Online Appendix

Investor Horizon and the Life Cycle of Innovative Firms: Evidence from Venture Capital

This Online Appendix includes four sections. Section A presents variable definitions. Section B discusses the representativeness of the sample. Supplementary and robustness tables are presented in Section C. Finally, Section D presents a simple illustrative model of the effect of horizon on investment decisions.

A Variables definition

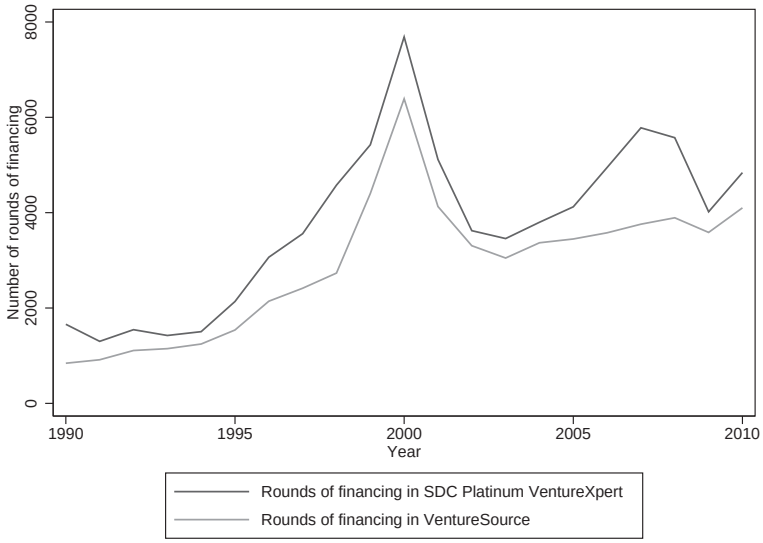
Definition of the main variables

Log fund age	Log of one plus the number of years between the month of the investment and the month when the fund was created.
Log number of rounds	Log of one plus the number of investment rounds of the fund in the company following the initial investment of a fund in this company.
Log number of prior rounds	Log of the number of financing rounds (involving other funds) received by the company until the investment of the fund.
Later stage dummy	Dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages.
Log company age	Log of one plus the number of years between the month when the company was founded and the month of the initial investment of a fund in this company.
Log investment holding period	Log of the number of years between the month of the initial investment of a fund in the company and the initial public offering of the company or its sale to a third party (M&A).
Log number of past exits	Log of one plus the number of IPOs or M&As of companies that previously received an investment from the fund.
Log number of past investments	Log of one plus the number of previous investments made by the fund.
Follow-up fund dummy	Dummy equal to one if the VC firm operating the fund has raised a follow-up fund at the time of the investment, and zero otherwise.
Log fund size	Log of the size of the fund measured in million dollars.
First-time fund dummy	Dummy equal to 1 if the fund is the first one raised by the VC firm.
Log patents	Log of one plus the number of patents applied by a company in a given year around a VC investment.
Log scaled patents	Following Hall et al. (2001): log of one plus the number of patents applied by a company in a given year scaled by the average number of patents applied by all companies in the same year and technology class.
Log citations	Log of one plus the number of citations received by a patent in the year it was granted and in the three following calendar years.
Log scaled citations	Following Hall et al. (2001): log of one plus the number of citations a patent receives divided by the average number of citations received by all patents granted in the same year and technology class.
Hot market conditions	Dummy equal to one for months that lie in the top tertile of the distribution of past three months cumulative Nasdaq Composite returns, and zero for months in the bottom tertile.
Log VC firm nb. of inv.	Log of the total number of investments reported in VentureXpert made by the VC firm prior to raising the fund.
Log VC firm nb. of funds raised	Log of the number of the funds in the sequence of funds raised by the VC firm.
Log VC firm age	Log of the number of years of operations of the VC firm.
Prior patenting dummy	Dummy equal to one if the company has ever applied for a patent prior to the investment.

B Representativeness of the sample

The great advantage of SDC over other private equity data providers is that it relates investments and companies to VC *funds* rather than VC *firms*. However, Stucke (2011) and Harris, Jenkinson, and Kaplan (2012) have recently established that Venture Economics *performance* data suffers from severe sample selection issues, with the coverage dropping sharply in the early 2000s. Since Venture Economics is a unit of SDC, one might worry that the reporting bias also applies to the investment-level data used in this study. Fortunately, two recent studies have assessed the ability of VentureXpert to accurately report investment-level data. Kaplan, Sensoy, and Strömberg (2002) examine 143 financing rounds in 98 companies from 1986 to 1999. They argue that VentureXpert and VentureSource, another mainstream venture capital database, both exclude 15% of financing rounds, and that the former oversamples larger rounds and California companies. Maats, Metrick, Yasuda, Hinkes, and Vershovski (2011) examine investments made by a sample of 40 VC funds raised between 1992 and 2003 and compare the quality of the coverage of these investments by VentureXpert and VentureSource. They find that the consistency between both databases is low but that the reliability of fund coverage is higher in VentureXpert, which should be the preferred source for collecting data at the fund level. They note, however, that fund coverage increases with the number of portfolio companies in a given fund. In Figure 3, I compare the coverage of VentureXpert and VentureSource from 1990 to 2010. Panel A compares the annual number of investment rounds in U.S.-based companies in each of these datasets. Panel B compares the annual number of new U.S.-based funds. There does not seem to be any downward reporting bias in VentureXpert after 2000. Hence, I am confident that the sample used in this paper is fairly representative.

A. Annual number of investment rounds (1990-2010)



B. Annual number of fundraisings (1990-2010)

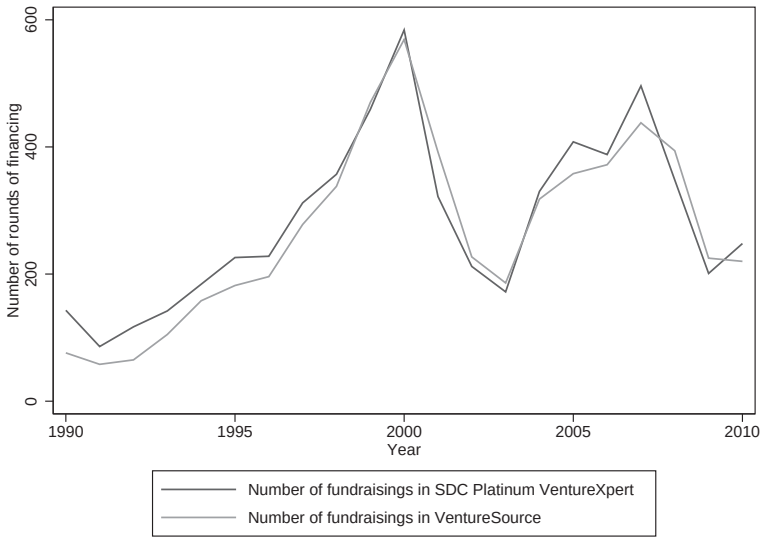


Figure 3. Coverage of SDC Platinum VentureXpert and VentureSource This figure compares the coverage of SDC Platinum VentureXpert and Venturesource, the two main venture capital investment-level datasets. Panel A compares the annual number of investment rounds in U.S.-based companies in each of these datasets. Panel B compares the annual number of new U.S.-based VC funds.

C Supplementary tables

Table C.1. Summary statistics for unconstrained funds
This table presents the distribution of fund creations, investments for corporate venture funds and evergreen funds throughout the sample period.

	Corporate venture funds		Evergreen funds	
Year	New funds	Investments	New funds	Investments
1980	20	20	0	0
1981	45	73	0	0
1982	51	112	0	0
1983	81	204	1	2
1984	69	220	0	1
1985	71	245	3	4
1986	27	196	1	6
1987	18	152	1	10
1988	12	133	2	9
1989	5	120	1	15
1990	4	66	0	6
1991	4	36	1	8
1992	4	47	0	12
1993	5	35	2	9
1994	5	29	2	12
1995	7	26	2	22
1996	9	56	1	16
1997	9	101	6	61
1998	12	152	6	71
1999	28	363	4	92
2000	42	554	7	139
2001	22	239	2	90
2002	3	128	2	61
2003	4	83	2	56
2004	5	104	0	48
2005	7	91	0	50
2006	6	94	1	63
2007	4	91	0	50
2008	4	74	1	43
2010	4	37	0	19

Table C.2. Company maturity and investment outcome

This table presents the results of investment-level OLS regressions of various investment outcomes on three proxies for company maturity. Log company age is the log of the number of years between the creation of the company and the investment. The log number of prior rounds is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. The development stage of a company is measured with a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In Panel A, the dependent variable is the log of number of years between the investment and the exit through an IPO or a M&A deal. In Panel B, the dependent variable is the log of the number of financing rounds subsequent to the initial investment of a given fund in a given company. In Panel C, the dependent variable is a dummy equal to one if the investment is exited through an IPO or a M&A and zero otherwise. Standard errors are corrected for clustering at the monthly level and presented in parentheses. *** indicates that the difference in means is significant at the 1% level.

Panel A: Log investment holding period			
Log company age	-0.11***		
	(0.01)		
Later stage dummy		-0.34***	
		(0.02)	
Log nb. of prior rounds			-0.29***
			(0.01)
			(0.01)
Year FE	Yes	Yes	Yes
Observations	12959	12959	12959
R^2	0.057	0.082	0.097
Panel B: Log number of subsequent rounds			
Log company age	-0.13***		
	(0.00)		
Later stage dummy		-0.26***	
		(0.01)	
Log nb. of prior rounds			-0.14***
			(0.01)
Year FE	Yes	Yes	Yes
Observations	31932	31932	31932
R^2	0.080	0.087	0.067
Panel C: Successful exit dummy			
Log company age	0.02***		
	(0.00)		
Later stage dummy		0.09***	
		(0.01)	
Log nb. of prior rounds			0.09***
			(0.00)
Year FE	Yes	Yes	Yes
Observations	31932	31932	31932
R^2	0.029	0.036	0.043

Table C.3. Company maturity and investment outcome, robustness tests

This table presents the results of investment-level OLS regressions of various investment outcomes on three proxies for company maturity. Log company age is the log of the number of years between the creation of the company and the investment. The log number of prior rounds is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. The development stage of a company is measured with a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In Panel A, the sample is restricted to investments made prior to 2000. In Panel B, the dependent variable is a dummy equal to one if the investment is exited through an IPO. Panel C presents the estimates of a Cox Hazard Model where the outcome variable of interest is whether the investment is exited through an IPO or a M&A. Standard errors are corrected for clustering at the monthly level and presented in parentheses. *** indicates that the difference in means is significant at the 1% level.

Panel A: investments prior to 2000			
Log company age	0.01		
	(0.01)		
Later stage dummy		0.06***	
		(0.01)	
Log nb. of prior rounds			0.08***
			(0.01)
Observations	18484	18484	18484
R^2	0.030	0.033	0.042
Panel B: IPO exit			
Log company age	0.01***		
	(0.00)		
Later stage dummy		0.05***	
		(0.00)	
Log nb. of prior rounds			0.05***
			(0.00)
Year FE	Yes	Yes	Yes
Observations	31932	31932	31932
R^2	0.052	0.057	0.062
Panel C: Cox Hazard Model			
Log company age	0.27***		
	(0.01)		
Later stage dummy		1.01***	
		(0.03)	
Log nb. of prior rounds			0.83***
			(0.02)
Year FE	Yes	Yes	Yes

Table C.4. Fund horizon and company age, robustness tests

This table presents the results of an investment-level OLS regression of proxies for company maturity on dummies for various measures of fund age as well as a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Several specifications are run with fund vintage, year, VC firm, and fund fixed effects. In Panel A, the dependent variable is a dummy indicating whether the fund is beyond its third year at the time of the investment; in Panel B, regressions control for the average of the dependent variable in the year of the investment. Specifications presented in Panel C include two-year block fixed effects. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Log company age	Later stage dummy	Log nb. of prior rounds
		Panel A: Fund age > 3	
Fund age > 3	0.04^{**}	0.02^{*}	0.04^{***}
	(0.02)	(0.01)	(0.01)
Fund level controls	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes
Observations	46659	46659	46659
R^2	0.219	0.203	0.234
	Panel B: Controlling for the average of dependent variables		
Fund age	0.03^{***}	0.01^{***}	0.02^{***}
	(0.00)	(0.00)	(0.00)
Fund level controls	Yes	Yes	Yes
Average dependent variable	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes
Observations	46659	46659	46659
R^2	0.216	0.202	0.232
	Panel C: Two-year block fixed effects		
Fund age	0.03^{***}	0.02^{***}	0.03^{***}
	(0.01)	(0.01)	(0.01)
Fund level controls	Yes	Yes	Yes
Two year block fixed effects	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes
Observations	46659	46659	46659
R^2	0.218	0.203	0.233

Table C.5. Fund horizon and company age, alternative specification

This table presents the results of an investment-level OLS regression of proxies for company maturity on dummies for fund age, and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Several specifications are run with fund vintage, year, VC firm, and fund fixed effects. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log company age		Later stage dummy		Log nb. of prior rounds	
Fund year = 2	0.04*	0.05***	0.02**	0.03***	0.04***	0.04***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
Fund year = 3	0.09***	0.08***	0.05***	0.05***	0.09***	0.08***
	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)
Fund year = 4	0.15***	0.13***	0.09***	0.08***	0.16***	0.15***
	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Fund year = 5	0.23***	0.21***	0.13***	0.13***	0.25***	0.24***
	(0.03)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Fund year = 6	0.30***	0.29***	0.17***	0.18***	0.33***	0.33***
	(0.04)	(0.06)	(0.02)	(0.03)	(0.03)	(0.04)
Fund year = 7	0.38***	0.35***	0.21***	0.21***	0.45***	0.43***
	(0.04)	(0.07)	(0.03)	(0.04)	(0.04)	(0.05)
Fund year = 8	0.47***	0.39***	0.26***	0.23***	0.53***	0.49***
	(0.05)	(0.08)	(0.03)	(0.04)	(0.04)	(0.06)
Fund year $\geq$ 9	0.35***	0.42***	0.20***	0.27***	0.45***	0.62***
	(0.05)	(0.09)	(0.02)	(0.05)	(0.04)	(0.07)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm $\times$ Inv. year fixed effects	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	46659	46659	46659	46659	46659	46659
R^2	0.348	0.220	0.325	0.205	0.362	0.237

Table C.6. Fund horizon and company age, additional robustness tests

This table presents the results of an investment-level OLS regression of proxies for company maturity on dummies for various fund age brackets as well as a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Several specifications are run with fund vintage, year, VC firm, and fund fixed effects. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. In Panel A, the sample is restricted to companies and funds located in California; Panel B restricts the sample to investments made before year 6; in Panel C, the sample is restricted to investments made prior to the time at which the VC firm raises its next fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log company age		Later stage dummy		Log nb. of prior rounds	
			Panel A: California only			
Fund age = [2, 3]	0.09***	0.05*	0.05**	0.03	0.11***	0.04*
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
Fund age = [4, 5]	0.24***	0.14***	0.11***	0.05*	0.22***	0.10***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)
Fund age > 5	0.34***	0.19***	0.18***	0.08*	0.40***	0.20***
	(0.05)	(0.07)	(0.04)	(0.04)	(0.05)	(0.06)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm × Inv. year fixed effects	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	11657	11657	11657	11657	11657	11657
R^2	0.378	0.245	0.368	0.243	0.413	0.283
			Panel B: Fund age less than 6			
Fund age = [2, 3]	0.16***	0.02	0.07***	0.02*	0.07***	0.01
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Fund age = [4, 5]	0.35***	0.04	0.12***	0.04**	0.17***	0.05**
	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)	(0.03)
Fund age > 5	0.48***	0.10*	0.18***	0.10***	0.28***	0.14***
	(0.03)	(0.05)	(0.01)	(0.03)	(0.02)	(0.04)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm × Inv. year fixed effects	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	42294	42294	42294	42294	42294	42294
R^2	0.029	0.221	0.027	0.208	0.025	0.236
			Panel C: Prior to follow-up fundraising			
Fund age = [2, 3]	0.04**	0.04*	0.01	0.02**	0.00	0.03*
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Fund age = [4, 5]	0.11***	0.09**	0.03**	0.03*	0.05**	0.08***
	(0.03)	(0.04)	(0.01)	(0.02)	(0.02)	(0.03)
Fund age > 5	0.24***	0.16**	0.10***	0.10***	0.11***	0.16***
	(0.04)	(0.07)	(0.02)	(0.03)	(0.03)	(0.04)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	25807	25807	25807	25807	25807	25807
R^2	0.187	0.250	0.172	0.241	0.180	0.256

Table C.7. Unconstrained funds and company maturity

This table replicates the results obtained in Table 3 on a sample of corporate venture capital and evergreen funds. I run OLS regressions of proxies for company maturity on a dummy indicating whether the fund is beyond its third year at the time of the investment and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, ** and * indicate significance at the 1, 5 and 10 percent level.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log company age		Later stage dummy		Log nb. of prior rounds	
Fund age > 3	-0.02	-0.02	-0.03	-0.04	-0.01	0.02
	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)	(0.04)
Log fund nb. of exits		-0.02		-0.04**		-0.06**
		(0.03)		(0.02)		(0.02)
Log fund nb. of past investments		0.03		0.03**		0.02
		(0.02)		(0.01)		(0.02)
Share of the fund invested		-0.14		0.02		-0.02
		(0.09)		(0.05)		(0.07)
Follow-up fund dummy		-0.01		0.02		0.04
		(0.06)		(0.03)		(0.05)
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4921	4921	4921	4921	4921	4921
R^2	0.230	0.230	0.254	0.256	0.272	0.274

Table C.8. Fund horizon and the age of syndicate partners

This table presents the results of an investment-level OLS regression of the propensity to syndicate (Panel A) and the average log age of the fund's syndicate partners (Panel B) on on dummies for various fund age brackets and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Panel A: propensity to syndicate			
Fund age = [2, 3]	0.00	0.01*	0.01*	0.01**
	(0.01)	(0.01)	(0.01)	(0.01)
Fund age = [4, 5]	-0.00	0.02***	0.02**	0.03***
	(0.01)	(0.01)	(0.01)	(0.01)
Fund age > 5	0.00	0.03***	0.03***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	46659	46659	46659	46659
R^2	0.022	0.156	0.355	0.225
	Panel B: log age of syndicate partners			
Fund age = [2, 3]	0.05***	0.03***	-0.00	-0.01
	(0.01)	(0.01)	(0.02)	(0.01)
Fund age = [4, 5]	0.16***	0.11***	0.05**	0.00
	(0.01)	(0.02)	(0.02)	(0.02)
Fund age > 5	0.32***	0.27***	0.18***	0.08***
	(0.02)	(0.02)	(0.03)	(0.03)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	32899	32899	32899	32899
R^2	0.139	0.206	0.407	0.282

Table C.9. Later stage investments: patenters versus non patenters

This table presents the results of an investment-level OLS regression of the later stage dummy on dummies for various fund age brackets and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (iv) the log of fund size, and (v) a dummy for first-time funds. The sample is restricted to investments in companies that are matched with the NBER and HBS patent databases. In Panel A, the dependent variable indicates whether the company is at a later stage and has issued patents; in Panel B the dependent variable indicates whether the company is at a later stage and has not issued patents yet. Several specifications are run with fund vintage, year, VC firm, and fund fixed effects. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Panel A: Later stage with patents			
Fund age = [2, 3]	0.02*	0.02	0.02	0.01
	(0.01)	(0.01)	(0.02)	(0.02)
Fund age = [4, 5]	0.05***	0.05***	0.04	0.03
	(0.01)	(0.02)	(0.02)	(0.02)
Fund age > 5	0.07***	0.07***	0.06*	0.05
	(0.02)	(0.02)	(0.03)	(0.03)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	13371	13371	13371	13402
R^2	0.051	0.153	0.450	0.253
	Panel B: Later stage without patents			
Fund age = [2, 3]	0.02	0.01	0.01	0.01
	(0.01)	(0.01)	(0.02)	(0.02)
Fund age = [4, 5]	0.03	0.01	0.06*	-0.00
	(0.02)	(0.02)	(0.03)	(0.03)
Fund age > 5	0.08***	0.06**	0.10**	0.02
	(0.02)	(0.02)	(0.04)	(0.05)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	13371	13371	13371	13402
R^2	0.012	0.118	0.418	0.216

Table C.10. Fund horizon and patenting history, robustness tests

This table presents the results of an investment-level OLS regression of patenting variables on dummies for various fund age brackets and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (iv) the log of fund size, and (v) a dummy for first-time funds. In Panel A, the dependent variable is the log cumulative number of patents submitted by the company up until the time of the investment; in Panel B, the dependent variable indicates whether the company was matched with the NBER and HBS patent databases. Several specifications are run with fund vintage, year, VC firm, and fund fixed effects. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Panel A: log cumulative number of patents			
Fund age = [2, 3]	0.03	0.03	0.04	0.03
	(0.02)	(0.02)	(0.04)	(0.03)
Fund age = [4, 5]	0.09***	0.10***	0.09*	0.07
	(0.03)	(0.03)	(0.05)	(0.05)
Fund age > 5	0.12***	0.14***	0.17**	0.12*
	(0.04)	(0.04)	(0.07)	(0.07)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	13371	13371	13371	13402
R^2	0.074	0.161	0.445	0.248
	Panel B: patenting firms			
Fund age = [2, 3]	0.00	0.01**	-0.00	0.02**
	(0.01)	(0.01)	(0.01)	(0.01)
Fund age = [4, 5]	-0.01	0.02**	0.01	0.02*
	(0.01)	(0.01)	(0.01)	(0.01)
Fund age ≥ 6	-0.01	0.04***	0.03*	0.05**
	(0.01)	(0.01)	(0.02)	(0.02)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No
VC firm × year fixed effects	No	Yes	No	Yes
Fund fixed effects	No	Yes	No	Yes
Observations	46659	46659	46659	46659
R^2	0.060	0.127	0.289	0.168

Table C.11. Fund horizon and increase in patent count, robustness tests

This table presents the results of the following company × year regression (investments made up until December 2006 are included):

$$PC_{j,t+k} = \alpha_0 + \alpha_1 Age_{i,t} + \alpha_2 F_{i,t} + \alpha_3 C_{j,t} + \sum_{k=-3}^{5} \lambda_k Y_{t+k} + \sum_{k=-3}^{5} \beta_k Y_{t+k} \times Age_{i,t} + \sum_{k=-3}^{5} \delta_k Y_{t+k} \times F_{i,t} + \sum_{k=-3}^{5} \theta_k Y_{t+k} \times C_{j,t} + \epsilon_{i,j,t}$$

$PC_{j,t+k}$ is successively the log of one plus the number of patent applications and the log of one plus the number of scaled patent applications by company j in year k around the investment year t. Y_{t+k} is a dummy equal to one in the k^{th} year around the investment of fund i in company j which occurs in year t. $Age_{i,t}$ is a dummy indicating whether fund i is beyond its third year at the time of the investment. $F_{i,t}$ is a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (iv) the log of fund size, and (v) a dummy for first-time funds. $C_{j,t}$ is a vector of company-level controls, including the log of company age, State, and sector dummies. Standard errors are clustered at the company level. Panel A excludes investments made prior to 2000, while Panel B includes only investments where the company and the fund are located in California. Panel C also includes companies that were not matched with the NBER and HBS patent databases. Standard errors are clustered by company and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: pre-2000 investments

	Log patents + 1			Log scaled patents + 1		
Fund age > 3	0.05**	0.03	0.03	0.04***	0.02**	0.03***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
Fund age > 3 × Inv. year -3	0.09***	0.09***	0.10***	0.04**	0.04**	0.04***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year -2	0.11***	0.11***	0.12***	0.06***	0.06***	0.06***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year -1	0.04	0.04	0.05**	0.02	0.02	0.03*
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
Fund age > 3 × Inv. year +1	-0.08***	-0.08***	-0.10***	-0.06***	-0.06***	-0.06***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +2	-0.09***	-0.09***	-0.10***	-0.06***	-0.06***	-0.06***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +3	-0.12***	-0.12***	-0.12***	-0.07***	-0.07***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +4	-0.15***	-0.15***	-0.15***	-0.09***	-0.09***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Inv. year dummies × Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year dummies × Company controls	No	No	No	No	No	No
Company fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	No	Yes	No	No	Yes	No
Vintage fixed effects	Yes	No	No	Yes	No	No
VC firm fixed effects	Yes	Yes	No	Yes	Yes	No
Fund fixed effects	No	No	Yes	No	No	Yes
Observations	53424	53424	53424	53424	53424	53424
R^2	0.411	0.411	0.413	0.436	0.437	0.438

Panel B: California only

	Log patents + 1			Log scaled patents + 1		
Fund age > 3	0.09***	0.03	0.07***	0.06***	0.03*	0.05***
	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)
Fund age > 3 × Inv. year -3	0.07**	0.07**	0.08**	0.03	0.03	0.03*
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year -2	0.10***	0.10***	0.10***	0.05***	0.05***	0.05***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year -1	0.07**	0.07**	0.07***	0.03*	0.03*	0.03**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +1	-0.07**	-0.07**	-0.07**	-0.05**	-0.05**	-0.04**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +2	-0.11***	-0.11***	-0.09**	-0.07***	-0.07***	-0.06***
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +3	-0.14***	-0.14***	-0.10***	-0.10***	-0.10***	-0.07***
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +4	-0.22***	-0.22***	-0.16***	-0.14***	-0.14***	-0.11***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Inv. year dummies × Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year dummies × Company controls	No	No	No	No	No	No
Company fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	No	Yes	No	No	Yes	No
Vintage fixed effects	Yes	No	No	Yes	No	No
VC firm fixed effects	Yes	Yes	No	Yes	Yes	No
Fund fixed effects	No	No	Yes	No	No	Yes
Observations	34248	34248	34248	34248	34248	34248
R^2	0.406	0.411	0.407	0.432	0.437	0.434

Panel C: including non-patenters

	Log patents + 1			Log scaled patents + 1		
Fund age > 3	0.04***	0.02***	0.03***	0.02***	0.01***	0.02***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year -3	0.01	0.01	0.01**	0.00	0.00	0.01
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year -2	0.02***	0.02***	0.02***	0.01**	0.01**	0.01***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year -1	0.01	0.01	0.01*	0.00	0.00	0.00
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year +1	-0.03***	-0.03***	-0.03***	-0.02***	-0.02***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year +2	-0.04***	-0.04***	-0.03***	-0.02***	-0.02***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year +3	-0.05***	-0.05***	-0.04***	-0.03***	-0.03***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Fund age > 3 × Inv. year +4	-0.06***	-0.06***	-0.05***	-0.04***	-0.04***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Inv. year dummies × Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year dummies × Company controls	No	No	No	No	No	No
Company fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	No	Yes	No	No	Yes	No
Vintage fixed effects	Yes	No	No	Yes	No	No
VC firm fixed effects	Yes	Yes	No	Yes	Yes	No
Fund fixed effects	No	No	Yes	No	No	Yes
Observations	339184	339184	339184	339184	339184	339184
R^2	0.489	0.490	0.490	0.489	0.490	0.490

Table C.12. Fund horizon and increase in citation count

This table presents the results of the following patent-level regression (investments made up until December 2006 are included):

$$CC_{j,t+k} = \alpha_0 + \alpha_1 Age_{i,t} + \alpha_2 F_{i,t} + \alpha_3 C_{j,t} + \sum_{k=-3}^{5} \lambda_k Y_{t+k} + \sum_{k=-3}^{5} \beta_k Y_{t+k} \times Age_{i,t} + \sum_{k=-3}^{5} \delta_k Y_{t+k} \times F_{i,t} + \sum_{k=-3}^{5} \theta_k Y_{t+k} \times C_{j,t} + \epsilon_{i,j,t}$$

$CC_{j,t+k}$ is successively the log of one plus the number of citations and the log of one plus the number of scaled citations received by a patent applied by company j in year k around the investment year t. Y_{t+k} is a dummy equal to one in the k^{th} year around the investment of fund i in company j which occurs in year t. $Age_{i,t}$ is a dummy indicating whether fund i is beyond its third year at the time of the investment. $F_{i,t}$ is a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (iv) the log of fund size, and (v) a dummy for first-time funds. $C_{j,t}$ is a vector of company-level controls, including the log of company age, state, and sector dummies. Standard errors are clustered at the company level. Panel A shows the results of the specifications using company fixed effects, while Panel B includes company-level controls (age, sector, and state of incorporation). Standard errors are clustered by company and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Within company

	Log citations + 1			Log scaled citations + 1		
Fund age > 3	-0.04	0.09**	-0.04	-0.02	0.05***	-0.02
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year -3	0.23***	0.28***	0.23***	0.09**	0.11***	0.09**
	(0.07)	(0.07)	(0.07)	(0.04)	(0.04)	(0.04)
Fund age > 3 × Inv. year -2	0.12**	0.15***	0.13**	0.02	0.03	0.03
	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)
Fund age > 3 × Inv. year -1	0.08**	0.10***	0.08**	0.02	0.03	0.02
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +1	-0.06*	-0.07*	-0.06*	-0.02	-0.03	-0.03
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +2	-0.12***	-0.14***	-0.12***	-0.07***	-0.08***	-0.07***
	(0.04)	(0.05)	(0.05)	(0.02)	(0.02)	(0.02)
Fund age > 3 × Inv. year +3	-0.21***	-0.24***	-0.18***	-0.12***	-0.13***	-0.11***
	(0.06)	(0.07)	(0.07)	(0.04)	(0.04)	(0.04)
Fund age > 3 × Inv. year +4	-0.23***	-0.27***	-0.21**	-0.12***	-0.15***	-0.13***
	(0.08)	(0.09)	(0.09)	(0.05)	(0.05)	(0.05)
Inv. year dummies × Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year dummies × Company controls	No	No	No	No	No	No
Company fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	No	Yes	No	No	Yes	No
Vintage fixed effects	Yes	No	No	Yes	No	No
VC firm fixed effects	Yes	Yes	No	Yes	Yes	No
Fund fixed effects	No	No	Yes	No	No	Yes
Observations	119095	119095	119095	118990	118990	118990
R^2	0.439	0.443	0.442	0.400	0.402	0.402

Panel B: Controlling for company's observable characteristics

	Log citations + 1			Log scaled citations + 1		
Fund age > 3	-0.04	0.10*	-0.01	-0.02	0.06*	0.01
	(0.06)	(0.06)	(0.05)	(0.03)	(0.03)	(0.03)
Fund age > 3 × Inv. year -3	0.17**	0.23***	0.19**	0.02	0.04	0.03
	(0.08)	(0.08)	(0.08)	(0.05)	(0.05)	(0.04)
Fund age > 3 × Inv. year -2	0.09	0.14**	0.10	-0.01	0.00	-0.00
	(0.06)	(0.06)	(0.06)	(0.04)	(0.04)	(0.04)
Fund age > 3 × Inv. year -1	0.02	0.05	0.04	-0.02	-0.01	-0.02
	(0.05)	(0.05)	(0.04)	(0.03)	(0.03)	(0.03)
Fund age > 3 × Inv. year +1	-0.06	-0.08*	-0.06	-0.03	-0.04	-0.04
	(0.05)	(0.05)	(0.04)	(0.03)	(0.03)	(0.02)
Fund age > 3 × Inv. year +2	-0.12**	-0.18***	-0.13***	-0.09***	-0.11***	-0.10***
	(0.06)	(0.06)	(0.05)	(0.03)	(0.03)	(0.03)
Fund age > 3 × Inv. year +3	-0.18***	-0.26***	-0.16***	-0.12***	-0.15***	-0.12***
	(0.06)	(0.06)	(0.05)	(0.04)	(0.04)	(0.03)
Fund age > 3 × Inv. year +4	-0.10	-0.23***	-0.11	-0.08	-0.13**	-0.10**
	(0.08)	(0.08)	(0.07)	(0.05)	(0.05)	(0.04)
Inv. year dummies × Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year dummies × Company controls	Yes	Yes	Yes	Yes	Yes	Yes
Company fixed effects	No	No	No	No	No	No
Inv. year fixed effects	No	Yes	No	No	Yes	No
Vintage fixed effects	Yes	No	No	Yes	No	No
VC firm fixed effects	Yes	Yes	No	Yes	Yes	No
Fund fixed effects	No	No	Yes	No	No	Yes
Observations	110745	110745	110745	110650	110650	110650
R^2	0.135	0.152	0.182	0.101	0.108	0.148

Table C.13. Fund horizon and market conditions, robustness tests

This table presents the results of an investment-level OLS regression of the proxies for company maturity on a dummy indicating whether the fund is beyond its third year interacted with *Median market-wide time to exit*, namely, the age of companies that were exited through an IPO or a M&A in the past twelve months. All specifications include a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log company age		Later stage dummy		Log nb. of prior rounds	
Fund age > 3	0.05	-0.03	-0.01	0.02	-0.01	-0.05
	(0.05)	(0.06)	(0.03)	(0.03)	(0.04)	(0.05)
Fund age $> 3 \times$ Median market-wide time to exit	0.01^{*}	0.03^{***}	0.01^{***}	0.01^{**}	0.02^{***}	0.04^{***}
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm $\times$ Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	46251	46251	46251	46251	46251	46251
R^2	0.346	0.217	0.323	0.203	0.359	0.234

Table C.14. Fund horizon and VC firm experience, robustness tests

This table presents the results of an investment-level OLS regression of the proxies for company maturity on a dummy indicating whether the fund is beyond its third year interacted with alternatively the *log VC firm age*, i.e., the log of the number of years since the VC firm has been operating (Panel A), the *log VC firm number of investments*, i.e., the log of the number of investments made by the GP (VC firm) before raising the fund (Panel B). All specifications include a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log company age		Later stage dummy		Log nb. of prior rounds	
Panel A:Log VC firm nb. of past inv.						
Fund age > 3	0.02	0.00	0.04**	-0.01	0.05*	-0.00
	(0.03)	(0.02)	(0.02)	(0.01)	(0.03)	(0.02)
Fund age $> 3 \times$ Log VC firm nb. of past inv.	0.04***	0.02***	0.01***	0.01***	0.03***	0.01***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)
Log VC firm nb. of past inv.	-0.04***		-0.01		-0.03***	
	(0.01)		(0.01)		(0.01)	
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm $\times$ Inv. year fixed effects	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	46659	46659	46659	46659	46659	46659
R^2	0.346	0.219	0.323	0.203	0.359	0.235
Panel B:Log VC firm nb. of past inv.						
Fund age > 3	0.04	0.01	0.04**	0.00	0.05*	0.00
	(0.03)	(0.02)	(0.02)	(0.01)	(0.03)	(0.02)
Fund age $> 3 \times$ Log VC firm nb. of funds raised	0.05***	0.03***	0.02**	0.02**	0.06***	0.03***
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log VC firm nb. of funds raised	-0.18***		-0.08***		-0.20***	
	(0.03)		(0.02)		(0.03)	
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
VC firm $\times$ Inv. year fixed effects	Yes	No	Yes	No	Yes	No
Fund fixed effects	No	Yes	No	Yes	No	Yes
Observations	46659	46659	46659	46659	46659	46659
R^2	0.347	0.219	0.323	0.203	0.360	0.234

Table C.15. Fund horizon, VC firm experience, and exits, robustness tests

This table presents the results of an investment-level OLS regression of the successful exit dummy on a dummy indicating whether the fund is beyond its third year at the time of the investment and a vector of fund-level controls including (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. In columns (2) to (4), the fund age dummy is interacted with, successively, the *log VC firm nb. of funds raised*, i.e., the number of funds raised by the VC firm prior to the investment (column (2)), the *log VC firm age*, i.e., the log of the number of years since the VC firm has been operating (column (3)), the *log VC firm number of investments*, i.e., the log of the number of investments made by the GP (VC firm) before raising the fund (column (4)). In Panel A, the dependent variable is a dummy indicating whether the investment is exited through an IPO or a M&A. In Panel B, the sample is restricted to investments made prior to 2000. In Panel C, the dependent variable is a dummy indicating whether the investment is exited through an IPO. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Panel A: successful exit dummy				
Fund age > 3	0.018**	-0.006	-0.011	-0.010
	(0.009)	(0.012)	(0.012)	(0.011)
Fund age $> 3 \times$ Log VC firm nb. of funds raised		0.022***		
		(0.007)		
Fund age $> 3 \times$ Log VC firm age			0.009***	
			(0.003)	
Fund age $> 3 \times$ Log VC firm nb. of past inv.				0.010***
				(0.003)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Observations	46659	46659	46659	46659
R^2	0.155	0.155	0.155	0.155
Panel B: Pre-2000 investments				
Fund age > 3	0.016	-0.008	-0.012	-0.012
	(0.013)	(0.016)	(0.016)	(0.016)
Fund age $> 3 \times$ Log VC firm nb. of funds raised		0.025**		
		(0.011)		
Fund age $> 3 \times$ Log VC firm age			0.010**	
			(0.004)	
Fund age $> 3 \times$ Log VC firm nb. of past inv.				0.011**
				(0.004)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Observations	28077	28077	28077	28077
R^2	0.154	0.154	0.154	0.154
Panel C: IPO exit				
Fund age > 3	0.015**	-0.004	-0.010	-0.009
	(0.006)	(0.008)	(0.008)	(0.008)
Fund age $> 3 \times$ Log VC firm nb. of funds raised		0.017***		
		(0.005)		
Fund age $> 3 \times$ Log VC firm age			0.008***	
			(0.002)	
Fund age $> 3 \times$ Log VC firm nb. of past inv.				0.008***
				(0.002)
Fund level controls	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	Yes	Yes	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Observations	46659	46659	46659	46659
R^2	0.154	0.154	0.154	0.154

Table C.16. Finite horizon, option-like compensation, and innovation: first time funds
This table presents the results of OLS regressions of measures of the intensity and the innovativeness of investments on a fund's cumulative success, proxied with the ratio of the number of exited investments to total investments made, interacted with a first-time fund dummy. All specifications include a vector of fund-level controls including the log of fund age as well as (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Panel A presents the results of fund × year panel regressions, where the dependent variable is the log number of investments (columns (1) and (2)), the log amount invested (columns (3) and (4)), and an investment dummy equal to one if the fund made an investment in a given year and zero otherwise (columns (5) and (6)). Panel B show the results of investment-level regressions. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: fund × year panel regressions						
	Log nb. of investments		Log amount invested		Investment dummy	
Ratio of exits to investments	-0.87***	-0.96***	-0.07***	-0.09***	-0.38***	-0.47***
	(0.07)	(0.14)	(0.01)	(0.02)	(0.03)	(0.06)
First-time fund × Ratio of exits to investments	0.81***	0.10	0.05*	0.04	0.27***	0.04
	(0.11)	(0.27)	(0.03)	(0.07)	(0.07)	(0.16)
First time fund	0.08**	0.09	0.01*	-0.01	0.03*	-0.02
	(0.04)	(0.06)	(0.01)	(0.01)	(0.02)	(0.03)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	20767	20767	20767	20767	20767	20767
R^2	0.492	0.806	0.252	0.730	0.367	0.783
Panel B: investment-level regressions						
	Log company age		Later stage dummy		Log nb. of prior rounds	
Ratio of exits to investments	0.26***	0.50***	0.17***	0.27***	0.37***	0.56***
	(0.06)	(0.10)	(0.04)	(0.06)	(0.05)	(0.09)
First time fund × Ratio of exits to investments	-0.46***	-0.97***	-0.18**	-0.31***	-0.49***	-0.71***
	(0.11)	(0.17)	(0.07)	(0.11)	(0.08)	(0.16)
First-time fund	-0.02	0.00	-0.01	-0.01	-0.03**	-0.01
	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)	(0.02)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	38588	38588	38588	38588	38588	38588
R^2	0.155	0.332	0.138	0.315	0.157	0.347

Table C.17. Finite horizon and option-like compensation, robustness tests

This table presents the results of OLS regressions of measures of the intensity and the innovativeness of investments on a fund's cumulative success, proxied with the ratio of exited investments to total investments weighted by the size of the investment. All specifications include a vector of fund-level controls including the log of fund age as well as (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) the share of total fund size already invested, (iv) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (v) the log of fund size, and (vi) a dummy for first-time funds. Panel A presents the results of fund × year panel regressions, where the dependent variable is the log nb. of investment (column (1) and (2)), the log amount invested (column (3) and (4)), and an investment dummy equal to one if the fund made an investment in a given year and zero otherwise (column (5) and (6)). Panel B shows the results of investment-level regressions. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: fund × year panel regressions						
	Log nb. of investments		Log amount invested		Investment dummy	
Ratio of exits to investments	-0.41***	-0.60***	-0.04***	-0.07***	-0.21***	-0.31***
	(0.05)	(0.10)	(0.01)	(0.02)	(0.03)	(0.05)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	20453	20453	20453	20453	20453	20453
R^2	0.486	0.804	0.248	0.728	0.360	0.780
Panel B: investment-level regressions						
	Log company age		Later stage dummy		Log nb. of prior rounds	
Ratio of exits to investments	0.07	0.29***	0.10***	0.17***	0.17***	0.32***
	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.06)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	38300	38300	38300	38300	38300	38300
R^2	0.154	0.331	0.136	0.314	0.155	0.345

Table C.18. Finite horizon, dry powder, and investment decisions

This table presents the results of OLS regressions of measures of the intensity and the innovativeness of investments on the share of the fund already invested, interacted with a dummy indicating whether the fund is still its investment period (prior to year 6). All specifications include a vector of fund-level controls including the log of fund age as well as (i) the log number of investments exited by the fund, (ii) the log number of past investments made by the fund, (iii) a dummy indicating whether the VC firm has raised a follow-up fund at the time of the investment, (iv) the log of fund size, and (v) a dummy for first-time funds. Panel A presents the results of fund × year panel regressions, where the dependent variable is the log number of investment (columns (1) and (2)), the log amount invested (columns (3) and (4)), and an investment dummy equal to one if the fund made an investment in a given year and zero otherwise (columns (5) and (6)). Panel B shows the results of investment-level regressions. In columns (1) and (2), the dependent variable is the log of the number of years between the creation of the company and the investment. In columns (3) and (4), the dependent variable is a dummy equal to zero for companies classified by VentureXpert as "Startup/Seed" or "Early Stage" and one for later stages. In columns (5) and (6), the dependent variable is the log of the number of previous financing rounds (involving other funds) received by the company until the investment by a given fund. Standard errors are clustered by month and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: fund × year panel regressions						
	Log nb. of investments		Log amount invested		Investment dummy	
Share of the fund invested	-0.13***	-0.04	-0.03**	0.03*	-0.01	0.00
	(0.05)	(0.07)	(0.02)	(0.01)	(0.02)	(0.03)
Investment period	-0.13***	-0.11***	-0.01***	-0.00**	-0.01	-0.02*
	(0.01)	(0.02)	(0.00)	(0.00)	(0.01)	(0.01)
Investment period × Share of the fund invested	-0.07***	-0.03	-0.03***	-0.03**	-0.17***	-0.08***
	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.01)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	32942	32942	32942	32942	32942	32942
R^2	0.464	0.757	0.198	0.662	0.334	0.720
Panel B: investment-level regressions						
	Log company age		Later stage dummy		Log nb. of prior rounds	
Share of the fund invested	-0.13***	-0.30***	-0.03	-0.12***	-0.09**	-0.21***
	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.06)
Investment period	-0.12***	-0.16***	-0.06***	-0.09***	-0.14***	-0.22***
	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Investment period × Share of the fund invested	0.07	0.15**	0.03	0.09**	0.03	0.14**
	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.06)
Fund level controls	Yes	Yes	Yes	Yes	Yes	Yes
Inv. year fixed effects	Yes	No	Yes	No	Yes	No
VC firm fixed effects	Yes	No	Yes	No	Yes	No
VC firm × Inv. year fixed effects	No	Yes	No	Yes	No	Yes
Observations	46659	46659	46659	46659	46659	46659
R^2	0.160	0.347	0.140	0.324	0.159	0.361

Table C.19. Maturity matching and subsequent fundraising

This table presents the results of OLS fund-level regressions of the probability to raise a follow-up fund on the correlation between the three proxies for company maturity and fund age in the previous fund. This correlation is computed for each fund with more than three investments by regressing the proxy for company maturity on a dummy indicating whether the fund is beyond its third year at the time of the investment. The dependent variable is a dummy indicating whether or not the GP managing fund N raised fund N+1, N+2 and N+3 in Panel A, B and C, respectively. Standard errors are corrected for clustering at the VC firm level and presented in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Probability to raise fund (N+1)			
Correlation (Company age)	0.052***		
	(0.015)		
Correlation (Later stage)		0.054**	
		(0.027)	
Correlation (Nb. of prior rounds)			0.060***
			(0.018)
Fund sequence number	0.030***	0.030***	0.030***
	(0.002)	(0.002)	(0.002)
Vintage year fixed effects	Yes	Yes	Yes
Observations	2780	2780	2780
R^2	0.192	0.190	0.192
Panel B: Probability to raise fund (N+2)			
Correlation (Company age)	0.027*		
	(0.015)		
Correlation (Later stage)		0.026	
		(0.027)	
Correlation (Nb. of prior rounds)			0.056***
			(0.018)
Fund sequence number	0.037***	0.037***	0.037***
	(0.002)	(0.002)	(0.002)
Vintage year fixed effects	Yes	Yes	Yes
Observations	2780	2780	2780
R^2	0.217	0.216	0.219
Panel C: Probability to raise fund (N+3)			
Correlation (Company age)	0.032**		
	(0.015)		
Correlation (Later stage)		0.061**	
		(0.027)	
Correlation (Nb. of prior rounds)			0.054***
			(0.018)
Fund sequence number	0.036***	0.036***	0.036***
	(0.002)	(0.002)	(0.002)
Vintage year fixed effects	Yes	Yes	Yes
Observations	2780	2780	2780
R^2	0.221	0.221	0.223

Table C.20. Age of companies receiving their first VC investment, robustness tests

This table studies the age of companies receiving a VC investment. Panel A presents a time-series OLS regression of the average company age in a given quarter on lagged measures of aggregate funds available for private equity investments (dry powder) including the horizon of the aggregate dry powder and the log of the total amount. In columns (1) and (2), these measures are computed based on the universe of venture capital funds. In columns (3) and (4), they are computed based on the universe of buyout (BO) funds. Panel B presents a cross-sectional, industry-level OLS regression of the average company age receiving venture capital money in a given sector on the length of firms' life cycle in this sector. In columns (1) and (2), the length of the life cycle is measured as the industry average number of years between firms' creation and their exit through an IPO or an acquisition. In columns (3) and (4), it is measured as the average number of years between firms' creation and exit, adjusted for cohort effects. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Age of companies receiving VC investments				
	(1)	(2)	(3)	(4)
	Panel A: Time-series regressions			
Age of VC dry powder	0.46***	0.38***		
	(0.06)	(0.07)		
Log VC dry powder	0.05	0.03		
	(0.06)	(0.06)		
Age of BO dry powder			0.33***	0.29***
			(0.08)	(0.08)
Log BO dry powder			0.12***	0.07
			(0.05)	(0.05)
Age of companies receiving inv. by CVC and Evergreen		0.14**		0.20***
		(0.06)		(0.05)
Past year Nasdaq cumulative returns	-0.19	-0.25	-0.38	-0.43*
	(0.24)	(0.23)	(0.25)	(0.24)
Observations	120	120	120	120
R^2	0.455	0.483	0.420	0.486
	Panel B: Industry-level regressions			
Average company age at exit	0.50***	0.39***		
	(0.04)	(0.04)		
Average cohort adjusted company age at exit			0.37***	0.27***
			(0.05)	(0.04)
Log nb. of investments	-0.14	-0.10	-0.23*	-0.16
	(0.11)	(0.10)	(0.12)	(0.11)
Age of companies receiving inv. by CVC and Evergreen		0.19***		0.22***
		(0.02)		(0.02)
Observations	431	431	431	431
R^2	0.293	0.438	0.144	0.351

D A simple model of investor horizon and the choice between exploration and exploitation

This simple model draws from the model developed in Manso (2011) and used in Ferreira et al. (2012). It shows that because of the information asymmetry between a VC investor and outside buyers, short-term VC funds refrain from funding exploratory projects, which take longer than conventional ones to produce observable payoffs.

Suppose that investors can provide funding to two company types that are operational for two periods. Companies of the first type exploit existing ideas, while companies of the second type explore new ideas. Type 1 delivers cash flows of 1 with probability p, and 0 otherwise. If 1 is obtained in the first period, then type 1 delivers 1 again with probability p in the second period, and 0 otherwise. If 0 is obtained in the first period, then the company shuts down. Type 2 has a similar payoff structure and delivers 1 with probability δp, and 0 otherwise in period 1. If 1 is obtained in the first period, then type 2 delivers X with probability θp in the second period, and 0 otherwise. If 0 is obtained in the first period, then the company shuts down.[45]

I assume for simplicity that δ, X, and θ are such that both types have the same net present value over the two periods:

$$\delta p + \delta\theta p^2 X = p + p^2$$

However, type 2 is less profitable than type 1 in period 1 and the reverse is true in period 2:

$$\delta < 1 \text{ and } \theta X > 1$$

There are short-term and long-term risk-neutral investors deciding on a unique investment at the beginning of period 1. Short-term investors have to liquidate their investment by selling it to outside unsophisticated short-term investors at the end of period 1. Long-term investors can hold on to their investment for two periods and have the option to sell their investment at the end of period 1 to outside unsophisticated short-term investors.[46]

Outside unsophisticated short-term investors can buy companies at the end of period 1 when the initial investors wish to sell them. They observe interim results (1 or 0) and whether the initial investor is short or long-term. But they do not observe the type of the company, i.e., whether the company is exploiting an existing idea or exploring a new one.

At the end of period 1, if investors wish to liquidate their investment, they need to agree on a price with outside buyers. These unsophisticated potential buyers will bid a price not less than their estimation of the residual project cash flows, conditional on the information they observe at the end of period 1. Let us call this estimation E. Since they do not know and have no way to observe types, they will offer a single price E such that:

$$p \leq E \leq \theta p X$$

Coming back to the beginning of period 1, long-term investors are indifferent between the two types since they both have the same net present value. The only way for them to make more money

[45] The fact that projects shut down following an early failure simplifies the exposition. The same result could be obtained if, as in Ferreira et al. (2012), both projects deliver 1 with probability p and 0 with probability $1-p$ in the second period, following a failure in period 1.

[46] The assumption that only unsophisticated short-term investors can buy at the interim period could be interpreted as the fact that the supply of unsophisticated short-term investors is large while the supply of sophisticated ones is smaller.

would be to invest in type 1 and try to sell it at a price $E > p$ at the end of period 1. However, outside investors would be aware of that and offer a price $E = p$ to long-term investors, making them indifferent between selling or keeping type 1 company in period 2.

Consider now the decision of short-term investors. Since they live only one period, they have to sell their investment at the end of period 1. The payoff from funding type 1 is $p + pE$, while the payoff of funding type 2 is $\delta p + \delta pE$. Since $\delta < 1$, short-term investors will always select type 1.