backing them, but did not distinguish firms that began as startups headed by young founders from other kinds of ventures.

Previous research analyzing the age of company founders has not focused on post-IPO performance. For instance, Azoulay et al. (2020) conducted a statistical study of the age of founders of new firms in the United States. They found that the mean founder age for the highest-growth new ventures was 45. Even by restricting the sample to high technology sectors and entrepreneurial regions of the country they could not document a mean founder age that much lower. They also found that, conditional on starting a firm, a 50-year-old founder is 1.8 times more likely to achieve extraordinarily high growth than a 30-year-old founder. This research goes far to discredit the popular notion – extrapolated from a few legendary startups in Silicon Valley – that young entrepreneurs situated in entrepreneurial clusters are especially prone to create high-growth ventures. It does not, however, consider how ventures founded by young entrepreneurs perform on the stock market after IPO, which is the subject of this paper.

The rest of the paper is organized as follows. The next section describes the criteria used to construct the ventures portfolio, and provides an overview of the portfolio firms. Section 3 explains how the return of the ventures portfolio is calculated and compared to a stock market index. Section 4 presents the results, detailing the performance of the ventures portfolio, comparing it to the Nikkei Average index, and considering robustness by excluding outliers. Section 5 concludes. The Appendix presents stock price data and rates of return for all 47 ventures and the Nikkei Average, disaggregated by firm and year.

2. Portfolio of ventures

We will evaluate stock market performance of a portfolio of ventures that meet the following criteria:

1. The company was founded in Japan after 1995
2. The company held an IPO between 2000 and 2021
3. The company was publicly traded from IPO until end of June, 2023
4. The founding team was headed by an individual who became an entrepreneur by establishing his/her first business after 1990 and before turning 30 years of age.
5. The founding team, funding, branding, technology and other important resources were assembled anew by an individual entrepreneur, rather than having been transferred from an established firm as in the case of spinoffs or corporate intrapreneurship.

The principal sources consulted to find companies that match these criteria were the business press and financial databases of publicly listed companies. To avoid selection bias, an extensive search was conducted to find all companies that meet the above criteria. A total of 47 companies were identified. Due to data limitations, especially with regard to the age of entrepreneurs at the time of their first venture, it is likely that additional cases exist.

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We will refer to the 47-firm portfolio as V47. The firms are listed in Table 1, ordered chronologically by the date of IPO.

Table 1. The V47 portfolio. Market cap is shown in hundreds of million yen (10⁸ yen) as of August 2, 2023. Number of employees are as reported by firms at the end of FY2022. Date of founding indicates the official registration of the company that held the IPO, which may be after the start of actual business activities. Only the principal founder / CEO is shown; co-founders are not listed.

Ticker	Company name	Founded	IPO	Market cap	Employees	Founder-CEO	Year of birth	Gender	Age at first business start	Age at IPO
4751	CyberAgent,Inc.	1998/3/18	2000/3/24	4,576	6,559	Susumu Fujita	1973	M	25	27
4776	Cybozu, Inc.	1997/8/8	2000/8/23	1,168	1,115	Yoshihisa Aono	1971	M	26	29
2371	Kakaku.com,Inc.	2000/5/25	2003/10/9	4,296	1,361	Mitsuaki Makino	1973	M	24	30
2389	DIGITAL HOLDINGS,INC.	1995/4	2004/2/13	246	1,022	Noboru Hachimine	1967	M	27	37
3778	SAKURA internet Inc.	1999/8/17	2005/10/12	386	755	Kunihiro Tanaka	1978	M	18	27
3793	Drecom Co.,Ltd.	2003/3/24	2006/2/9	135	368	Yuuki Naito	1978	M	23	28
2928	RIZAP GROUP,Inc.	2003/4/10	2006/5/30	985	5,034	Takeshi Seto	1978	M	25	28
2489	Adways Inc.	2001/2/28	2006/6/20	273	983	Haruhisa Okamura	1980	M	21	26
2121	MIXI, Inc.	2000/10/25	2006/9/14	2,117	1,556	Kenji Kasahara	1975	M	22	31
2122	Interspace Co.,Ltd.	1999/11/8	2006/9/19	71	410	Shinichiro Kawabata	1970	M	28	36
2120	LIFULL Co., Ltd.	1997/3/12	2006/10/31	401	1,473	Takashi Inoue	1968	M	27	38
3092	ZOZO,Inc.	2000/4	2007/12/11	8,500	1,538	Yusaku Maezawa	1975	M	23	32
3632	GREE, Inc.	2004/12/7	2008/12/17	1,118	1,593	Yoshikazu Tanaka	1977	M	27	31
3633	GMO Pepabo,Inc.	2004/3	2008/12/19	91	373	Kazuma Ieiri	1978	M	23	30
2193	Cookpad Inc.	2004/9/1	2009/7/17	170	409	Akimitsu Sano	1973	M	24	36
3653	Morpho,Inc.	2004/5/26	2011/7/21	60	138	Masaki Hiraga	1974	M	29	37
6054	Livesense Inc.	2006/2/8	2011/12/7	74	198	Taichi Murakami	1986	M	20	25
3662	Ateam Inc.	2004/11/1	2012/4/4	135	954	Takao Hayashi	1971	M	26	41
3665	Enigmo Inc.	2004/2/10	2012/7/24	168	115	Shokei Suda	1974	M	29	38
6069	Trenders, Inc.	2000/4/19	2012/10/19	92	162	Kahoko Tsuneyawa	1973	F	27	39
3668	COLOP,Inc.	2008/10/1	2012/12/13	844	1,280	Naruatsu Baba	1978	M	25	34
2931	Euglena Co.,Ltd.	2005/8/9	2012/12/20	1,024	865	Mitsuru Izumo	1980	M	25	32
3182	Oisix ra daichi Inc.	2000/3/31	2013/3/13	860	1,032	Kouhei Takashima	1973	M	27	40
3679	ZIGEXN Co.,Ltd.	2006/6/1	2013/11/22	860	704	Jyo Hirao	1982	M	21	31
6030	Adventure,Inc.	2006/12/21	2014/12/18	716	186	Shyunichi Nakamura	1982	M	22	32
3904	KAYAC Inc.	2005/1/21	2014/12/25	138	577	Daisuke Yanasawa	1974	M	24	40
6047	Gunosy Inc.	2012/11/14	2015/4/28	142	260	Yoshinori Fukushima	1988	M	24	27
6177	AppBank Inc.	2012/1/23	2015/10/15	13	33	Yasuaki Miyashita	1981	M	27	34
3923	RAKUS Co.,Ltd.	2000/11/1	2015/12/9	4,339	2,197	Takanori Nakamura	1973	M	24	42
3930	Hatena Co.,Ltd.	2004/2	2016/2/24	27	178	Junya Kondo	1975	M	26	41
6194	Atrae,Inc.	2003/10/24	2016/6/15	204	95	Yoshihide Arai	1974	M	29	42
6195	HOPE,INC.	2007/5	2016/6/15	49	136	Takayasu Tokitsu	1981	M	24	35
3967	Eltes Co.,Ltd.	2012/4/26	2016/11/29	61	320	Takahiro Sugawara	1979	M	23	37
3990	UUUM Co.,Ltd.	2013/6/27	2017/8/30	138	582	Kazuki Kamada	1983	M	28	34
3991	Wantedly, Inc.	2010/9/15	2017/9/14	161	108	Akiko Naka	1984	F	26	33
4385	Mercari,Inc.	2013/2/1	2018/6/19	5,872	2,209	Shintaro Yamada	1977	M	24	41
4449	giftee Inc.	2010/8/10	2019/9/20	464	264	Mutsumi Ota	1984	M	26	35
4477	BASE, Inc.	2012/12/11	2019/10/25	278	266	Yuta Tsuruoka	1989	M	23	30
4480	MEDLEY,INC.	2009/6/5	2019/12/12	1,653	895	Kohei Takiguchi	1984	M	18	35
4499	Speee,Inc.	2007/11/29	2020/7/10	232	409	Tetsushi Hisata	1984	M	23	36
7356	Retty Inc.	2010/11/15	2020/10/30	29	147	Kazuya Takeda	1983	M	27	37
4017	CREEMA LTD.	2009/3/3	2020/11/27	27	87	Koutaro Marubayashi	1979	M	29	41
4165	PLAID,Inc.	2011/10/3	2020/12/17	325	355	Kenta Kurahashi	1983	M	28	37
4173	WACUL,INC	2010/9/27	2021/2/19	69	66	Ryuuhei Obuchi	1987	M	23	34
4175	coly Inc.	2014/2/3	2021/2/26	59	330	Mizuki Nakashima	1988	F	26	33
4379	Photosynth inc.	2014/9/1	2021/11/5	70	165	Kodai Kawase	1988	M	26	33
4419	Finatext Holdings Ltd.	2013/12/27	2021/12/22	376	247	Ryota Hayashi	1985	M	28	36

3. Measures of Stock Market Performance

To measure the performance of the ventures portfolio, we simulate the following investment strategy and compare returns to the same investment strategy applied to the Nikkei Average.

The investment strategy is to buy stock at the closing price on the day of Initial Public Offering of each of the ventures in the V47 portfolio. The strategy invests the same amount into each venture, which means the money invested in the portfolio increases by a fixed amount on the day of each firm's IPO. This ignores the practical impossibility of buying fractional shares of stock, but allows us to construct an index of performance that gives equal weight to each of the ventures in the portfolio.

In order to gauge performance of the venture stocks, the strategy is to also invest the same amount in the Nikkei Average at the closing price on the day of Initial Public Offering of each of the V47 ventures. Thus, the money invested in Nikkei also increases by a fixed amount on the day of IPO of each of the ventures in the portfolio.

We sample the return on the ventures portfolio and the Nikkei portfolio at the end of the second quarter (last trading day in June) of each year from 2000 to 2023. Since only one of the V47 firms went public prior to June 2000, the first sample includes only one stock. The second sample in June 2001 includes that stock and one additional stock of another venture that went public between July 2000 and June 2001. Thus, the annual samples include more and more stocks, reaching 47 stocks in June 2022. Figure 1 shows the number of firms that were post-IPO and trading publicly as of June of each year.

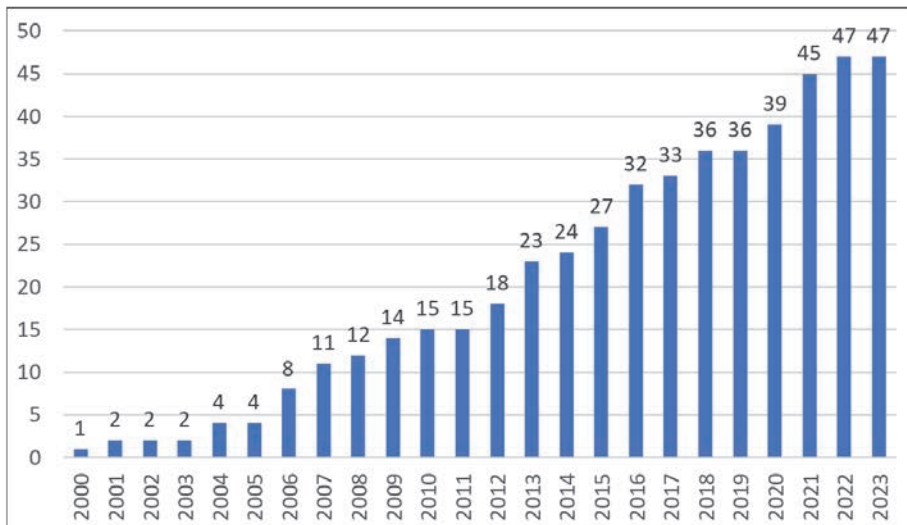


Figure 1. Number of firms in the V47 portfolio that were publicly listed as of end of June of each year 2000-2023.

The following notation helps clarify the details of the stock price data used in the analysis.

We denote the dates at which we sample stock prices as follows:

- Date of IPO of firm i : $t_0(i)$, $i \in \{1, \dots, 47\}$
- Last trading day in June of year y : $t(y)$, $y \in \{2000, \dots, 2023\}$

The firms whose stock prices we sample are:

- F is the set of 47 ventures listed in Table 1.
- $f(t) \subseteq F$ is the subset of 47 ventures that had an IPO prior to t .
- $n(t) \equiv |f(t)|$ is the number of firms that had an IPO prior to t , plotted in Figure 1.

The stock prices we sample and the returns we compute are:

- $V(i, t)$ is the closing stock price of firm i on day t (valid only if the firm had an IPO prior to t). These prices are listed in Table A1 in the Appendix.
- $R_V(i, t)$ is the percent return of the venture i as of date t (valid only if the firm had an IPO prior to t).
- $R_V(t)$ is the percent return by the venture portfolio as of date t (includes all firms that had an IPO prior to t).
- $N(t)$ is the closing price of Nikkei Average on day t . These prices are shown in Table A3 in the Appendix.
- $R_N(i, t)$ is the percent return by Nikkei Average as of date t assuming the investment was made on the day venture i held its IPO.
- $R_N(t)$ is the percent return of the Nikkei portfolio as of date t .

We compute the returns on investment in venture i as of the end of second quarter of year y as follows:

$$R_V(i, t(y)) = 100 \frac{V(i, t(y)) - V(i, t_0(i))}{V(i, t_0(i))}$$

These values are listed in Table A2 in the Appendix.

Analogously, we compute the returns on an investment in Nikkei Average as follows:

$$R_N(i, t(y)) = 100 \frac{N(t(y)) - N(t_0(i))}{N(t_0(i))}$$

These values are listed in Table A4 in the Appendix.

We compute portfolio returns for each year by averaging across all ventures that went public prior to end of June of that year. Specifically, the percent return of the ventures portfolio at the end of June of year y is:

$$R_V(t(y)) = \frac{1}{n(t(y))} \sum_{i \in f(t(y))} R_V(i, t(y))$$

Analogously, the percent return of the corresponding Nikkei Average portfolio at the end of June of

year y is:

$$R_N(t(y)) = \frac{1}{n(t(y))} \sum_{i \in f(t(y))} R_N(i, t(y))$$

The above formulas were programmed in Python using the pandas data analysis library and executed in the Google Colab cloud computing environment. Stock price data was obtained by implementing data scraping Python scripts and applying them to the Yahoo Japan Finance web site.

4. Results

Table 2 and Figure 2 show the returns by the venture portfolio V47 and the corresponding investments in the Nikkei 255 Stock Average, for all the years from 2000 to 2023. V47 yielded positive returns in 16 out of 24 years, whereas the Nikkei portfolio N47 yielded positive returns in 13 years. V47 outperformed N47 in 17 out of 24 years.

Table 2. Percent returns by the V47 and V46 portfolios, and the correspondingly-timed investments in Nikkei Average. Returns are sampled at the end of June for every year between 2000 and 2023, and computed according to the formula for $R_V(t(y))$ and $R_N(t(y))$ specified in Section 3. The rightmost two columns show the difference between V47 and V46, and between the correspondingly-timed investment in the Nikkei Average.

Year	V47	N225-47	V46	N225-46	V47-V46	N47-N46
2000	-67.1	-12.8	-67.1	-12.8	0.0	0.0
2001	-70.3	-28.1	-70.3	-28.1	0.0	0.0
2002	-74.9	-41.1	-74.9	-41.1	0.0	0.0
2003	-86.4	-49.6	-86.4	-49.6	0.0	0.0
2004	24.6	-10.9	24.6	-10.9	0.0	0.0
2005	78.6	-12.9	78.6	-12.9	0.0	0.0
2006	51.7	9.9	51.7	9.9	0.0	0.0
2007	-22.1	24.3	-22.1	24.3	0.0	0.0
2008	-31.4	-8.3	-34.2	-7.6	2.9	-0.7
2009	-30.7	-25.4	-35.1	-24.4	4.3	-1.0
2010	-3.3	-27.8	-13.2	-26.8	9.9	-1.0
2011	27.9	-24.4	4.0	-23.4	23.9	-1.0
2012	14.4	-29.0	2.2	-28.1	12.1	-0.9
2013	136.5	14.9	121.8	16.2	14.7	-1.3
2014	191.4	26.2	170.6	27.5	20.7	-1.4
2015	240.7	62.0	215.8	63.3	24.9	-1.4
2016	200.6	19.6	160.2	20.3	40.4	-0.7
2017	265.4	52.4	202.0	53.3	63.4	-0.9
2018	329.5	64.7	242.5	65.4	87.0	-0.7
2019	182.8	57.1	140.9	57.8	41.8	-0.7
2020	207.2	59.4	160.7	60.0	46.5	-0.5
2021	284.2	93.3	218.7	93.6	65.5	-0.3
2022	124.9	73.5	83.8	73.7	41.1	-0.2
2023	155.2	118.2	104.8	118.4	50.4	-0.2

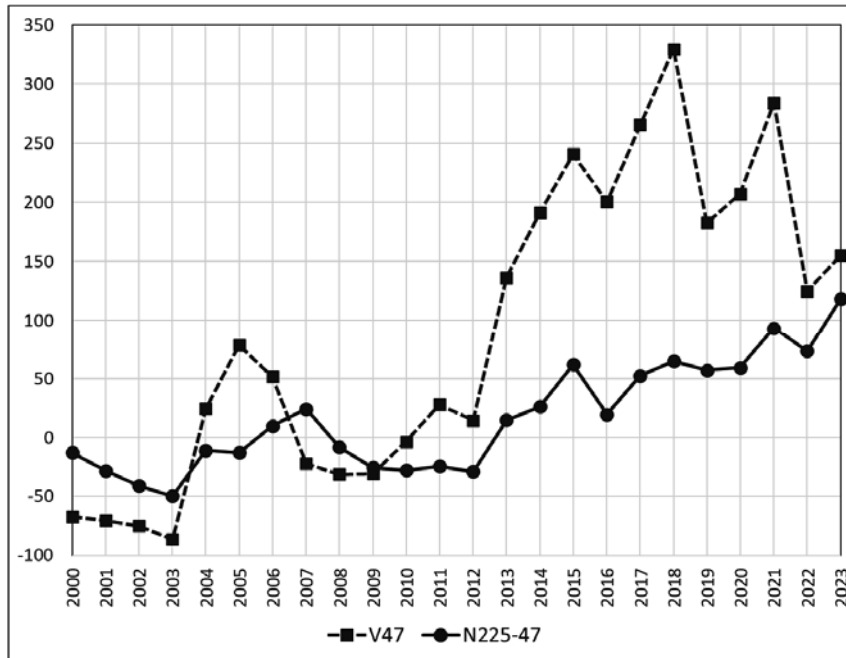


Figure 2. Performance of V47 portfolio compared to Nikkei225 average as of end of June of each year. The numbers are reported in Table 2. Vertical axis indicates percent returns. Horizontal axis indicates the year.

Table 3 shows summary statistics for these two series of returns. The return by V47 portfolio shows much greater variation over the 24 years than the return by N47 portfolio: the highs are much higher (330% vs. 118%) and the lows much lower (-86% vs. -50%). The average return by V47 is much higher than by N47 (89% vs. 17%). At the end of the time series in June 2023, the V47 portfolio had a return of 155%, much higher than the 118% return of the N47 portfolio. The correlation between the ventures and Nikkei portfolios is 0.82, so the two investment strategies are significantly correlated over time, which indicates that post-IPO ventures are not much different from the broad portfolio of 225 major company stocks.

Table 3. Summary statistics of percent returned by the V47 and N47 portfolios at the end of June of every year from 2000 to 2023. Units: percent return.

	V47	N47
minimum	-86.4	-49.6
median	65.1	12.4
mean	88.7	16.9
maximum	329.5	118.2
std deviation	127.8	46.2
correlation	0.82	

Thus, the investment strategy of buying venture stocks on the day of their IPOs has outperformed the strategy of investing the same amounts on the same dates in the Nikkei Average. Let us next consider the robustness of this result.

Figure 3 and Table 4 show returns to the V47 and N47 portfolios at end of the time series in June 2023, disaggregated by firm. Of the 47 ventures in the portfolio, only 25 (53%) had positive returns. In

Table 4. Percent returns as of the end of June 2023 by each of the ventures in the V47 portfolio and by the Nikkei 225 Stock Average, assuming equal amounts were invested in the venture and in Nikkei on the day of IPO of each venture. This data is $R_V(i,t(2023))$ and $R_N(i,t(2023))$, as defined in Section 3. It is the same data as in the rightmost columns in Tables A2 and Table A4, but the firms here are sorted in the order of decreasing returns. The rightmost column shows the difference between the two portfolios: $R_V(i,t(2023)) - R_N(i,t(2023))$. Units: percent.

ticker	V47	N225-47	V - N
3092	2,471.40	106.85	2,364.55
3923	1,436.39	71.95	1,364.44
2371	1,002.74	215.14	787.59
2928	665.85	109.27	556.58
4751	606.01	66.29	539.72
6030	530.77	92.85	437.92
2931	438.74	230.59	208.15
4480	325.50	41.68	283.81
4776	301.49	101.92	199.57
3182	167.17	171.16	-3.99
3778	160.00	146.51	13.49
3668	109.23	240.65	-131.43
3665	97.74	291.01	-193.27
3633	89.89	286.43	-196.54
2389	34.40	214.36	-179.96
3632	32.92	285.36	-252.44
3662	18.95	64.11	-45.16
6194	16.98	108.48	-91.50
2489	16.43	126.57	-110.14
2120	16.34	102.38	-86.04
6054	8.73	280.51	-271.79
3679	1.55	115.77	-114.22
4419	1.55	16.20	-14.65
3991	1.04	67.56	-66.52
4477	0.15	45.57	-45.42
3904	-5.13	86.36	-91.49
4449	-9.47	50.32	-59.78
2121	-14.26	108.18	-122.44
3653	-29.52	231.55	-261.07
6069	-33.70	268.66	-302.35
4385	-36.62	48.97	-85.60
2193	-38.90	253.25	-292.15
6195	-49.68	108.48	-158.16
4499	-54.83	48.89	-103.72
2122	-57.96	109.07	-167.03
6047	-62.65	65.46	-128.11
4379	-63.92	12.08	-76.00
3930	-64.33	108.53	-172.86
3990	-64.79	70.14	-134.93
3967	-69.91	81.29	-151.20
4165	-75.83	23.81	-99.64
3793	-81.41	101.88	-183.29
4173	-83.85	10.56	-94.41
4175	-86.51	14.58	-101.09
7356	-88.59	44.44	-133.03
4017	-92.11	24.56	-116.67
6177	-94.28	83.40	-177.68

contrast, all 47 investments in Nikkei made at the time of ventures' IPOs had positive returns in June 2023. Moreover, only 10 of the 47 ventures (21%) outperformed investments in Nikkei. This implies that the reason V47 outperformed N47 has to do with outstanding performance by a few big winners among the 47 ventures. Three of the ventures returned over 1000%. In particular, the biggest winner has yielded a return of 2471% as of June 2023, greatly exceeding the other two ventures that yielded over 1000%.

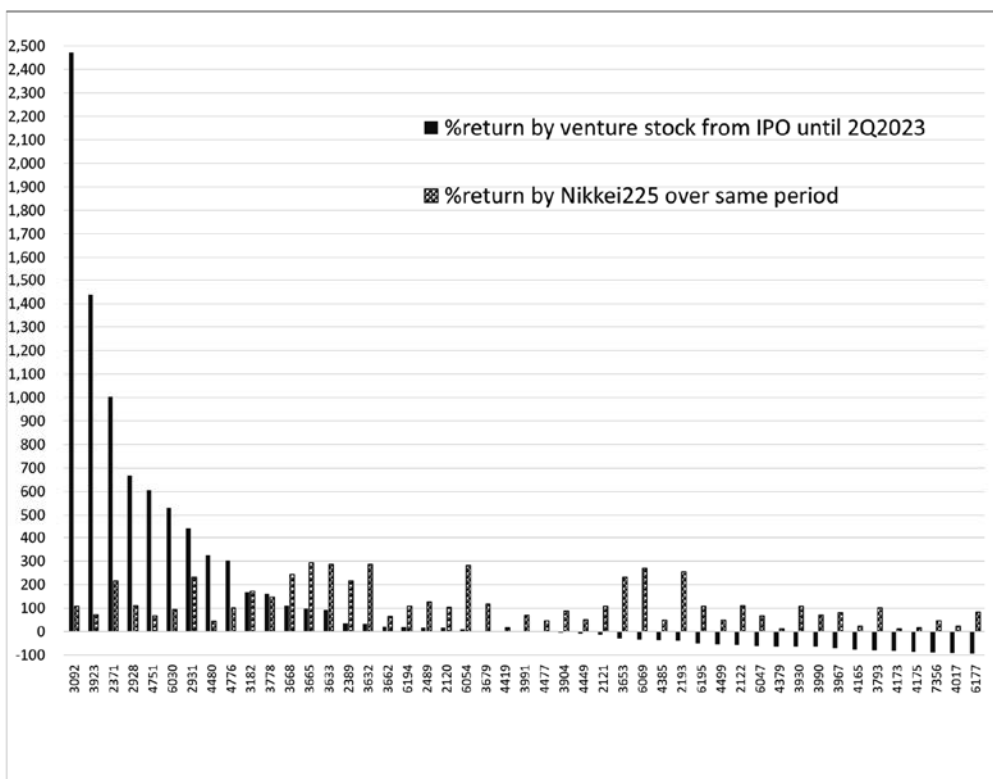


Figure 3. Percent returns as of the end of June 2023 by each of the ventures in the V47 portfolio and the Nikkei Average, assuming investment on the day of IPO of each venture. The vertical axis indicates percent return. The horizontal axis indicates ticker code of the stock of each venture.

As a form of robustness analysis, let us exclude the highest-yielding venture (ticker code 3092, Zozo, Inc., IPO in December 2007, return 2471% as of June 2023) from the portfolio and consider the performance of the remaining 46 ventures. We construct the V46 portfolio of venture investments and the corresponding N46 portfolio of Nikkei Average investments analogously to the V47 and N47 portfolios discussed above. Table 2 and Figure 4 show the returns by these two portfolios over the 24 years. Figure 5 shows the difference in returns by the V46 and the V47 portfolios. For the 8 years from 2016 to 2023, V47 outperformed V46 by more than 40 points. At the end of the time series in 2023, V46 had a return of 105%, below the 118% that N46 had returned. However, in all other years, whether the venture portfolio outperformed the Nikkei was not dependent on the inclusion or exclusion of the best-

performing venture. Thus, the conclusion that V47 portfolio had strongly outperformed the Nikkei Average is dependent on a single outlier venture to some extent, but not so much as to cast strong doubt on the conclusion favoring V47 over N47 for most years in the 24-year time period.

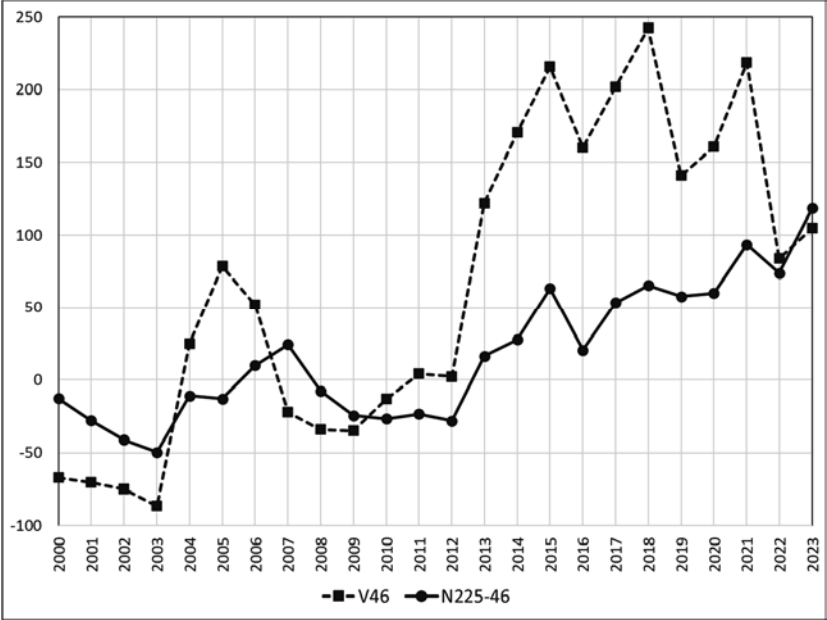


Figure 4. Performance of V46 portfolio compared to Nikkei225 average as of end of June of each year. The numbers are reported in Table 2. Vertical axis indicates percent returns. Horizontal axis indicates the year.

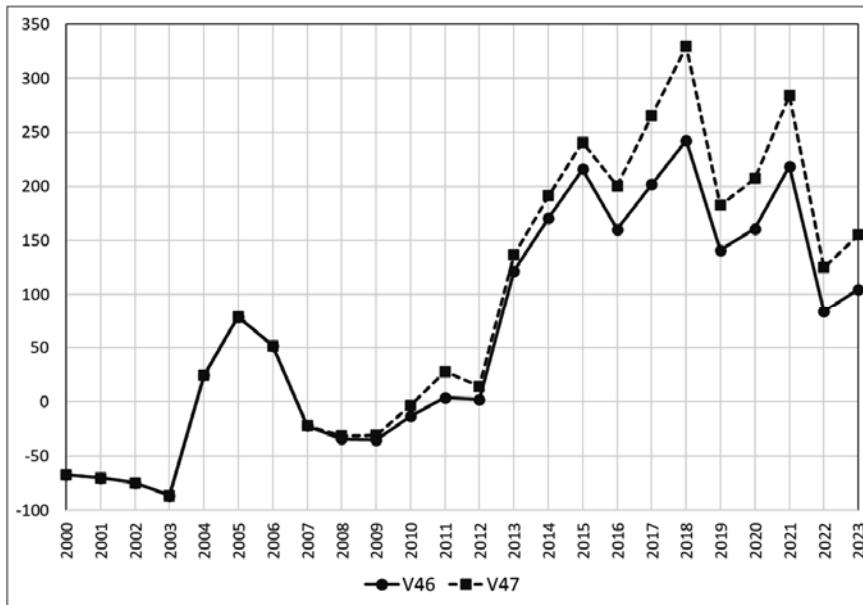


Figure 5. Comparison of the returns by V47 and V46 portfolios. The numbers are reported in Table 2. Vertical axis indicates percent returns. Horizontal axis indicates the year.

5. Conclusion

The paper examined stock market performance of a portfolio of 47 Japanese ventures that were founded by young entrepreneurs after 1995 and held an initial public offering between 2000 and 2021. The performance was measured by tracking the value of investments made on the day of IPO of each venture, and comparing it to simultaneous investments in the Nikkei Average index. It was found that the ventures portfolio significantly outperformed the Nikkei Average in most years between 2000 and 2023, however much of the performance differential is attributable to one or several of the ventures in the portfolio. As of mid-2023, although three firms were yielding over 1000%, most post-IPO ventures in the portfolio were trailing the Nikkei Average and about half were yielding a negative return.

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Appendix

Table A1 (part 1). Prices of venture stocks at IPO and at the closing of the last trading day in June of each year from IPO until 2023. The prices are adjusted for stock splits between IPO and June 2023. These values are denoted by $V(i,t)$ as defined in Section 3.

		n(t)	1	2	2	2	4	4	8	11	12	14	15	15
			June	June	June	June	June	June	June	June	June	June	June	June
Ticker	IPOdate	IPOprice	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4751	2000/03/24	148.44	48.83	25.39	26.56	18.75	368.75	309.38	221.25	100.5	165	114.25	165	351.13
4776	2000/08/23	583.33		246.67	188.67	84.67	166	256	1270	450	332	192	308.5	207.5
2371	2003/10/09	187.08					222.92	188.33	226.25	191.25	395	457.5	460	706.25
2389	2004/02/13	770.83					788.75	2785	2610	1735	1530	637.5	640	520
3778	2005/10/12	500							262.5	140	94.5	65	194.5	181.38
3793	2006/02/09	3970							3050	536	169	249.8	377.5	263
2928	2006/05/30	20.5							12.13	22.78	4.86	2.25	14.38	10.47
2489	2006/06/20	572							1136	200	54.4	255.6	159.2	166.4
2121	2006/09/14	3120								1812	1336	1148	924	721
2122	2006/09/19	2500								845	315	265	261.5	452.5
2120	2006/10/31	245.83								257.5	83.33	176.67	108.5	88
3092	2007/12/11	115.54									115.54	144.87	271.19	533.67
3632	2008/12/17	480										704	1424	1751
3633	2008/12/19	950										630	689	657.5
2193	2009/07/17	279.86											343.33	293.5

Stock Price Performance of a Portfolio of Japanese Ventures After IPO (Ritschev)

Table A1 (part 2). Continuation of part 1.

		n(t)	18	23	24	27	32	33	36	36	39	45	47	47
			June	June	June	June	June	June	June	June	June	June	June	June
Ticker	IPOdate	IPOprice	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
4751	2000/03/24	148.44	254.13	237.5	512.5	726.25	771.25	871.25	1665	976.25	1322.5	2385	1351	1048
4776	2000/08/23	583.33	253.3	272.8	390	337	379	506	539	1218	3355	2359	938	2342
2371	2003/10/09	187.08	675.25	1512.5	1775	1772	2025	1613	2502	2080	2729	3355	2238	2063
2389	2004/02/13	770.83	426	825	797	673	764	1457	2360	1684	1436	2249	1221	1036
3778	2005/10/12	500	118.75	147.25	127.5	237.75	901	922	816	504	636	625	538	1300
3793	2006/02/09	3970	371	545	1049	608	458.5	2170	1044	505	640	656	648	738
2928	2006/05/30	20.5	12.24	23.31	71.25	176.25	233.25	490.25	801.5	262	141	221	151	157
2489	2006/06/20	572	164	214	1708	1058	971	537	466	322	338	887	653	666
2121	2006/09/14	3120	274.4	264.8	3280	6080	4195	6250	2804	2161	1903	2930	2252	2675
2122	2006/09/19	2500	377.5	703	1109	886	1010	1523	2231	1395	1187	1040	1083	1051
2120	2006/10/31	245.83	61.33	175.17	425	859	908	985	733	499	423	354	163	286
3092	2007/12/11	115.54	370.33	646.67	887.67	1141.7	1793.3	2765	4015	2019	2396	3775	2445	2971
3632	2008/12/17	480	1581	880	888	715	578	981	593	501	462	588	824	638
3633	2008/12/19	950	729.5	935	980	3165	1965	1682.5	2162.5	3585	3325	4830	1980	1804
2193	2009/07/17	279.86	369	793	822	2220	1244	911	511	307	315	251	202	171
3653	2011/07/21	1803.33	338	335.67	1033.3	5210	5830	5520	2942	3250	1865	1370	1044	1271
6054	2011/12/07	275	735	2560	1078	634	435	693	528	246	298	225	164	299
3662	2012/04/04	570.83	644.5	1585	3200	2408	1769	2980	2363	1136	859	1517	731	679
3665	2012/07/24	198.75		612.5	617	712	775.5	816.5	887	1213.5	1329	1419	477	393
6069	2012/10/19	1745		1044	365	396	271.5	530	1750	588	470	760	1478	1157
3668	2012/12/13	310.67		1375	2780	2473	2015	1138	750	652	983	827	655	650
2931	2012/12/20	165.2		1240	1301	1718	1425	1179	830	945	780	914	938	890
3182	2013/03/13	920		937.5	579.75	549.25	507.5	568	1141.5	1471	2106	4080	1653	2458
3679	2013/11/22	775			550	445.5	538.5	818.5	886	788	337	418	316	787
6030	2014/12/18	1560				2990	2286.7	3216.7	7390	3650	4265	7650	8400	9840
3904	2014/12/25	975				1097	1028	1485	947	669	741	855	834	925
6047	2015/04/28	1620				1417	765	2327	1429	1808	916	958	745	605
6177	2015/10/15	2150					797	686	903	323	229	182	174	123
3923	2015/12/09	158.13					133.69	270.75	478	652	950	3035	1599	2429.5
3930	2016/02/24	2700					2071	2199	1741	3965	1904	1426	1185	963
6194	2016/06/15	630					433.33	846.66	1203.5	1262.5	1570	2161	1739	737
6195	2016/06/15	630					539	374.75	324	438.25	3595	978	183	317
3967	2016/11/29	3755						3630	1914	1511	1630	1176	1024	1130
3990	2017/08/30	2053.33							1608.3	4125	2473	1539	1355	723
3991	2017/09/14	2305							2650	3650	1407	2655	2017	2329
4385	2018/06/19	5300							4535	2858	3330	5900	1950	3359
4449	2019/09/20	2060									2386	3540	1187	1865
4477	2019/10/25	266.6									906	1689	324	267
4480	2019/12/12	1255									3705	4800	2675	5340
4499	2020/07/10	5720										4635	3100	2584
7356	2020/10/30	1735										1290	346	198
4017	2020/11/27	5300										3505	675	418
4165	2020/12/17	3670										2768	421	887
4173	2021/02/19	4495										2735	696	726
4175	2021/02/26	8140										4740	1487	1098
4379	2021/11/05	1394											373	503
4419	2021/12/22	840											352	853

Table A2 (part 1). Percent return on venture stocks at the closing of the last trading day in June of each year from each venture's IPO until 2023. These values are denoted $R_V(i, t(y))$ as defined in Section 3.

	n(t)	1	2	2	2	4	4	8	11	12	14	15	15
		June	June	June	June	June	June	June	June	June	June	June	June
Ticker	IPOdate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4751	2000/03/24	-67.10	-82.90	-82.11	-87.37	148.42	108.42	49.05	-32.30	11.16	-23.03	11.16	136.55
4776	2000/08/23		-57.71	-67.66	-85.49	-71.54	-56.11	117.72	-22.86	-43.09	-67.09	-47.11	-64.43
2371	2003/10/09					19.16	0.67	20.94	2.23	111.14	144.55	145.88	277.51
2389	2004/02/13					2.32	261.30	238.60	125.08	98.49	-17.30	-16.97	-32.54
3778	2005/10/12							-47.50	-72.00	-81.10	-87.00	-61.10	-63.72
3793	2006/02/09							-23.17	-86.50	-95.74	-93.71	-90.49	-93.38
2928	2006/05/30							-40.83	11.12	-76.29	-89.02	-29.85	-48.93
2489	2006/06/20							98.60	-65.03	-90.49	-55.31	-72.17	-70.91
2121	2006/09/14								-41.92	-57.18	-63.21	-70.38	-76.89
2122	2006/09/19								-66.20	-87.40	-89.40	-89.54	-81.90
2120	2006/10/31								4.75	-66.10	-28.13	-55.86	-64.20
3092	2007/12/11									0.00	25.39	134.72	361.89
3632	2008/12/17										46.67	196.67	264.79
3633	2008/12/19										-33.68	-27.47	-30.79
2193	2009/07/17											22.68	4.87

Stock Price Performance of a Portfolio of Japanese Ventures After IPO (Ritschev)

Table A2 (part 2). Continuation of part 1.

	n(t)	18	23	24	27	32	33	36	36	39	45	47	47
Ticker	IPOdate	June 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	June 2021	June 2022	June 2023
4751	2000/03/24	71.20	60.00	245.26	389.25	419.57	486.94	1,021.67	557.67	790.93	1,506.71	810.13	606.01
4776	2000/08/23	-56.58	-53.23	-33.14	-42.23	-35.03	-13.26	-7.60	108.80	475.15	304.40	60.80	301.49
2371	2003/10/09	260.94	708.48	848.79	847.19	982.42	762.20	1,237.40	1,011.82	1,358.73	1,693.35	1,096.28	1,002.74
2389	2004/02/13	-44.73	7.03	3.40	-12.69	-0.89	89.02	206.16	118.47	86.29	191.76	58.40	34.40
3778	2005/10/12	-76.25	-70.55	-74.50	-52.45	80.20	84.40	63.20	0.80	27.20	25.00	7.60	160.00
3793	2006/02/09	-90.65	-86.27	-73.58	-84.69	-88.45	-45.34	-73.70	-87.28	-83.88	-83.48	-83.68	-81.41
2928	2006/05/30	-40.29	13.71	247.56	759.76	1,037.80	2,291.46	3,809.76	1,178.05	587.80	978.05	636.59	665.85
2489	2006/06/20	-71.33	-62.59	198.60	84.97	69.76	-6.12	-18.53	-43.71	-40.91	55.07	14.16	16.43
2121	2006/09/14	-91.21	-91.51	5.13	94.87	34.46	100.32	-10.13	-30.74	-39.01	-6.09	-27.82	-14.26
2122	2006/09/19	-84.90	-71.88	-55.64	-64.56	-59.60	-39.08	-10.76	-44.20	-52.52	-58.40	-56.68	-57.96
2120	2006/10/31	-75.05	-28.74	72.88	249.43	269.36	300.68	198.17	102.99	72.07	44.00	-33.69	16.34
3092	2007/12/11	220.52	459.69	668.28	888.12	1,452.13	2,293.11	3,374.99	1,647.45	1,973.74	3,167.27	2,016.15	2,471.40
3632	2008/12/17	229.38	83.33	85.00	48.96	20.42	104.38	23.54	4.38	-3.75	22.50	71.67	32.92
3633	2008/12/19	-23.21	-1.58	3.16	233.16	106.84	77.11	127.63	277.37	250.00	408.42	108.42	89.89
2193	2009/07/17	31.85	183.36	193.72	693.25	344.51	225.52	82.59	9.70	12.56	-10.31	-27.82	-38.90
3653	2011/07/21	-81.26	-81.39	-42.70	188.91	223.29	206.10	63.14	80.22	3.42	-24.03	-42.11	-29.52
6054	2011/12/07	167.27	830.91	292.00	130.55	58.18	152.00	92.00	-10.55	8.36	-18.18	-40.36	8.73
3662	2012/04/04	12.91	177.67	460.59	321.84	209.90	422.05	313.96	99.01	50.48	165.75	28.06	18.95
3665	2012/07/24		208.18	210.44	258.24	290.19	310.82	346.29	510.57	568.68	613.96	140.00	97.74
6069	2012/10/19		-40.17	-79.08	-77.31	-84.44	-69.63	0.29	-66.30	-73.07	-56.45	-15.30	-33.70
3668	2012/12/13		342.59	794.84	696.02	548.60	266.31	141.41	109.87	216.41	166.20	110.83	109.23
2931	2012/12/20		650.61	687.53	939.95	762.59	613.68	402.42	472.03	372.15	453.27	467.80	438.74
3182	2013/03/13		1.90	-36.98	-40.30	-44.84	-38.26	24.08	59.89	128.91	343.48	79.67	167.17
3679	2013/11/22			-29.03	-42.52	-30.52	5.61	14.32	1.68	-56.52	-46.06	-59.23	1.55
6030	2014/12/18				91.67	46.58	106.20	373.72	133.97	173.40	390.38	438.46	530.77
3904	2014/12/25				12.51	5.44	52.31	-2.87	-31.38	-24.00	-12.31	-14.46	-5.13
6047	2015/04/28				-12.53	-52.78	43.64	-11.79	11.60	-43.46	-40.86	-54.01	-62.65
6177	2015/10/15					-62.93	-68.09	-58.00	-84.98	-89.35	-91.53	-91.91	-94.28
3923	2015/12/09					-15.46	71.22	202.28	312.32	500.77	1,819.31	911.19	1,436.39
3930	2016/02/24					-23.30	-18.56	-35.52	46.85	-29.48	-47.19	-56.11	-64.33
6194	2016/06/15					-31.22	34.39	91.03	100.40	149.21	243.02	176.03	16.98
6195	2016/06/15					-14.44	-40.52	-48.57	-30.44	470.63	55.24	-70.95	-49.68
3967	2016/11/29						-3.33	-49.03	-59.76	-56.59	-68.68	-72.73	-69.91
3990	2017/08/30							-21.67	100.89	20.44	-25.05	-34.01	-64.79
3991	2017/09/14							14.97	58.35	-38.96	15.18	-12.49	1.04
4385	2018/06/19							-14.43	-46.08	-37.17	11.32	-63.21	-36.62
4449	2019/09/20									15.83	71.84	-42.38	-9.47
4477	2019/10/25									239.83	533.53	21.53	0.15
4480	2019/12/12									195.22	282.47	113.15	325.50
4499	2020/07/10										-18.97	-45.80	-54.83
7356	2020/10/30										-25.65	-80.06	-88.59
4017	2020/11/27										-33.87	-87.26	-92.11
4165	2020/12/17										-24.58	-88.53	-75.83
4173	2021/02/19										-39.15	-84.52	-83.85
4175	2021/02/26										-41.77	-81.73	-86.51
4379	2021/11/05											-73.24	-63.92
4419	2021/12/22											-58.10	1.55

Table A3 (part 1). Nikkei Average at IPO date of each venture (IPOnikkei column) and at the closing of the last trading day in June of each year from each venture's IPO until 2023. These values are denoted $N(t)$ as defined in Section 3.

		n(t)	1	2	2	2	4	4	8	11	12	14	15	15
			June	June	June	June	June	June	June	June	June	June	June	June
ticker	IPOdate	IPOnikkei	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4751	2000/03/24	19958.08	17411.05	12969.05	10621.84	9083.11	11858.87	11584.01	15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
4776	2000/08/23	16436.65		12969.05	10621.84	9083.11	11858.87	11584.01	15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
2371	2003/10/09	10531.44					11858.87	11584.01	15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
2389	2004/02/13	10557.69					11858.87	11584.01	15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
3778	2005/10/12	13463.74							15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
3793	2006/02/09	16439.67							15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
2928	2006/05/30	15859.45							15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
2489	2006/06/20	14648.41							15505.18	18138.36	13481.38	9958.44	9382.64	9816.09
2121	2006/09/14	15942.39								18138.36	13481.38	9958.44	9382.64	9816.09
2122	2006/09/19	15874.28								18138.36	13481.38	9958.44	9382.64	9816.09
2120	2006/10/31	16399.39								18138.36	13481.38	9958.44	9382.64	9816.09
3092	2007/12/11	16044.72									13481.38	9958.44	9382.64	9816.09
3632	2008/12/17	8612.52										9958.44	9382.64	9816.09
3633	2008/12/19	8588.52										9958.44	9382.64	9816.09
2193	2009/07/17	9395.32											9382.64	9816.09

Stock Price Performance of a Portfolio of Japanese Ventures After IPO (Rtischev)

Table A3 (part 2). Continuation of part 1.

ticker	IPOdate	IPOnikkei	n(t)																							
			18		23		24		27		32		33		36		36		39		45		47		47	
			June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	June	
4751	2000/03/24	19958.08	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
4776	2000/08/23	16436.65	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2371	2003/10/09	10531.44	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2389	2004/02/13	10557.69	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3788	2005/10/12	13463.74	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3793	2006/02/09	16439.67	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2928	2006/05/30	15859.45	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2489	2006/06/20	14648.41	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2121	2006/09/14	15942.39	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2122	2006/09/19	15874.28	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2120	2006/10/31	16399.39	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3092	2007/12/11	16044.72	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3632	2008/12/17	8612.52	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3633	2008/12/19	8588.52	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2193	2009/07/17	9395.32	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3653	2011/07/21	10010.39	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6054	2011/12/07	8722.17	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3662	2012/04/04	20223.61	9006.78	13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3665	2012/07/24	8488.09		13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6069	2012/10/19	9002.68		13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3668	2012/12/13	9742.73		13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
2931	2012/12/20	10039.33		13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3182	2013/03/13	12239.66		13677.32	15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3679	2013/11/22	15381.72			15162.10	20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6030	2014/12/18	17210.05				20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3904	2014/12/25	17808.75				20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6047	2015/04/28	20058.95				20235.73	15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6177	2015/10/15	18096.9					15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3923	2015/12/09	19301.07					15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3930	2016/02/24	15915.79					15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6194	2016/06/15	15919.58					15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
6195	2016/06/15	15919.58					15575.92	20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3967	2016/11/29	18307.04						20033.43	22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3990	2017/08/30	19506.54							22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
3991	2017/09/14	19807.44							22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
4385	2018/06/19	22278.48							22304.51	21275.92	22288.14	28791.53	26393.04	33189.04												
4449	2019/09/20	22079.09									22288.14	28791.53	26393.04	33189.04												
4477	2019/10/25	22799.81									22288.14	28791.53	26393.04	33189.04												
4480	2019/12/12	23424.81									22288.14	28791.53	26393.04	33189.04												
4499	2020/07/10	22290.81										28791.53	26393.04	33189.04												
7356	2020/10/30	22977.13											28791.53	26393.04	33189.04											
4017	2020/11/27	26644.71												28791.53	26393.04	33189.04										
4165	2020/12/17	26806.67													28791.53	26393.04	33189.04									
4173	2021/02/19	30017.92														28791.53	26393.04	33189.04								
4175	2021/02/26	28966.01															28791.53	26393.04	33189.04							
4379	2021/11/05	29611.57																26393.04	33189.04							
4419	2021/12/22	28562.21																	26393.04	33189.04						

Table A4 (part 1). Percent return on Nikkei Average at the closing of the last trading day in June of each year from each venture's IPO until 2023. These values are denoted $R_N(i, t(y))$ as defined in Section 3.

	n(t)	1	2	2	2	4	4	8	11	12	14	15	15
		June	June	June	June	June	June	June	June	June	June	June	June
ticker	IPOdate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4751	2000/03/24	-12.76	-35.02	-46.78	-54.49	-40.58	-41.96	-22.31	-9.12	-32.45	-50.10	-52.99	-50.82
4776	2000/08/23		-21.10	-35.38	-44.74	-27.85	-29.52	-5.67	10.35	-17.98	-39.41	-42.92	-40.28
2371	2003/10/09					12.60	9.99	47.23	72.23	28.01	-5.44	-10.91	-6.79
2389	2004/02/13					12.32	9.72	46.86	71.80	27.69	-5.68	-11.13	-7.02
3778	2005/10/12							15.16	34.72	0.13	-26.04	-30.31	-27.09
3793	2006/02/09							-5.68	10.33	-17.99	-39.42	-42.93	-40.29
2928	2006/05/30							-2.23	14.37	-14.99	-37.21	-40.84	-38.11
2489	2006/06/20							5.85	23.82	-7.97	-32.02	-35.95	-32.99
2121	2006/09/14								13.77	-15.44	-37.53	-41.15	-38.43
2122	2006/09/19								14.26	-15.07	-37.27	-40.89	-38.16
2120	2006/10/31								10.60	-17.79	-39.28	-42.79	-40.14
3092	2007/12/11									-15.98	-37.93	-41.52	-38.82
3632	2008/12/17										15.63	8.94	13.97
3633	2008/12/19										15.95	9.25	14.29
2193	2009/07/17											-0.13	4.48

Stock Price Performance of a Portfolio of Japanese Ventures After IPO (Ritschev)

Table A4 (part 2). Continuation of part 1.

	n(t)	18	23	24	27	32	33	36	36	39	45	47	47
		June	June	June	June	June	June	June	June	June	June	June	June
ticker	IPOdate	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
4751	2000/03/24	-54.87	-31.47	-24.03	1.39	-21.96	0.38	11.76	6.60	11.67	44.26	32.24	66.29
4776	2000/08/23	-45.20	-16.79	-7.75	23.11	-5.24	21.88	35.70	29.44	35.60	75.17	60.57	101.92
2371	2003/10/09	-14.48	29.87	43.97	92.15	47.90	90.22	111.79	102.02	111.63	173.39	150.61	215.14
2389	2004/02/13	-14.69	29.55	43.61	91.67	47.53	89.75	111.26	101.52	111.11	172.71	149.99	214.36
3778	2005/10/12	-33.10	1.59	12.61	50.30	15.69	48.80	65.66	58.02	65.54	113.84	96.03	146.51
3793	2006/02/09	-45.21	-16.80	-7.77	23.09	-5.25	21.86	35.67	29.42	35.58	75.13	60.54	101.88
2928	2006/05/30	-43.21	-13.76	-4.40	27.59	-1.79	26.32	40.64	34.15	40.54	81.54	66.42	109.27
2489	2006/06/20	-38.51	-6.63	3.51	38.14	6.33	36.76	52.27	45.24	52.15	96.55	80.18	126.57
2121	2006/09/14	-43.50	-14.21	-4.89	26.93	-2.30	25.66	39.91	33.46	39.80	80.60	65.55	108.18
2122	2006/09/19	-43.26	-13.84	-4.49	27.47	-1.88	26.20	40.51	34.03	40.40	81.37	66.26	109.07
2120	2006/10/31	-45.08	-16.60	-7.54	23.39	-5.02	22.16	36.01	29.74	35.91	75.56	60.94	102.38
3092	2007/12/11	-43.86	-14.76	-5.50	26.12	-2.92	24.86	39.01	32.60	38.91	79.45	64.50	106.85
3632	2008/12/17	4.58	58.81	76.05	134.96	80.85	132.61	158.98	147.03	158.79	234.30	206.45	285.36
3633	2008/12/19	4.87	59.25	76.54	135.61	81.36	133.26	159.70	147.73	159.51	235.23	207.31	286.43
2193	2009/07/17	-4.14	45.58	61.38	115.38	65.78	113.23	137.40	126.45	137.23	206.45	180.92	253.25
3653	2011/07/21	-10.03	36.63	51.46	102.15	55.60	100.13	122.81	112.54	122.65	187.62	163.66	231.55
6054	2011/12/07	3.26	56.81	73.83	132.00	78.58	129.68	155.72	143.93	155.53	230.10	202.60	280.51
3662	2012/04/04	-55.46	-32.37	-25.03	0.06	-22.98	-0.94	10.29	5.20	10.21	42.37	30.51	64.11
3665	2012/07/24		61.14	78.63	138.40	83.50	136.02	162.77	150.66	162.58	239.20	210.94	291.01
6069	2012/10/19		51.92	68.42	124.77	73.01	122.53	147.75	136.33	147.57	219.81	193.17	268.66
3668	2012/12/13		40.38	55.62	107.70	59.87	105.62	128.93	118.38	128.77	195.52	170.90	240.65
2931	2012/12/20		36.24	51.03	101.56	55.15	99.55	122.17	111.93	122.01	186.79	162.90	230.59
3182	2013/03/13		11.75	23.88	65.33	27.26	63.68	82.23	73.83	82.10	135.23	115.64	171.16
3679	2013/11/22			-1.43	31.56	1.26	30.24	45.01	38.32	44.90	87.18	71.59	115.77
6030	2014/12/18				17.58	-9.50	16.41	29.60	23.62	29.51	67.29	53.36	92.85
3904	2014/12/25				13.63	-12.54	12.49	25.24	19.47	25.15	61.67	48.20	86.36
6047	2015/04/28				0.88	-22.35	-0.13	11.19	6.07	11.11	43.53	31.58	65.46
6177	2015/10/15					-13.93	10.70	23.25	17.57	23.16	59.10	45.84	83.40
3923	2015/12/09					-19.30	3.79	15.56	10.23	15.48	49.17	36.74	71.95
3930	2016/02/24					-2.14	25.87	40.14	33.68	40.04	80.90	65.83	108.53
6194	2016/06/15					-2.16	25.84	40.11	33.65	40.00	80.86	65.79	108.48
6195	2016/06/15					-2.16	25.84	40.11	33.65	40.00	80.86	65.79	108.48
3967	2016/11/29						9.43	21.84	16.22	21.75	57.27	44.17	81.29
3990	2017/08/30							14.34	9.07	14.26	47.60	35.30	70.14
3991	2017/09/14							12.61	7.41	12.52	45.36	33.25	67.56
4385	2018/06/19							0.12	-4.50	0.04	29.23	18.47	48.97
4449	2019/09/20									0.95	30.40	19.54	50.32
4477	2019/10/25									-2.24	26.28	15.76	45.57
4480	2019/12/12									-4.85	22.91	12.67	41.68
4499	2020/07/10										29.16	18.40	48.89
7356	2020/10/30										25.31	14.87	44.44
4017	2020/11/27										8.06	-0.94	24.56
4165	2020/12/17										7.40	-1.54	23.81
4173	2021/02/19										-4.09	-12.08	10.56
4175	2021/02/26										-0.60	-8.88	14.58
4379	2021/11/05											-10.87	12.08
4419	2021/12/22											-7.59	16.20