# Combining Banking with Private Equity Investing

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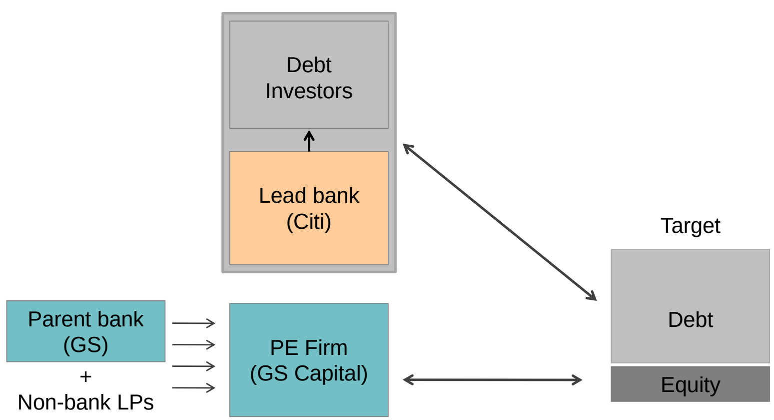
- Bank-affiliated PE groups account for 30% of PE deals in the US since 1980
  - Remarkable given there are only a dozen or so such groups with signficant activity
  - 30% figure consistent with Lopez-de-Silanes, et al. (2011) using international data
  - There are clear policy concerns after the crisis

- We try to understand:
  - Why do banks actively engage in PE (banks' internal reason for engagement)?
  - What are the pros and cons to the wider economy (potential externalities)?

# Bank-Affiliated Deals

- Definition: Banks act as equity investors in firms (through PE subsidiary)

- Illustration: GS Capital Partners leads a PE deal



# Hypotheses re Bank-Affiliated Deals

- Negative view:
  - Banks equity investments in firms reflect banks' incentive to **maximize growth and volatility**
  - Such incentives may arise because banks' equity value increases with volatility, and banks enjoy implicit bail-out guarantee

- Positive view:
  - **Information synergies** between the banking and the PE investing divisions: banks can make better equity investments due to their information advantage

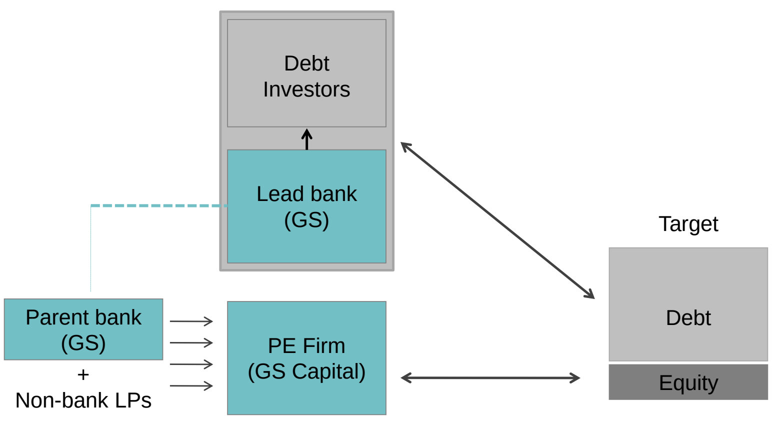
  ➔ Banks **certification** as **equity** investors

- Neutral view:
  - Doing PE deals gives banks a good way to **cross-selling services**

# Parent-Financed Deals

- Definition: Banks not only provide equity capital, but also arranges for the debt financing backing the deals

- Illustration: GSCP sponsors a deal and GS the bank arranges the deal financing



# Hypotheses re Parent-Financed Deals

- Negative view:
  - Banks **originate and distribute** loans backing poor quality in-house deals, especially during market peaks
  
  ➔ What we call “market timing hypothesis”

- Positive view:
  - **Better alignment** of debt/equity interest (Jiang et al. 2010)
  - Banks’ lead role in the lending syndicate serves as a signal to outside debt investors
  - I.e., banks’ **certification** role as <u>debt</u> financiers

- Neutral view:
  - Cross-selling

# Our Findings

- Overall more consistent with the negative views
- Bank-affiliated deals:
  - Have  similar characteristics and financing terms to stand-alone deals
  - But have worse outcomes if done in peak years
- Parent-financed deals:
  - Are notably bigger than stand-alone deals
  - Are financed at better terms in peak years
  - But do not have better outcomes
- Banks retain the least amount of loans in peak years, when in-house deals enjoy the most improvement in financing terms
- Banks also have significant cross-selling opportunities

# Descriptive Stats

| | All | Stand-alone | Bank-affiliated | Parent-financed | Diff. (*t*-stat) | Diff. (*t*-stat) |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (3) - (2) | (4) - (2) |
| Transaction characteristics: | | | | | | |
| Transaction size | 1959.71 | 1,351.82 | 2,024.72 | 7,804.09 | 1.11 | 10.37 *** |
| Cash portion | 0.83 | 0.82 | 0.84 | 0.85 | 0.57 | 1.43 |
| EV/Sales | 2.31 | 2.27 | 2.07 | 2.66 | 0.49 | 0.82 |
| EV/EBITDA | 1.40 | 1.33 | 0.54 | 3.64 | -4.03 *** | 2.71 *** |
| Equity/NI | 66.06 | 72.65 | 30.73 | 47.06 | -2.24 ** | -1.38 |
| Target characteristics: | | | | | | |
| Total assets | 3124.73 | 2,661.02 | 2,481.16 | 6,744.77 | -0.20 | 4.26 *** |
| Sales | 1538.02 | 1,248.43 | 2,074.24 | 2,971.23 | 1.49 | 3.23 *** |
| Debt/Assets | 0.39 | 0.40 | 0.39 | 0.30 | 0.37 | -3.05 *** |
| Debt/EBITDA | 3.48 | 3.44 | 3.56 | 3.68 | 0.18 | 0.27 |
| Cash/Assets | 0.09 | 0.09 | 0.09 | 0.06 | -0.32 | -2.33 ** |
| EBITDA/Assets | 0.15 | 0.15 | 0.14 | 0.15 | -1.03 | -0.23 |
| EBITDA/Net assets | 0.18 | 0.19 | 0.15 | 0.16 | -0.92 | -0.76 |
| EBITDA/Sales | 0.03 | 0.03 | 0.01 | 0.04 | -5.01 *** | 1.22 |
| NI/Sales | 0.08 | 0.09 | 0.10 | 0.06 | -0.37 | -1.98 ** |
| Financing statistics: | | | | | | |
| Loan amount | 612.73 | 489.01 | 534.58 | 1924.01 | 0.58 | 12.30 *** |
| Loan maturity | 6.16 | 5.78 | 5.50 | 11.03 | -2.17 ** | 6.97 *** |
| Loan spread | 317.94 | 316.14 | 335.76 | 300.50 | 2.20 ** | -1.33 |
| Max Debt/EBITDA ratio | 5.80 | 5.66 | 5.82 | 6.80 | 0.51 | 3.82 *** |

Bank-affiliated deals are generally similar to stand-alone deals; parent-financed deals are bigger and financed at better terms than stand-alone deals;

# Multinomial Logit Analysis of Deal Type

| | Bank affiliated | | Parent financed | | Bank affiliated | | Parent financed | |
|---|---|---|---|---|---|---|---|---|
| | Coeff. | *z*-stat | Coeff. | *z*-stat | Coeff. | *z*-stat | Coeff. | *z*-stat |
| Peak year | -0.09 | -0.72 | 0.45 | 2.29 ** | -- | -- | -- | -- |
| CLO fund flow | -- | -- | -- | -- | 1.26 | 0.34 | 12.53 | 2.61 *** |
| Number of investors | -0.13 | -0.81 | 0.28 | 2.03 ** | -0.16 | -0.95 | 0.23 | 1.56 |
| Investment grade | -0.92 | -1.50 | -1.01 | -1.31 | -0.52 | -0.69 | -1.15 | -1.04 |
| Log(Transaction value) | -0.01 | -0.08 | 0.35 | 3.48 *** | 0.00 | 0.03 | 0.29 | 3.01 *** |
| EV/EBITDA | -0.01 | -0.28 | 0.02 | 0.95 | 0.01 | 0.44 | 0.03 | 1.53 |
| Log(Target assets) | -0.05 | -1.71 * | 0.02 | 0.48 | -0.07 | -2.07 ** | -0.01 | -0.17 |
| EBITDA/Sales | 0.01 | 0.01 | -1.90 | -1.01 | 0.79 | 0.46 | -0.90 | -0.46 |
| No financial data | -0.44 | -0.67 | -0.31 | -0.53 | -0.10 | -0.14 | -0.29 | -0.43 |
| Fixed effects: | | | | | | | | |
| Industry | Yes | | Yes | | Yes | | Yes | |
| Observations | 2,105 | | 2,105 | | 1,320 | | 1,320 | |
| Pseudo *R*-squared | 0.07 | | 0.07 | | 0.06 | | 0.06 | |

Omitted category: Stand-alone deals.

Credit market conditions-- peak years and when CLO fund flow (credit supply) is high—are important drivers for parent-financing decisions.

# Baseline Financing Terms Regressions

| | Loan amount | | | Loan maturity | | | Loan spread | | | Max Debt/EBITDA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. | *t*-stat | | Coeff. | *t*-stat | | Coeff. | *t*-stat | | Coeff. | *t*-stat | |
| Bank affiliated | -130.84 | -1.52 | | -1.40 | -2.50 | ** | 15.91 | 1.84 | * | 0.21 | 0.65 | |
| Parent financed | 577.24 | 4.41 | *** | 3.90 | 4.58 | *** | -33.70 | -2.56 | ** | 0.50 | 1.28 | |
| Mixed type deal | 1,298.52 | 8.31 | *** | 6.39 | 6.29 | *** | -5.61 | -0.36 | | 0.14 | 0.31 | |
| Investment grade | 217.20 | 1.04 | | -1.81 | -1.33 | | -50.22 | -2.38 | ** | -1.60 | -1.86 | * |
| Log(Transaction value) | 215.52 | 10.89 | *** | -0.02 | -0.16 | | -10.08 | -5.07 | *** | 0.22 | 3.29 | *** |
| EV/EBITDA | 6.53 | 0.89 | | -0.06 | -1.35 | | -0.21 | -0.29 | | 0.02 | 0.95 | |
| Log(Target assets) | 143.40 | 12.48 | *** | 0.31 | 4.21 | *** | -9.57 | -8.28 | *** | 0.01 | 0.2 | |
| EBITDA/Sales | 1,772.75 | 3.74 | *** | -0.49 | -0.16 | | 13.98 | 0.29 | | 1.22 | 1.11 | |
| No financial data | 855.27 | 4.72 | *** | 1.44 | 1.22 | | -37.63 | -2.06 | ** | 0.41 | 1.01 | |
| Fixed effects: | | | | | | | | | | | | |
| Industry | Yes | | | Yes | | | Yes | | | Yes | | |
| Year | Yes | | | Yes | | | Yes | | | Yes | | |
| Observations | 2,105 | | | 2,105 | | | 2,105 | | | 536 | | |
| *R*-squared | 0.33 | | | 0.05 | | | 0.20 | | | 0.21 | | |

Bank-affiliated deals have slightly worse terms than stand-alone deals

➔ Banks do not seem to be better equity investors

Parent-financed deals enjoy better terms. But why?

- Positive view: Certification as debt financier
- Negative view: Banks' timing of credit market in origination and distribution of loans backing in-house deals

# The Certification Hypothesis

| | Loan amount | | Loan maturity | | Loan spread | | Max Debt/EBITDA | |
|---|---|---|---|---|---|---|---|---|
| | Coeff. | *t*-stat | Coeff. | *t*-stat | Coeff. | *t*-stat | Coeff. | *t*-stat |
| *Panel A: Target-bank relationship* | | | | | | | | |
| Bank affiliated | -139.91 | -1.63 | -1.47 | -2.65 *** | 17.61 | 2.06 ** | 0.18 | 0.54 |
| Parent financed | 707.7 | 4.76 *** | 6.48 | 6.75 *** | -43.38 | -2.93 *** | 0.25 | 0.56 |
| Target-bank relationship | 193.11 | 2.47 ** | -0.03 | -0.05 | -50.81 | -6.52 *** | 0.3 | 1.46 |
| Parent financed*Target-bank relationship | -461.02 | -1.84 * | -9.22 | -5.68 *** | 33.17 | 1.32 | 0.99 | 1.62 |
| Other controls | Same as in Table V, not reported for compactness | | | | | | | |
| *Panel B: Bank reputation in the LBO financing market:* | | | | | | | | |
| Bank affiliated | -92.25 | -0.98 | -1.33 | -2.18 ** | 17.11 | 1.81 * | 0.04 | 0.1 |
| Parent financed | 482.19 | 3.35 *** | 4.83 | 5.16 *** | -31.62 | -2.18 ** | 0.9 | 2.07 ** |
| Reputation: LBO market | -184.2 | -1.02 | -0.23 | -0.2 | -5.34 | -0.29 | 0.68 | 1.05 |
| Parent financed*Reputation | 525.68 | 1.58 | -6.02 | -2.78 *** | -15.75 | -0.47 | -2.07 | -2.21 ** |
| Other controls | Same as in Table V, not reported for compactness | | | | | | | |

Neither bank information (proxied by target-bank relationship) nor bank reputation in the LBO lending market explains the importance in parent-financing

➔ Evidence against certification as the main explanation of the parent-financing “advantage”

# The Market-Timing Hypothesis

| Dependent variable: | Loan amount | | Loan maturity | | Loan spread | | Max Debt/EBITDA | |
|---|---|---|---|---|---|---|---|---|
| | Coeff. | *t*-stat | Coeff. | *t*-stat | Coeff. | *t*-stat | Coeff. | *t*-stat |
| *Panel A: Peak years* | | | | | | | | |
| Bank affiliated | 0.16 | 0 | -0.29 | -0.37 | 7.81 | 0.61 | 0.22 | 0.51 |
| Parent financed | 16.74 | 0.08 | 0.56 | 0.4 | -15.01 | -0.64 | -0.11 | -0.2 |
| Peak year | 191.9 | 2.56 ** | 0.68 | 1.43 | 39.89 | 5 *** | 0.48 | 2.05 ** |
| Bank affiliated*Peak year | -70.49 | -0.42 | -1.67 | -1.58 | 14.68 | 0.82 | -0.31 | -0.5 |
| Parent financed*Peak year | 763.62 | 2.76 *** | 4.85 | 2.77 *** | -15.56 | -0.53 | 1.82 | 2.36 ** |
| Other controls | Same as in Table VI, not reported for compactness | | | | | | | |
| *Panel B: CLO fund flow* | | | | | | | | |
| Bank affiliated | 530.22 | 2.08 ** | -0.09 | -0.06 | 23.1 | 0.95 | 2.06 | 2.79 *** |
| Parent financed | -200.5 | -0.5 | 0.12 | 0.05 | -49.71 | -1.3 | -1.67 | -1.87 * |
| CLO fund flow | 9,815.32 | 3.55 *** | 26.16 | 1.48 | -181.32 | -0.68 | 28.87 | 3.63 *** |
| Bank affiliated*CLO fund flow | -17,032.44 | -2.78 *** | -41.99 | -1.07 | -126.88 | -0.22 | -57.29 | -2.52 ** |
| Parent financed*CLO fund flow | 22,164.21 | 2.5 ** | 107.66 | 1.9 * | 138.5 | 0.16 | 45.15 | 1.68 * |
| Other controls | Same as in Table VI, not reported for compactness | | | | | | | |

The interaction between credit market condition variables (PEAK YEAR and CLO FUND FLOW) take away the significance of PARENT-FINANCED dummy

➔ The superior terms enjoyed by parent-financed deals concentrate in credit market peaks

➔ Consistent with market timing

# Ex-Post Outcomes

| | Stand-alone (1) | Bank affiliated (2) | Parent financed (3) | Diff. (*t*-stat) (2) - (1) | | Diff. (*t*-stat) (3) - (1) | |
|---|---|---|---|---|---|---|---|
| <u>All years:</u> | | | | | | | |
| Debt: Upgrade | 0.34 | 0.23 | 0.35 | -3.27 | *** | 0.09 | |
| Debt: Downgrade | 0.48 | 0.61 | 0.50 | 3.41 | *** | 0.44 | |
| Exit: IPO | 0.28 | 0.09 | 0.46 | -2.00 | ** | 1.22 | |
| Exit: Trade sale | 0.48 | 0.45 | 0.38 | -0.13 | | 0.63 | |
| Exit: Bankruptcy | 0.06 | 0.18 | 0.15 | 1.00 | | 0.91 | |
| Exit: Holding period | 42.79 | 24.65 | 18.08 | -2.35 | ** | -4.92 | *** |
| <u>Peak years:</u> | | | | | | | |
| Debt: Upgrade | 0.33 | 0.18 | 0.34 | -3.19 | *** | 0.17 | |
| Debt: Downgrade | 0.49 | 0.66 | 0.50 | 3.46 | *** | 0.35 | |
| Exit: IPO | 0.28 | 0.00 | 0.25 | -5.38 | *** | -0.20 | |
| Exit: Trade sale | 0.43 | 1.00 | 0.50 | 9.79 | *** | 0.34 | |
| Exit: Bankruptcy | 0.05 | 0.00 | 0.25 | -2.04 | ** | 1.18 | |
| Exit: Holding period | 45.67 | 4.43 | 20.04 | 12.38 | *** | -3.37 | *** |
| <u>Non-peak years:</u> | | | | | | | |
| Debt: Upgrade | 0.35 | 0.29 | 0.36 | -1.31 | | 0.12 | |
| Debt: Downgrade | 0.48 | 0.55 | 0.49 | 1.23 | | 0.23 | |
| Exit: IPO | 0.28 | 0.13 | 0.80 | -1.20 | | 2.55 | * |
| Exit: Trade sale | 0.50 | 0.25 | 0.20 | -1.46 | | -1.45 | |
| Exit: Bankruptcy | 0.06 | 0.25 | 0.00 | 1.15 | | -3.08 | *** |
| Exit: Holding period | 41.28 | 33.31 | 14.17 | -0.87 | | 9.72 | *** |

Bank-affiliated deals do worse than stand-alones deals, driven by peak years;
Parent-financed deals do not do any better, yet enjoy better terms
➔ More consistent with the negative views, taken together with the financing terms results

# Banks' Own Capital Commitment

| Dependent variable: | Parent bank loan share | | | | Overall bank allocation | | | |
|---|---|---|---|---|---|---|---|---|
| | Coeff. | *t* -stat | Coeff. | *t* -stat | Coeff. | *t* -stat | Coeff. | *t* -stat |
| Peak year | -2.58 | -3.79 *** | -- | -- | -0.06 | -2.6 ** | -- | -- |
| CLO fund flow | -- | -- | -9.74 | -2.12 ** | -- | -- | -0.23 | -1.49 |
| Other controls | Same as in Table V, unreported for compactness | | | | | | | |

Banks' own capital commitment to the deals are reduced during credit market peaks, when parent-financed deals enjoy most of the financing benefit

➔ Inconsistent with the superior financing being a reflection of better debt/equity Alignment

➔ Also inconsistent with the certification hypothesis

➔ But more consistent with market timing by banks

# Cross-Selling

| | Full sample | | | | Excluding commercial banks | | | | Excluding Goldman Sachs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coeff. | dF/dx | *z*-stat | | Coeff. | dF/dx | *z*-stat | | Coeff. | dF/dx | *z*-stat | |
| | *Panel A: Future lender choice* | | | | | | | | | | | |
| Bank is PE sponsor's parent | 0.0751 | 0.0131 | 0.83 | | 0.4602 | 0.1038 | 3.13 | *** | -0.0293 | -0.0048 | -0.28 | |
| Bank was the original lender | 1.8441 | 0.5995 | 29.71 | *** | 1.7206 | 0.5629 | 20.83 | *** | 1.7741 | 0.5772 | 24.2 | *** |
| Fixed effects: | | | | | | | | | | | | |
| Bank/ Industry/ Year | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | |
| | *Panel B: Future M&A advisor choice* | | | | | | | | | | | |
| Bank is PE sponsor's parent | 0.4276 | 0.0512 | 3.01 | *** | 0.5417 | 0.0845 | 3.31 | *** | 0.2807 | 0.0311 | 1.21 | |
| Bank was the original lender | 0.952 | 0.165 | 12.82 | *** | 1.2246 | 0.2818 | 13.82 | *** | 0.8758 | 0.1497 | 9.29 | *** |
| Fixed effects: | | | | | | | | | | | | |
| Bank/ Industry/ Year | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | |
| | *Panel C: Future underwriter choice* | | | | | | | | | | | |
| Bank is PE sponsor's parent | 0.9111 | 0.1568 | 7.54 | *** | 0.9176 | 0.1587 | 6.74 | *** | 0.684 | 0.1044 | 4.02 | *** |
| Bank was the original lender | 0.6573 | 0.0943 | 6.23 | *** | 0.6961 | 0.1028 | 6.1 | *** | 0.4632 | 0.0597 | 3.25 | *** |
| Fixed effects: | | | | | | | | | | | | |
| Bank/ Industry/ Year | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | | Yes/ Yes/ Yes | | | |

Banks' involvement in PE deals (especially in the lending) creates significant cross-selling opportunities for banks

# Conclusions

- We sought to understand banks involvement in PE and the pros and cons of this activity by comparing the characteristics, financing, outcomes of bank-affiliated and parent-financed deals with stand-alone PE deals

- The weight of our evidence, taken together, is more consistent with negative views:
  - Bank-affiliated deals have similar characteristics and financing but worse outcomes if done in peak years
  - Parent-financed deals are larger and enjoy better terms if done in peak years, but they do not perform better and banks also commit the least amount of capital in such times
  - Banks' involvement creates significant cross-selling opportunities

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