

Agency Costs of Dry Powder in Private Equity Funds

Marie Lambert

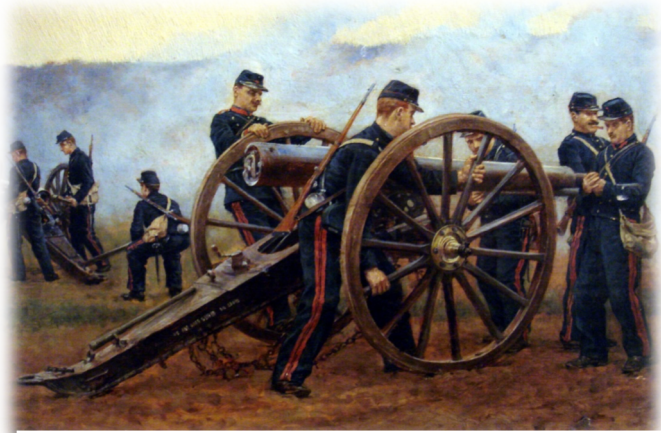
Alexandre Scivoletto

Tereza Tykvvová



Research seminar, Toulouse School of Economics, September 21st 2020

Dry Powder in Private Equity Funds



The New York Times Magazine

ON LANGUAGE

Keeping Your Powder Dry

By William Safire

Feb. 23, 1997



- Gunpowder had to be stored and be dry to be **immediately available**
- “Keep your powder dry” means “remain calm, keep cool” (NY Times)
- In the context of private equity, dry powder refers to cash still available for investment purposes or “unspent capital”, i.e. **committed capital** by LPs that has **not been invested** yet

FINANCE • PRIVATE EQUITY

Private equity firms are sitting on \$1.5 trillion in unspent cash, and looking to raise more

BY ANNE SRADERS

January 25, 2020 8:00 PM GMT+1

Opinion **Private equity**

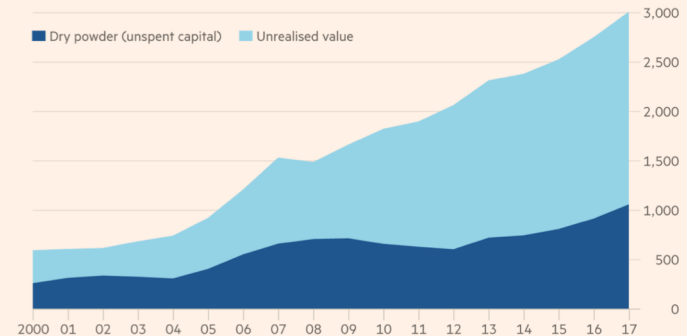
The private equity bubble is bound to burst

There are worrying signs that the sector is becoming a victim of its own success

PATRICK JENKINS

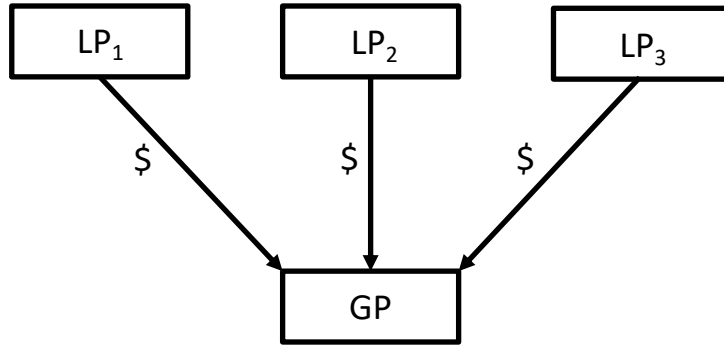
A wall of cash reserves creates pressure to spend

Private equity assets under management (\$bn)

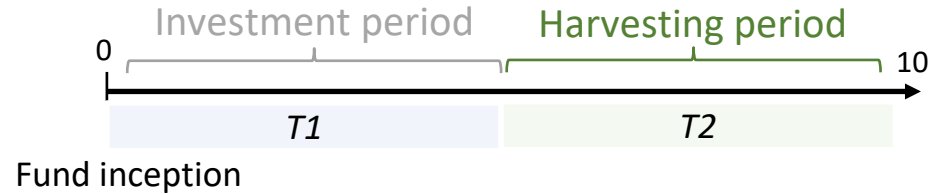


Source: Preqin © FT

Scope



Acquire majority stakes in companies

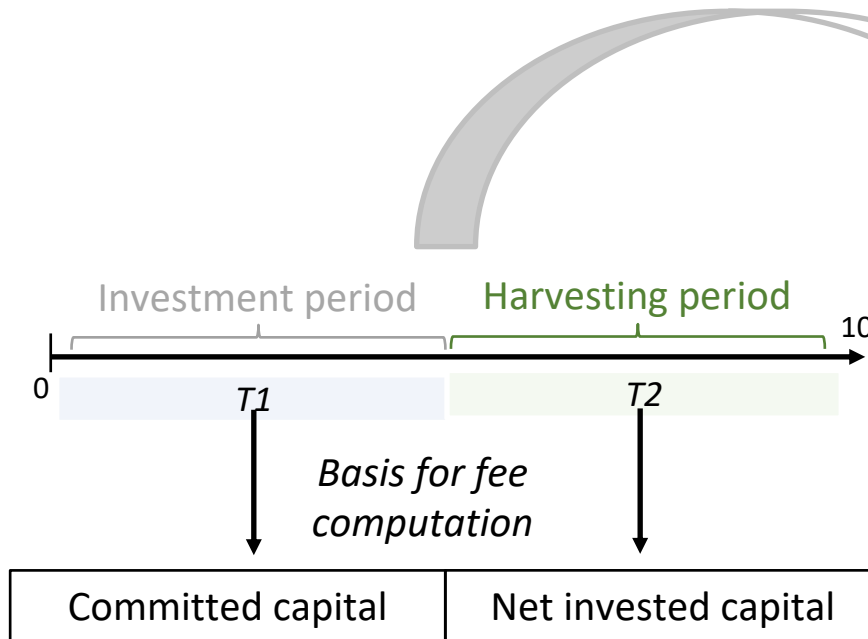


Contract features

- *Fees (GP compensation)* : Management fees / Carry interest / Monitoring fees/ Transaction fees
- *Hurdle rate*
- *Catch-up*
- *Waterfalls*
- *Clawback*

The paper in a nutshell

We model GP investment behavior based on their expected fees



At the end of the investment period

High dry powder

- ➔ Loss in management fees
- ➔ Delaying investment to capture better opportunities

The paper in a nutshell

We model the GP investment behavior when the basis of fee computation changes

- The expected fees of GP depend on the expected return of the GP, the carry and management fees, exit rate and time to exit. In a first extension, we introduce deal leverage
- **Management fees, leverage and expected returns** outcome as having a material impact on the dry powder from the revenue management model

The paper in a nutshell

We analyze the impact of fees, GP expected return (based on its past performance) on the abnormal level of dry powder at the end of the investment period

- Data: **383 fund sponsoring 1,011 US LBO deals** during the period 1980 – 2019
- Small funds, funds with **low management fees** or GP with a **weak track record** are **more likely to have an abnormal level of dry powder** at the end of the investing period
- This situation leads to **agency costs**: We give evidence of loss in performance for funds with abnormal dry powder at the end of the investing period

The paper in a nutshell

*We examine the characteristics of **deals** performed **at and after vintage year + 4***

- Data: from **105** to **230 deals** on which we have sufficient information (deal terms and exit conditions)
- We find that high levels of dry powder lead to investment distortions where GPs focus more on maximizing their fees rather than maximizing the value for LPs
 - Deals undertaken at the end of the investing period by funds with a large volume of dry powder are under-leveraged, are larger and performed with less syndication to maximize the equity spent

Literature review

Agency/contract theory

Jensen & Meckling (1976, JFE)

Metrick & Yasuda (2010, RFS)

Axelsson *et al.* (2009, JF); Axelsson,
et al. (2013, JF)

GP experience and reputation

Gompers (1996, JFE)

Kaplan & Schoar (2005, JF)

Ljungqvist *et al.* (2020, FM)

Dry Powder and buying pressure

Arcot *et al.* (2015, JFE)

Degeorge *et al.* (2016, JFE)

PE performance

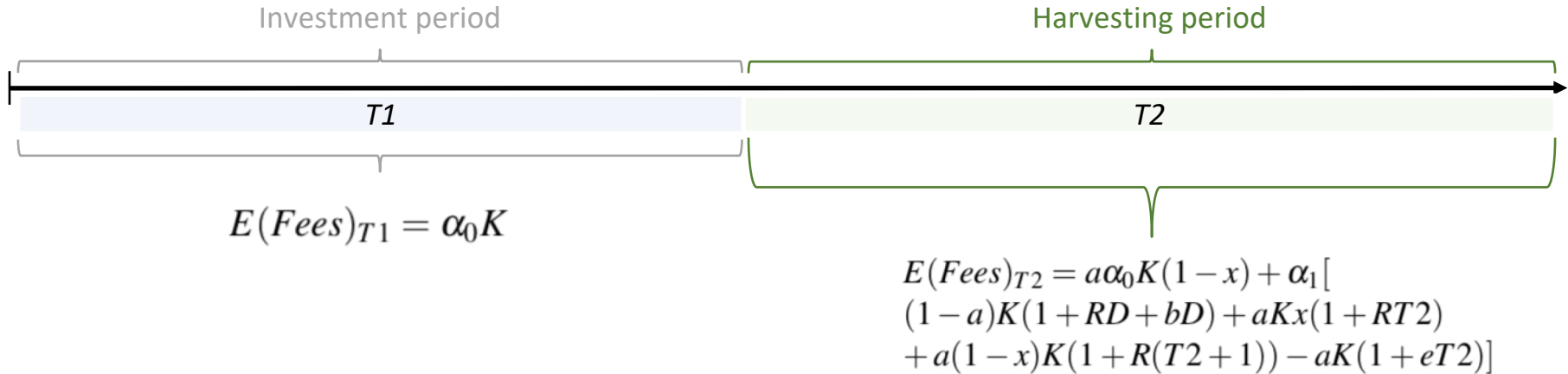
Phalippou & Gottschalg (2009, RFS)

Chung *et al.* (2012, RFS)

Harris *et al.* (2014, JF)

Robinson & Sensoy (2016, JFE)

Theoretical model



Variables

α_0 : Management fees

α_1 : Carried interest

e: Hurdle rate

R: Expected return

b: Option to delay

a: % of invested capital

K: Total committed capital

T2: Time to exit

x: Disinvestment rate

D: Duration

Theoretical model

Scenario 1 (DP = 0)

$$E(Fees)_{T2|S1} = \alpha_0 K(1 - x) + \alpha_1 [Kx(1 + RT2) + (1 - x)K(1 + R(T2 + 1)) - K(1 + eT2)]$$

| | | |
|--------------|---|--|
| <i>Where</i> | $\alpha_0 K(1 - x)$ $Kx(1 + RT2)$ $(1 - x)K(1 + R(T2 + 1))$ $K(1 + eT2)$ | Total management fees at time T2 Cum. perf. of the exited investments Cum. perf. of the not yet exited investments Min. LP remuneration |
|--------------|---|--|

Scenario 2 (DP > 0)

$$E(Fees)_{T2|S2} = a\alpha_0K(1-x) + \alpha_1[(1-a)K(1+RD+bD) + aKx(1+RT2) + a(1-x)K(1+R(T2+1)) - aK(1+eT2)]$$

| | | |
|--------------|----------------------|---|
| <i>Where</i> | $a\alpha_0K(1-x)$ | Total management fees at time T2 |
| | $(1-a)K(1+RD+bD)$ | Potential perf. of the not yet invested capital |
| | $aKx(1+RT2)$ | Cum. perf. of the exited investments |
| | $a(1-x)K(1+R(T2+1))$ | Cum. perf. of the not yet exited investments |
| | $aK(1+eT2)$ | Min. LP remuneration |

Theoretical model

Scenario 1 (DP = 0)

$$E(Fees)_{T2|S1} = \alpha_0 K(1-x) + \alpha_1 [Kx(1+RT2) + (1-x)K(1+R(T2+1)) - K(1+eT2)]$$

Scenario 1 (DP > 0)

$$E(Fees)_{T2|S2} = a\alpha_0 K(1-x) + \alpha_1 [(1-a)K(1+RD+bD) + aKx(1+RT2) + a(1-x)K(1+R(T2+1)) - aK(1+eT2)]$$

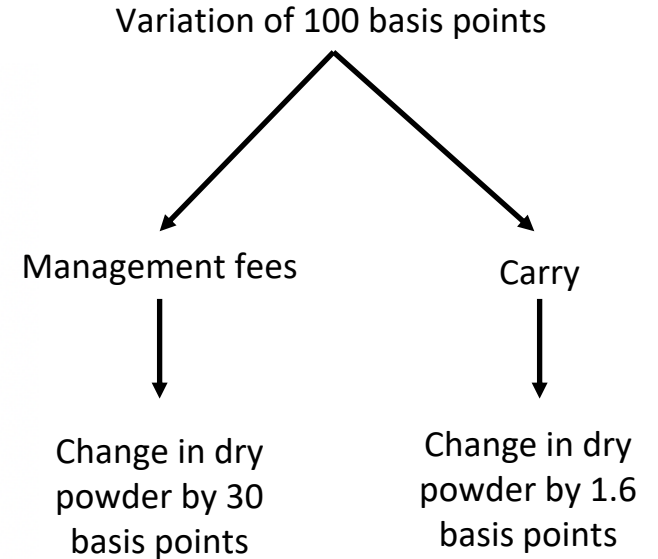
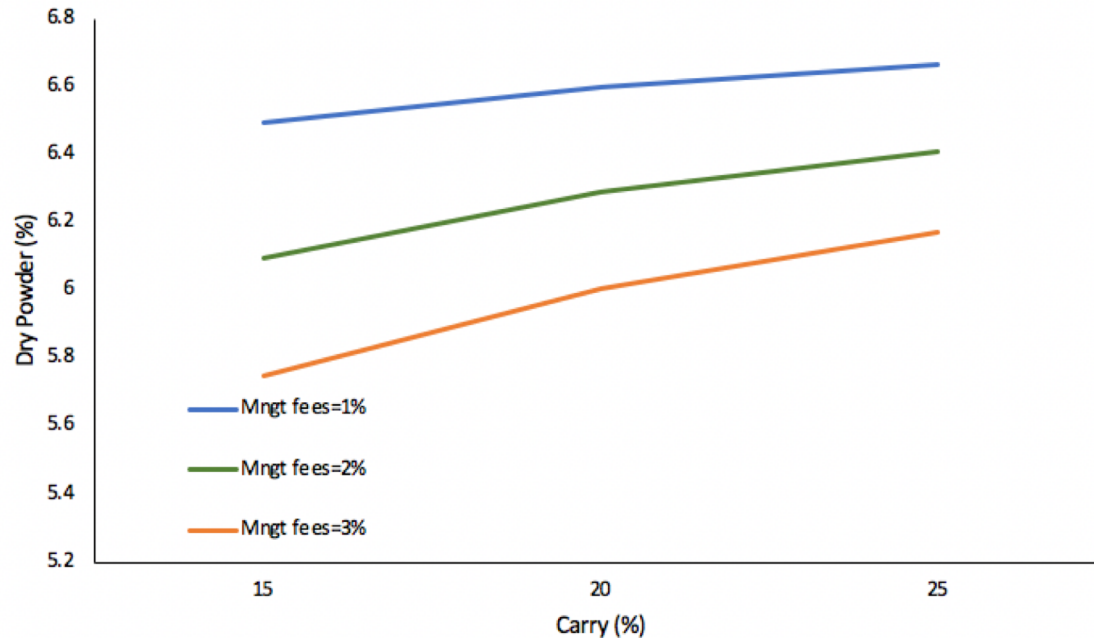
Indifference relationship

$$\Delta E(fees_{T2|S2} - T2|S1) = 0$$

$$a = \frac{1}{1 + \frac{\alpha_1 (bD)}{\alpha_0 (1-x) + \alpha_1 [R(T2-x-D) - eT2]}}$$

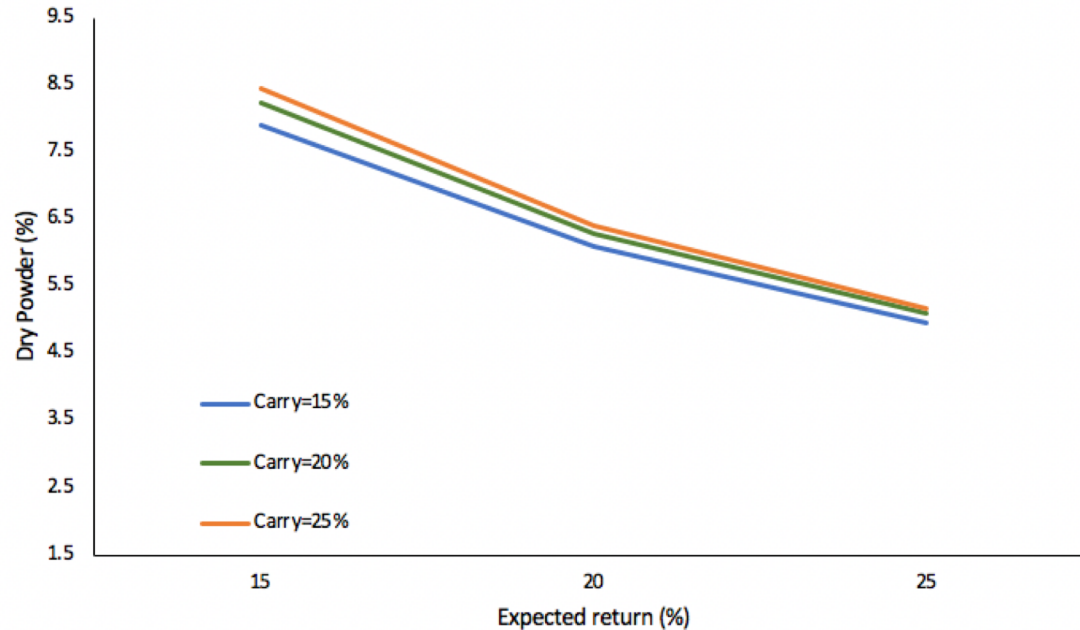
Theoretical model

Fee compensation scheme and DP



Theoretical model

GP expected return and DP



An increase of expected returns of 10%



Dry powder decreases by 3%

Theoretical model

Extension 1

Introducing leverage $L = D/K$

$$\text{Deal Value} = aK + aKL$$

$$\text{cost of leverage} = (1 + r_0)aKL$$

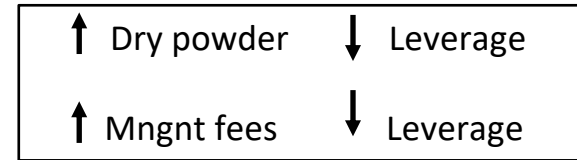
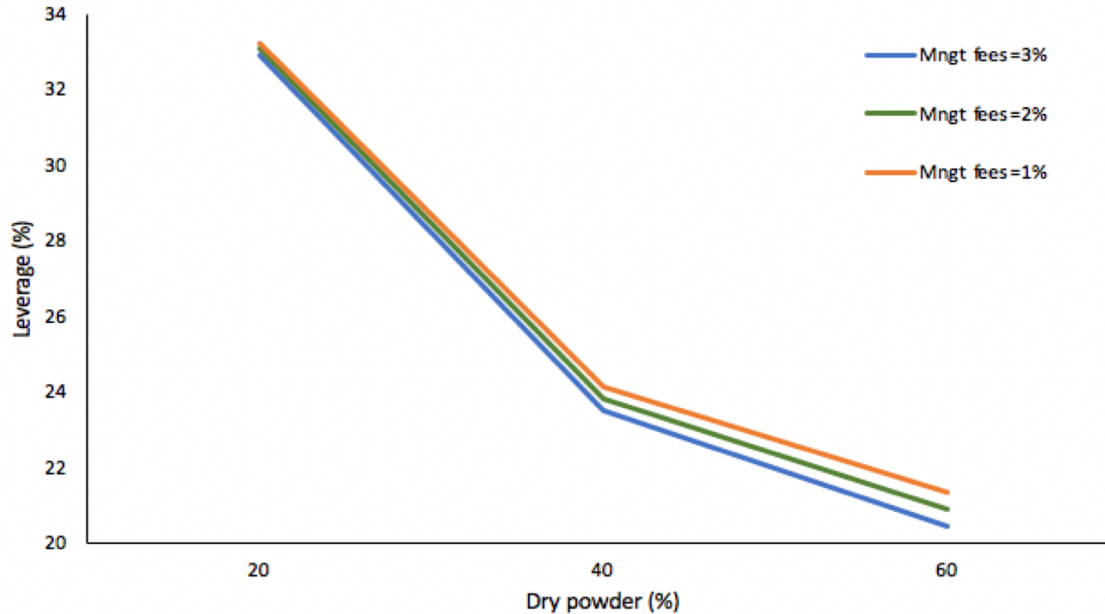
Indifference relationship

$$\Delta E(\text{fees}_{T2|S2-T2|S1}) = 0$$

$$L = \frac{(1-a)\alpha_0(1-x) + \alpha_1[(1-a)(RD+bD) + (a-1)(R(T2+1-x) - aeT2)]}{\alpha_1[(1-a)(RD+bD) + (a-1)(R(T2+1-x) - ar_0)]}$$

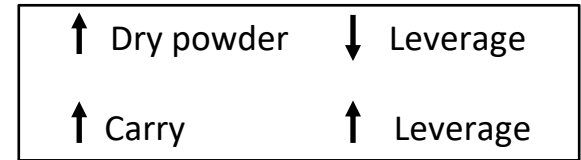
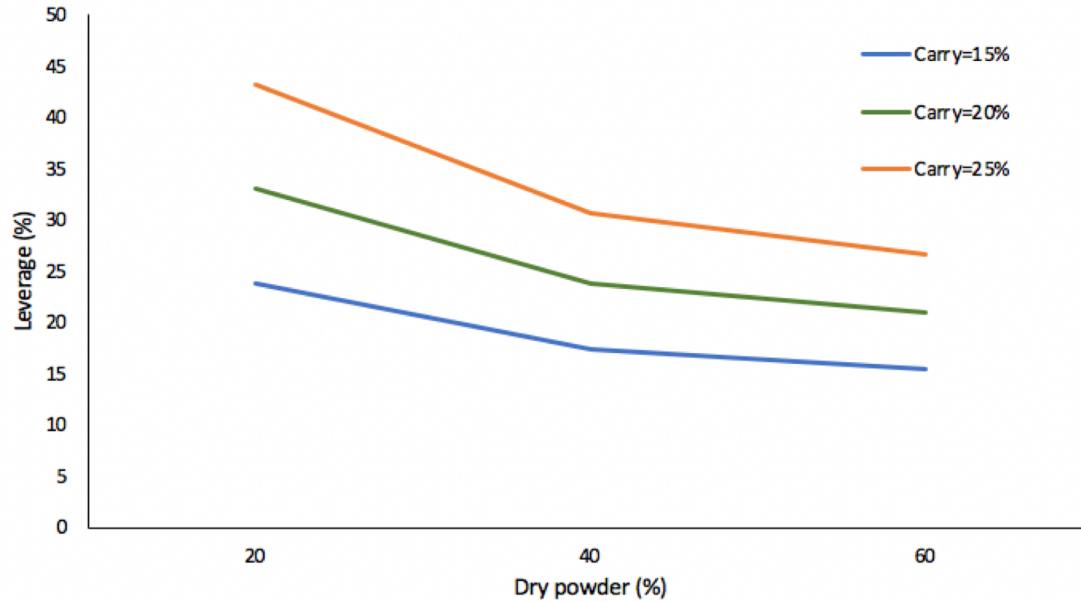
Theoretical model

Extension 1



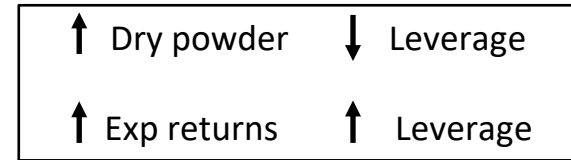
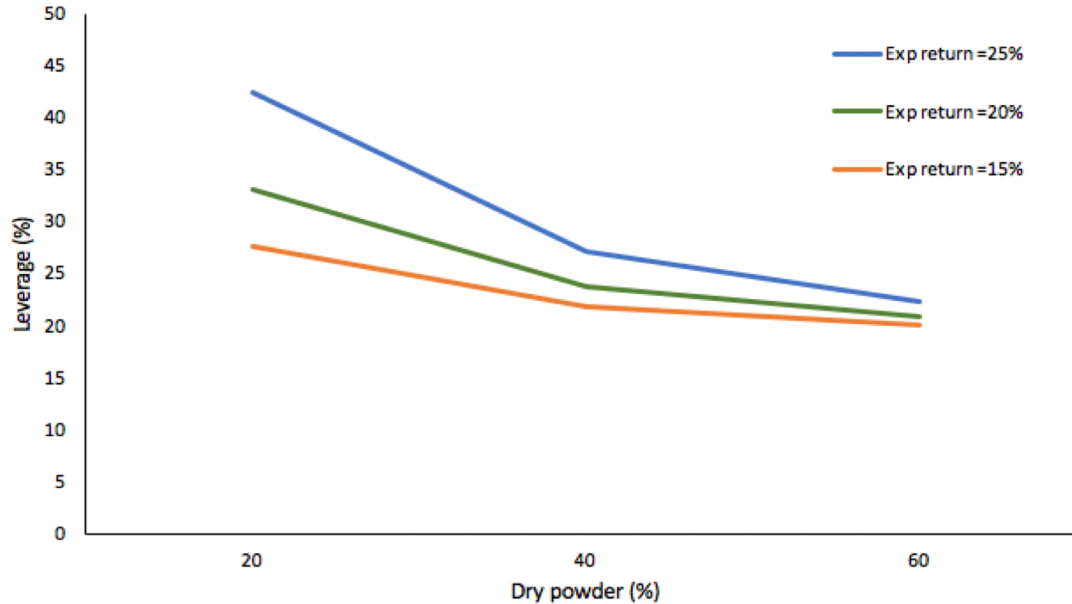
Theoretical model

Extension 1



Theoretical model

Extension 1



Data

**S&P CIQ
database**

LBO deals: Going Private Transaction, LBO, MBO, SBO, Platform
Deal information: Entry price, entry multiple, target financial metrics, deal syndication

EIKON

Eikon LBO loans – Adding information on the deal leverage

Data (continued)

**Preqin
modules**

Private Capital Deals Search Buyout – Adding information on the price/multiple

Private Capital Exits Search Buyout – Adding information on the exit, investment duration, type of exit

Private Capital Funds – Adding information on GP characteristics (fund number series, fund size, fees structure, fundraising info)

Private Capital Performance – Adding information on GP performance

Private Capital Cash Flow – Adding information on fund cash-flow distributions and dry powder

Summary statistics (1)

| Deal characteristics | Sample 1.2 | | | | Sample 2.2 | | | | Sample 1.3 | | | |
|-----------------------------------|------------|-----------|-------|----------|------------|-----------|-----|----------|------------|-----------|-----|----------|
| | Mean | Std. Dev. | N | N(funds) | Mean | Std. Dev. | N | N(funds) | Mean | Std. Dev. | N | N(funds) |
| <i>Entry characteristics</i> | | | | | | | | | | | | |
| Entry price (million USD) | 717.79 | 820.96 | 1,011 | 383 | 1035.40 | 880.62 | 578 | 94 | 927.80 | 872.80 | 378 | 65 |
| Leverage of the deal (%) | | | | | 55.74 | 28.00 | 578 | 94 | | | | |
| Number of funds | 1.41 | 0.79 | 1,011 | 383 | 1.57 | 0.89 | 578 | 94 | 1.57 | 0.85 | 378 | 65 |
| Target revenue (million USD) | 1393.17 | 3483.38 | 532 | 109 | 1749.20 | 3964.42 | 353 | 58 | 1787.73 | 4636.21 | 231 | 39 |
| Target EBITDA margin (%) | 15.73 | 12.11 | 349 | 63 | 16.41 | 10.91 | 262 | 46 | 17.02 | 11.72 | 162 | 28 |
| Entry revenue multiple | 1.78 | 1.46 | 490 | 79 | 2.06 | 1.56 | 332 | 52 | 2.00 | 1.60 | 215 | 35 |
| Entry EBITDA multiple | 11.75 | 21.45 | 339 | 62 | 11.11 | 17.21 | 256 | 47 | 10.98 | 8.60 | 153 | 27 |
| Target total assets (million USD) | 1069.84 | 1513.82 | 317 | 37 | 1334.10 | 1464.43 | 232 | 38 | 1315.32 | 1500.95 | 317 | 21 |
| <i>Exit characteristics</i> | | | | | | | | | | | | |
| Exit price (million USD) | | | | | | | | | 1235.97 | 2585.70 | 378 | 65 |
| Investment duration | | | | | | | | | 4.82 | 2.59 | 378 | 65 |
| Exit multiple | | | | | | | | | 3.39 | 1.77 | 5 | 8 |
| Return (cash multiple) | | | | | | | | | 2.15 | 5.78 | 378 | 65 |

Summary statistics (2)

| | All Funds | | | Q1 Dry Powder Y4 | | Q4 Dry Powder Y4 | | Diff Test Y4 (Q1 – Q4) |
|------------------------------|-----------|-----------|-----|------------------|----|------------------|----|---------------------------|
| | Mean | Std. dev. | N | Mean | N | Mean | N | |
| Dry powder Y4 | 0.315 | 0.191 | 383 | 0.071 | 96 | 0.562 | 95 | (0.492)*** |
| Dry powder Y5 | 0.179 | 0.164 | 383 | 0.014 | 96 | 0.369 | 95 | (0.354)*** |
| Dry powder Y6 | 0.094 | 0.139 | 383 | -0.017 | 95 | 0.221 | 96 | (0.238)*** |
| Dry powder change (Y4 to Y6) | 0.221 | 0.138 | 383 | 0.088 | 96 | 0.341 | 95 | (0.253)*** |
| Fund size (million USD) | 2058.09 | 3173.9 | 383 | 2848.481 | 96 | 1664.596 | 95 | 1183.885*** |
| TVPI | 1.73 | 0.555 | 383 | 1.78 | 96 | 1.72 | 95 | 0.06 |
| KSPME | 1.27 | 0.405 | 383 | 1.34 | 96 | 1.25 | 96 | 0.09* |
| Past perf. (TVPI) | 1.90 | 0.610 | 223 | 2.06 | 63 | 1.78 | 53 | 0.276*** |
| Past perf. (KSPME) | 1.277 | 1.337 | 223 | 1.62 | 63 | 1.13 | 53 | 0.49* |
| Management fees (%) | 1.90 | 0.270 | 166 | 1.82 | 39 | 1.91 | 50 | (0.17) |
| Carried interest (%) | 20.29 | 2.227 | 195 | 20.54 | 44 | 20.55 | 54 | (0.01) |
| GP Fundraising 1 (%) | 0.32 | 0.470 | 383 | 0.41 | 96 | 0.23 | 96 | 0.18*** |
| First fund (%) | 0.11 | 0.318 | 383 | 0.13 | 96 | 0.11 | 96 | 0.02 |
| Mid-experienced fund (%) | 0.39 | 0.490 | 383 | 0.33 | 96 | 0.43 | 96 | (0.10)* |
| Experienced fund (%) | 0.50 | 0.500 | 383 | 0.53 | 96 | 0.45 | 96 | 0.08 |

Empirical analysis > Fund level analysis (1)

$$y_{4,i} = \alpha_v + \beta_\phi X_i + \gamma_\mu Z_i + \varepsilon_i$$

$$y_{4,i} = \begin{cases} 0 & \text{if } DP_{4,i} \leq \text{Median}(DP_{4,i}) \\ 1 & \text{if } DP_{4,i} > \text{Median}(DP_{4,i}) \end{cases}$$

- $DP_{4,i}$ Level of dry powder 4 years after the vintage year of the fund;
- X_i Matrix of the ex-ante contract features (management fees, carried interest, exp. returns)
- Z_i Matrix of control variables (fund size, GP experience, GP fundraising, fund risk)

Vintage year fixed effects included |

Empirical results > Fund-level analysis (1)

Fund / GP features and dry powder (Table 6) – Sample 1.2

| | 1 | 2 | 3 | 4 |
|---------------------------|----------------------|---------------------|---------------------|----------------------|
| Infrequent fundraiser | 0.069 (0.152) | 0.147 (0.385) | -0.244 (0.463) | 0.152 (0.547) |
| Fund Size | -0.096 (0.070) | -0.103 (0.175) | -0.450* (0.249) | -0.606* (0.333) |
| GP Experience | -0.016 (0.035) | -0.133 (0.095) | -0.186* (0.110) | -0.273* (0.150) |
| GP Fundraising 1 | -0.663*** (0.180) | -1.724** (0.676) | -1.471* (0.761) | -1.735* (0.927) |
| Management Fees | | | -2.731** (1.282) | -3.334** (1.571) |
| Carried Interest | | | -0.042 (0.116) | 0.013 (0.148) |
| GP Past perf. (TVPI) | | | | -1.785*** (0.646) |
| Beta_1 | | | | 0.554 (1.478) |
| Vintage Year Fixed Effect | Yes | Yes | Yes | Yes |
| N | 372 | 72 | 72 | 72 |
| Pseudo R-Squared | 0.1005 | 0.2764 | 0.3388 | 0.4606 |

86% of our funds change the basis for fee computations in the harvesting period

Empirical results > Fund-level analysis (2)

Fund / GP features and dry powder (Table A.3) – Sample: All closed PE funds (Preqin)

| | 1 | 2 | 3 | 4 |
|---------------------------|----------------------|--------------------|---------------------|-----------------------|
| Infrequent fundraiser | -0.221*** (0.074) | 0.135 (0.241) | 0.145 (0.251) | 0.123 (0.254) |
| Fund Size | -0.132*** (0.070) | -0.107 (0.108) | -0.207 (0.128) | -0.202 (0.129) |
| GP Experience | 0.026* (0.014) | -0.100* (0.058) | -0.120 (0.062) | -0.135** (0.064) |
| GP Fundraising 1 | -0.443*** (0.088) | -0.428 (0.353) | -0.296 (0.367) | -0.194 (0.375) |
| Management Fees | | | -1.006** (0.511) | -1.085**** (0.532) |
| Carried Interest | | | -0.012 (0.047) | -0.003 (0.049) |
| GP Past Perf. | | | | -0.251 (0.189) |
| Beta_1 | | | | 0.881 (0.660) |
| Vintage Year Fixed Effect | Yes | Yes | Yes | Yes |
| N | 1374 | 142 | 142 | 142 |
| Pseudo R-Squared | 0.0697 | 0.1452 | 0.1860 | 0.2021 |

Empirical results > Fund-level analysis (3)

Fund / GP features and dry powder (Table A.4) – Sample 1.2 – OLS regression

| | 1 | 2 | 3 | 4 |
|---------------------------|----------------------|----------------------|---------------------|----------------------|
| Infrequent fundraiser | 0.006 (0.021) | 0.033 (0.047) | 0.021 (0.050) | 0.033 (0.046) |
| Fund Size | -0.010 (0.009) | -0.014 (0.021) | -0.030 (0.024) | -0.042* (0.224) |
| GP Experience | -0.003 (0.004) | -0.027** (0.011) | -0.027** (0.011) | -0.024** (0.010) |
| GP Fundraising 1 | -0.091*** (0.024) | -0.211*** (0.071) | -0.203** (0.078) | -0.187** (0.072) |
| Management Fees | | | -0.144 (0.098) | -0.164* (0.090) |
| Carried Interest | | | 0.001 (0.011) | 0.006 (0.011) |
| GP Past Perf. | | | | -0.135*** (0.037) |
| Beta_1 | | | | 0.118 (0.124) |
| Vintage Year Fixed Effect | Yes | Yes | Yes | Yes |
| N | 372 | 72 | 72 | 72 |
| Pseudo R-Squared | 0.1458 | 0.3957 | 0.4176 | 0.5310 |

Empirical analysis > Fund level analysis (2)

$$\text{Fund performance}_i = \alpha_v + \beta_\phi DP_{4,i} + \gamma_\mu Z_i + \varepsilon_i$$

- Fund performance_{*i*} TVPI or KSPME (PE performance measure) of the fund_{*i*}
- DP_{4,*i*} Level of dry powder 4 years after the vintage year of the fund_{*i*}
- Z_{*i*} Matrix of control variables (fund size, GP experience, GP fundraising)

Vintage year fixed effects included |

Empirical results > Fund-level analysis (4)

Dry powder and fund sponsor performance (Table 7) – Sample 1.2

| | TVPI | | KSPME | |
|---------------------------|--------------------|---------------------|-------------------|----------------------|
| | 1 | 2 | 3 | 4 |
| Dry powder Y4 | | -0.442** (0.193) | | -0.413*** (0.137) |
| Fund size (million USD) | -0.054 (0.033) | -0.059* (0.034) | -0.013 (0.024) | -0.015 (0.024) |
| GP Experience | 0.029* (0.017) | 0.025 (0.017) | 0.014 (0.012) | 0.009 (0.012) |
| GP Past Perf. | 0.158** (0.061) | 0.133** (0.060) | 0.015 (0.037) | 0.031 (0.037) |
| Vintage year fixed effect | Yes | Yes | Yes | Yes |
| N | 223 | 223 | 223 | 223 |
| R-Squared | 0.1893 | 0.2098 | 0.1626 | 0.1985 |

Empirical results > Fund-level analysis (5)

Dry powder and fund sponsor performance (Table A.5) – Sample: All closed PE funds (Preqin).

| | TVPI | | KSPME | |
|---------------------------|---------------------|---------------------|---------------------|---------------------|
| | 1 | 2 | 3 | 4 |
| Dry powder Y4 | | -0.253** (0.106) | | -0.159** (0.069) |
| Fund size | -0.014 (0.016) | -0.020 (0.016) | -0.003 (0.010) | -0.001 (0.010) |
| GP Experience | 0.016** (0.007) | 0.017** (0.007) | 0.008* (0.004) | 0.008* (0.005) |
| GP Past Perf. | 0.384*** (0.028) | 0.375*** (0.028) | 0.381*** (0.025) | 0.373 (0.026) |
| Vintage year fixed effect | Yes | Yes | Yes | Yes |
| N | 893 | 893 | 893 | 893 |
| R-Squared | 0.2129 | 0.2179 | 0.2204 | 0.2243 |

Empirical analysis > Deal level analysis

$$X_d = \alpha_v + \beta_\phi DP_d + \gamma_1 Z_d + \gamma_2 Z_{d,f} + \varepsilon_d$$

- X_d Dependent variable (cash return, log deal size*, entry multiple, leverage, deal syndication)
- DP_d Level of dry powder one quarter before the deal initiation
- Z_d Matrix of deal control variable (log deal size –except for equation*)
- $Z_{d,f}$ Matrix of fund sponsor control variables (fund size, GP experience, GP fundraising, GP past performance)

Industry and investment year fixed effects included

Empirical results > Deal-level analysis (1)

Dry powder and deal size (Table 10) – Sample 1.2

| | Deal Investment Year \geq Vintage year + 4 | | | |
|------------------------------|--|---------------------|---------------------|---------------------|
| | 1 | 2 | 3 | 4 |
| DP | 0.526 (0.527) | 0.954** (0.445) | 0.976** (0.446) | 1.706** (0.758) |
| Fund size | | 0.769*** (0.085) | 0.765*** (0.087) | 0.787*** (0.132) |
| GP Experience | | -0.067* (0.040) | -0.070* (0.040) | -0.088 (0.057) |
| GP Fundraising 2 | | | 0.178 (0.212) | 0.018 (0.311) |
| GP Past Perf. | | | | -0.104 (0.285) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes |
| N | 230 | 230 | 230 | 230 |
| R-Squared | 0.1058 | 0.3775 | 0.3797 | 0.4651 |

Empirical results > Deal-level analysis (2)

Dry powder and cash on cash return (Table 9) – Sample 1.3

| | Deal Investment Year \geq Vintage year + 4 | | | | | |
|------------------------------|--|---------------------|---------------------|---------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DP | -2.213** (0.865) | -2.005** (0.852) | -2.183** (0.853) | -2.323** (0.877) | -1.329 (0.809) | |
| Fund Size | | -0.079 (0.140) | -0.067 (0.139) | -0.117 (0.155) | -0.100 (0.138) | -0.196 (0.156) |
| GP Experience | | 0.168** (0.075) | 0.172** (0.074) | 0.167** (0.075) | 0.144** (0.067) | 0.159** (0.073) |
| GP Fundraising 2 | | | -0.478 (0.315) | -0.578* (0.344) | -0.413 (0.308) | -0.563* (0.336) |
| GP Past Perf. | | | | 0.152 (0.209) | 0.854 (0.186) | 0.134 (0.205) |
| Deal Size | | | | | -0.624*** (0.134) | |
| DP x High Deal Size | | | | | | -3.046*** (0.918) |
| DP x Low Deal Size | | | | | | -1.089 (1.026) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 105 | 105 | 105 | 105 | 105 | 105 |
| R-Squared | 0.2784 | 0.3244 | 0.3436 | 0.3480 | 0.3130 | 0.3864 |

Empirical results > Deal-level analysis (3)

Dry powder and cash on cash return (Table A.6) – Preqin databases (deals and fund info)

| | Deal Investment Year \geq Vintage year + 4 | | | | | |
|------------------------------|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DP | -5.477** (2.107) | -5.872*** (2.071) | -5.937*** (1.659) | -5.997*** (1.716) | -4.599*** (1.608) | |
| Fund size | | -1.002** (0.394) | -0.736** (0.324) | -0.749** (0.388) | -0.027 (0.358) | -0.589* (0.336) |
| GP experience | | -0.034 (0.179) | -0.058 (0.143) | -0.059 (0.144) | -0.098 (0.133) | -0.071 (0.140) |
| GP Fundraising 2 | | | -2.295*** (0.724) | -2.314*** (0.738) | -2.099*** (0.680) | -2.559*** (0.727) |
| GP Past Perf. | | | | 0.052 (0.357) | -0.176 (0.333) | 0.109 (0.349) |
| Deal Size | | | | | -0.953*** (0.218) | |
| DP x High Deal Size | | | | | | -7.662*** (1.803) |
| DP x Low Deal Size | | | | | | -3.253 (2.008) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 166 | 166 | 123 | 123 | 123 | 123 |
| R-Squared | 0.1271 | 0.1787 | 0.3335 | 0.3336 | 0.4435 | 0.3734 |

Empirical results > Deal-level analysis (4)

Dry powder and deal pricing (Table 11) – Sample 1.2

| | Deal Investment Year \geq Vintage year + 4 | | | | | |
|------------------------------|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DP | 3.771 (3.612) | 4.047 (3.525) | 4.418 (3.552) | 3.900 (3.691) | 3.858 (3.725) | |
| Fund size | | -1.559* (0.853) | -1.506* (0.855) | -1.046 (0.871) | -1.373 (0.972) | -1.207 (0.910) |
| GP experience | | 0.895** (0.367) | 0.919** (0.369) | 0.989** (0.392) | 0.990** (0.394) | 0.959** (0.394) |
| GP Fundraising 2 | | | -1.862 (2.050) | -1.709 (2.077) | -1.643 (2.147) | -1.614 (2.089) |
| GP Past Perf. | | | | -0.507 (0.933) | -0.498 (0.941) | -0.494 (0.935) |
| Deal Size | | | | | -0.099 (0.757) | |
| DP x High Deal Size | | | | | | 8.122 (6.174) |
| DP x Low Deal Size | | | | | | 3.786 (3.699) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 120 | 120 | 120 | 120 | 120 | 120 |
| R-Squared | 0.1620 | 0.2290 | 0.2358 | 0.2383 | 0.2384 | 0.2444 |

Empirical results > Deal-level analysis (5)

Dry powder and leverage (Table 12) – Sample 2.2

| | Deal Investment Year \geq Vintage year + 4 | | | | | |
|------------------------------|--|----------------------|-----------------------|----------------------|-----------------------|-----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DP | -16.834** (7.173) | -18.041** (7.335) | -19.872*** (7.480) | -20.396** (7.798) | -22.579*** (7.936) | |
| Fund size | | -1.634 (1.471) | -1.441 (0.714) | -1.565 (1.564) | -3.147 (1.957) | -1.438 (1.592) |
| GP Experience | | 0.219 (0.701) | 0.389 (0.714) | 0.344 (0.739) | 0.552 (0.752) | 0.311 (0.745) |
| GP Fundraising 2 | | | -4.208 (3.529) | -4.458 (3.683) | -5.289 (3.721) | -4.421 (3.669) |
| GP Past Perf. | | | | 0.477 (1.892) | 0.575 (1.886) | 0.488 (1.900) |
| Deal Size | | | | | 2.124 (1.590) | |
| DP x High Deal Size | | | | | | -24.153** (10.989) |
| DP x Low Deal Size | | | | | | -19.319** (8.135) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 127 | 127 | 127 | 127 | 127 | 127 |
| R-Squared | 0.3379 | 0.3470 | 0.3565 | 0.3569 | 0.3689 | 0.3585 |

Empirical results > Deal-level analysis (6)

Dry powder and deal syndication (Table 13) – Sample 1.2

| | Deal Investment Year \geq Vintage year + 4 | | | | |
|------------------------------|--|----------------------|----------------------|----------------------|---------------------|
| | 1 | 2 | 3 | 4 | 5 |
| DP | -0.211 (0.144) | -0.239* (0.143) | -0.248* (0.145) | -0.248* (0.145) | -0.242* (0.145) |
| Fund size | | -0.074*** (0.027) | -0.074*** (0.027) | -0.009*** (0.028) | -0.070** (0.028) |
| GP Experience | | 0.008 (0.014) | 0.009 (0.014) | 0.009 (0.015) | 0.009 (0.015) |
| GP Fundraising 1 | | | -0.033 (0.076) | -0.035 (0.078) | -0.035 (0.078) |
| GP Past Perf. | | | | 0.004 (0.035) | 0.002 (0.034) |
| Deal Size | | | | | 0.047** (0.021) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes |
| Investment Year Fixed Effect | Yes | Yes | Yes | Yes | Yes |
| N | 230 | 230 | 230 | 230 | 230 |
| R-Squared | 0.1155 | 0.1286 | 0.1289 | 0.1289 | 0.1364 |

Concluding remarks

- Policy making
 - Design of optimal contract between GP and LPs: Focus on management fee and fee computation basis
 - New insight about the efficiency of GP-LPs contract terms: GP objective to maximize value creation for LP versus objective maximize the fee collection
- Next steps
 - Merge with other datasets to increase observations
 - Improve theoretical modelling
 - Work on you feedback 😊 (very first presentation)

Thanks a lot for your attention !