



A recommitment strategy for long term private equity fund investors

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Autumn Seminar 2007 Inquire Europe,
Oslo, Norway

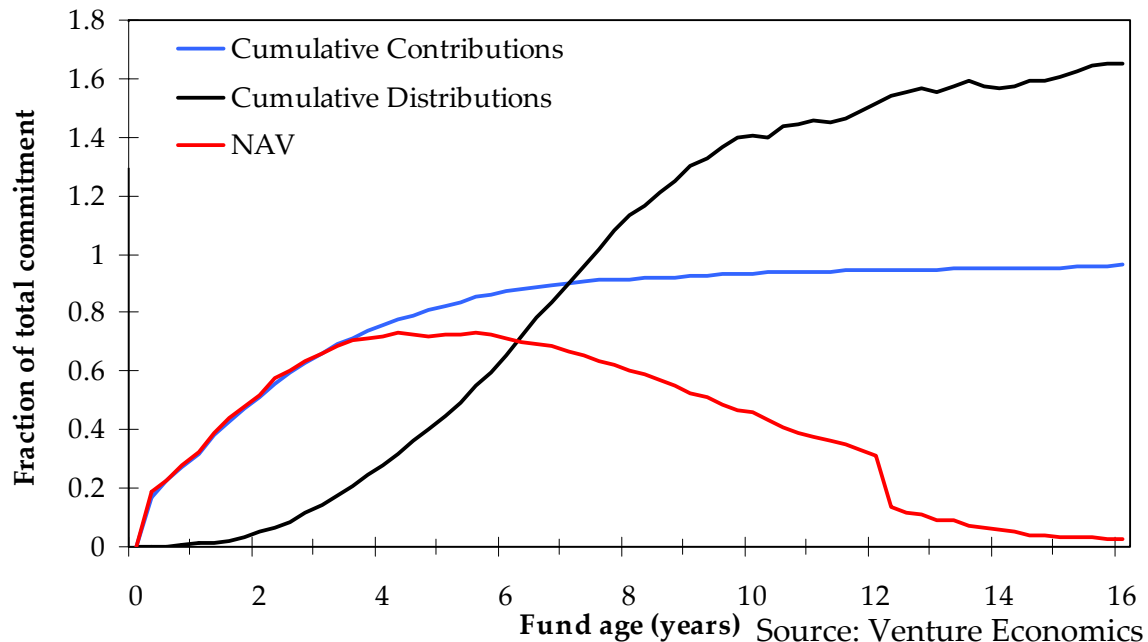
MOTIVATION (1): Private equity fund investors

- Nowadays many institutional investors include private equity in their long-term strategic asset allocation
- The vast majority of private equity investments by institutional investors takes place through ‘funds’
- Private equity fund investments are illiquid due to:
 - Lack of a well-developed secondary market
 - Restrictions on the sale of private equity fund investments, (Sahlman (1990), Lerner and Schoar (2004))
- Supply and demand of capital in the private equity market are characterized by pronounced cycles (Gompers and Lerner (1996, 1998, 2000))

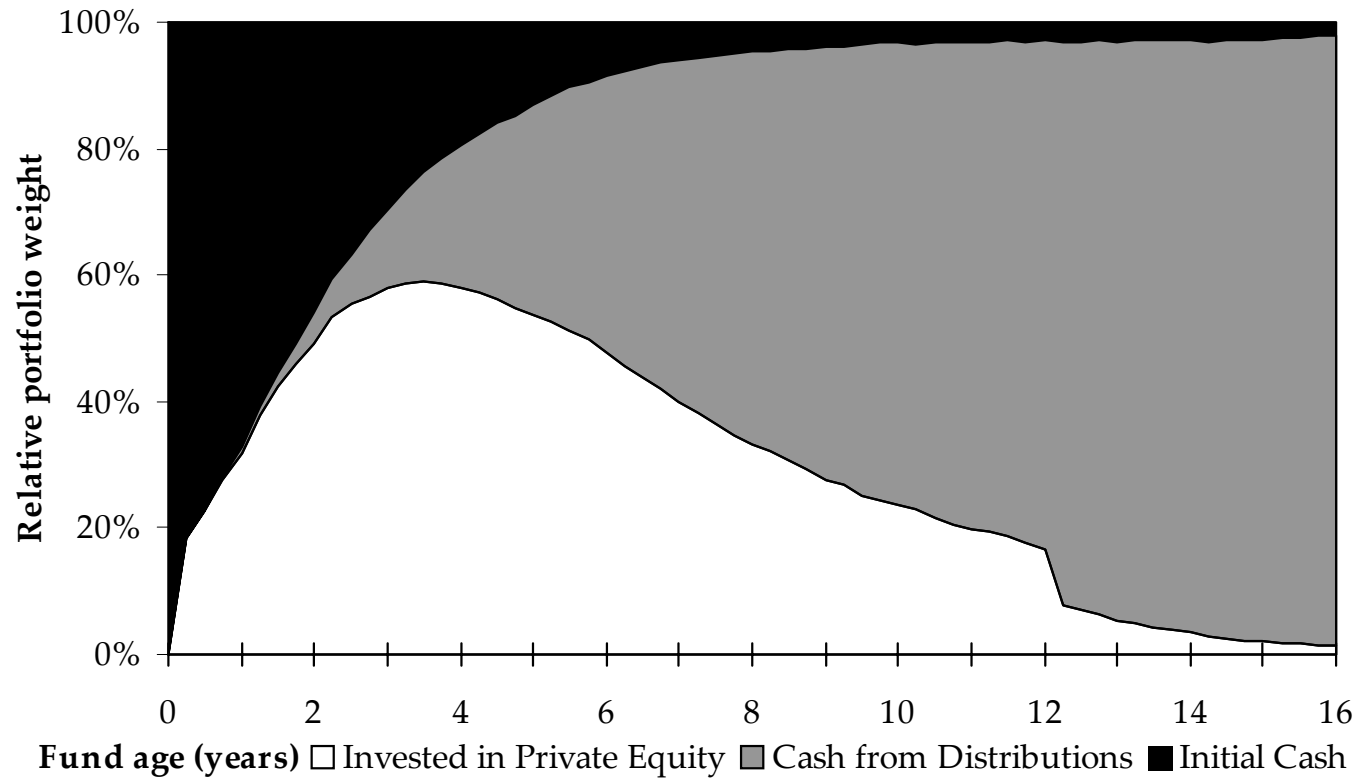


MOTIVATION (2): Cash flows private equity funds

- Investors' commitments are only gradually invested by the fund and often not all committed capital will be invested
- The first distributions from liquidated investments already occur before all committed capital has been invested
→ **How to maintain a constant target exposure to private equity?**



MOTIVATION (3): Committed capital \neq Invested capital



WHAT DO WE DO IN THIS PAPER?

- Using 2,618 funds over 1980-2005, **we design a (re)commitment strategy to achieve and maintain a desired exposure to private equity**, possibly as part of a larger investment portfolio
- We employ historical simulation investigating cash flows and NAVs of US and EU private equity funds (VC/BO)
- The investment degree is our key statistic:

$$ID_t = \frac{NAV_t}{NAV_t + cash_t}$$



WHAT DO WE FIND?

- Our dynamic recommitment strategy is successful in achieving and maintaining a constant exposure by taking into account:
 - Distributions
 - Uncalled Commitments
 - Investment degree multiplier
- The strategy can be further improved if an investor can use the 3-year future investment degree or a 20% overcommitment at a higher risk of over-exposure
- To achieve the desired exposure when starting a new portfolio, a 30% overcommitment is required



DATA

- Data are from the Venture Economics Database compiled by Thomson and comparable to a.o. Kaplan and Schoar (2005)
- Our data set includes the regional focus (US/EU), type of investment (VC/BO), vintage year, fund size and quarterly information on contributions, distributions and NAV over Q1-1980 to Q4-2005, all in US dollars

Distribution of funds

	US	Europe	Total
Venture Capital	1090	591	1681
Buy-out capital	535	402	937
Total	1625	993	2618



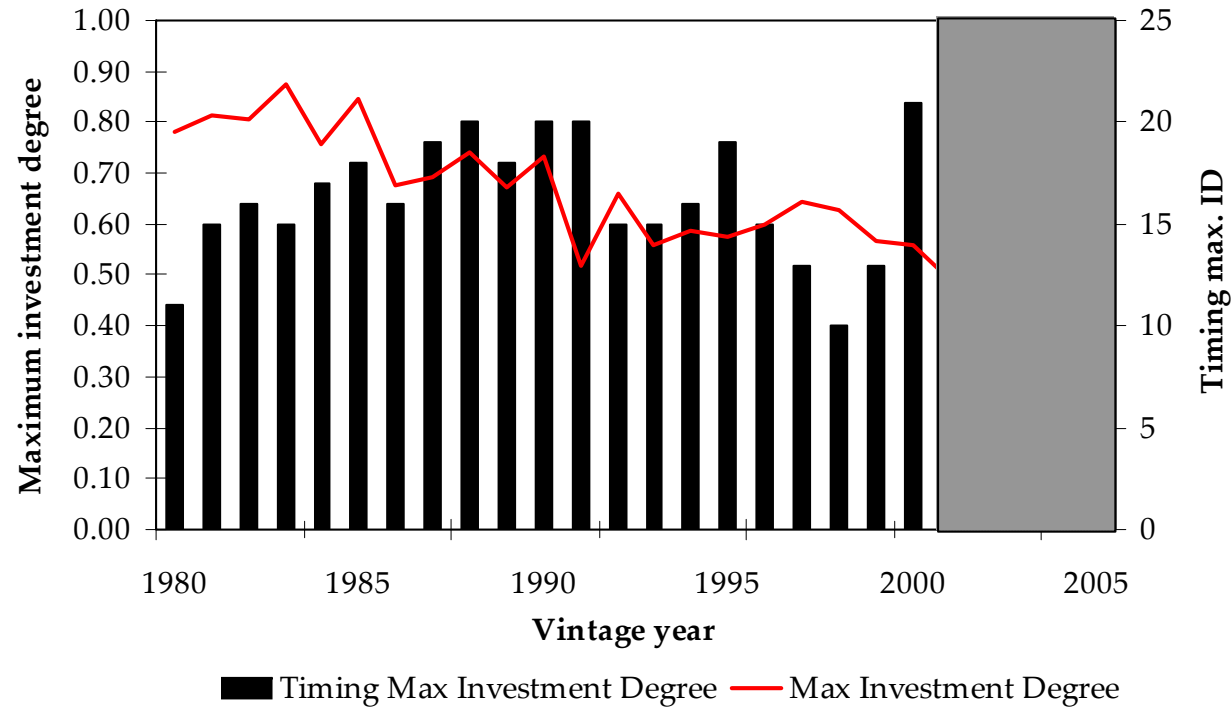
IMPLEMENTATION

- We construct an initial portfolio over a one year period by making 16 equal commitments to randomly selected funds with the same vintage year
- No restrictions on the region (US/EU) or investment type (VC/BO). Portfolio restricted to 100% PE
- Each quarter recommitments are made to four randomly selected funds from the relevant vintage year according to the following strategy:

$$C_t = \frac{1}{ID_t} (D_t + UC_{t-24})$$



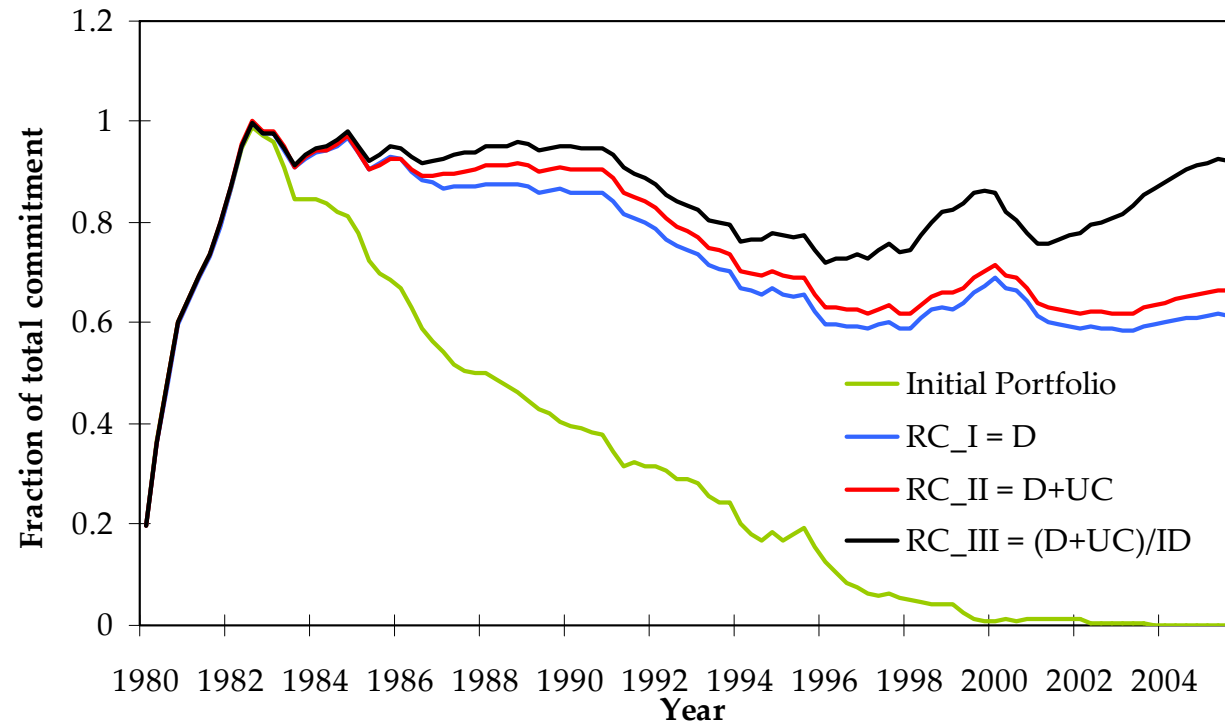
INITIAL PORTFOLIOS: overcommitment



- The timing and size of the maximum investment degree varies over time
- A 30% overcommitment will be applied to set-up the initial portfolio



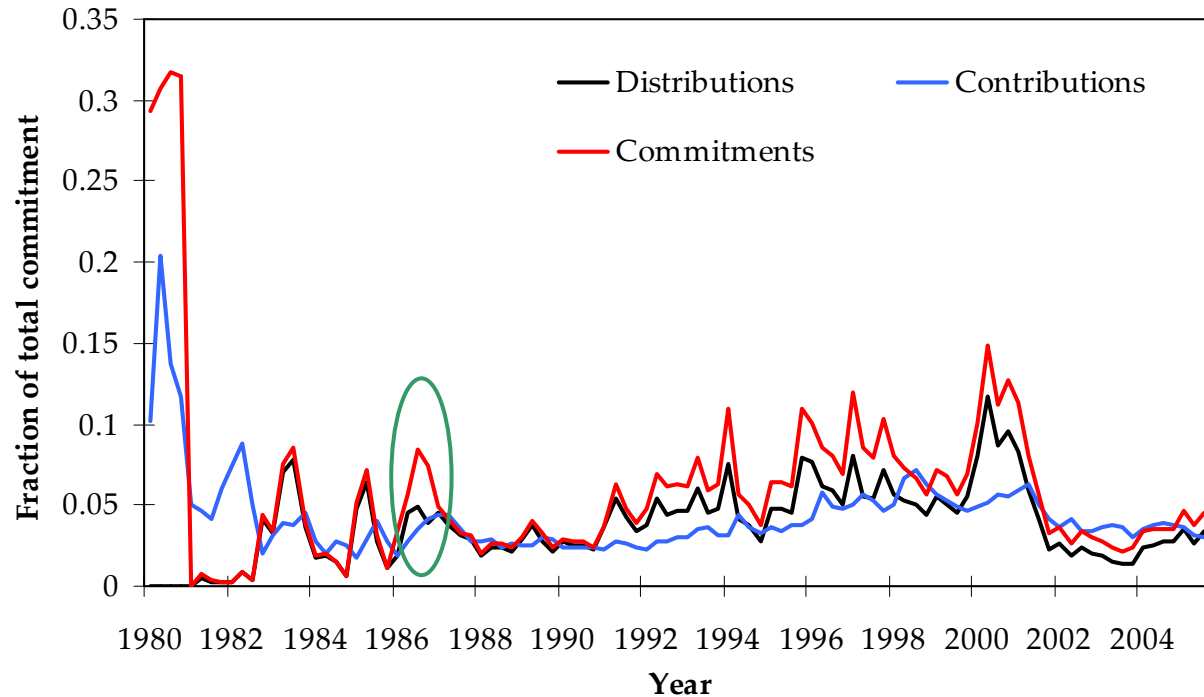
MAIN RESULTS: average investment degree for 1980



- The multiplier, ID, clearly improves the strategy
- Probability of being overinvested: 2%, 3% and 5% respectively



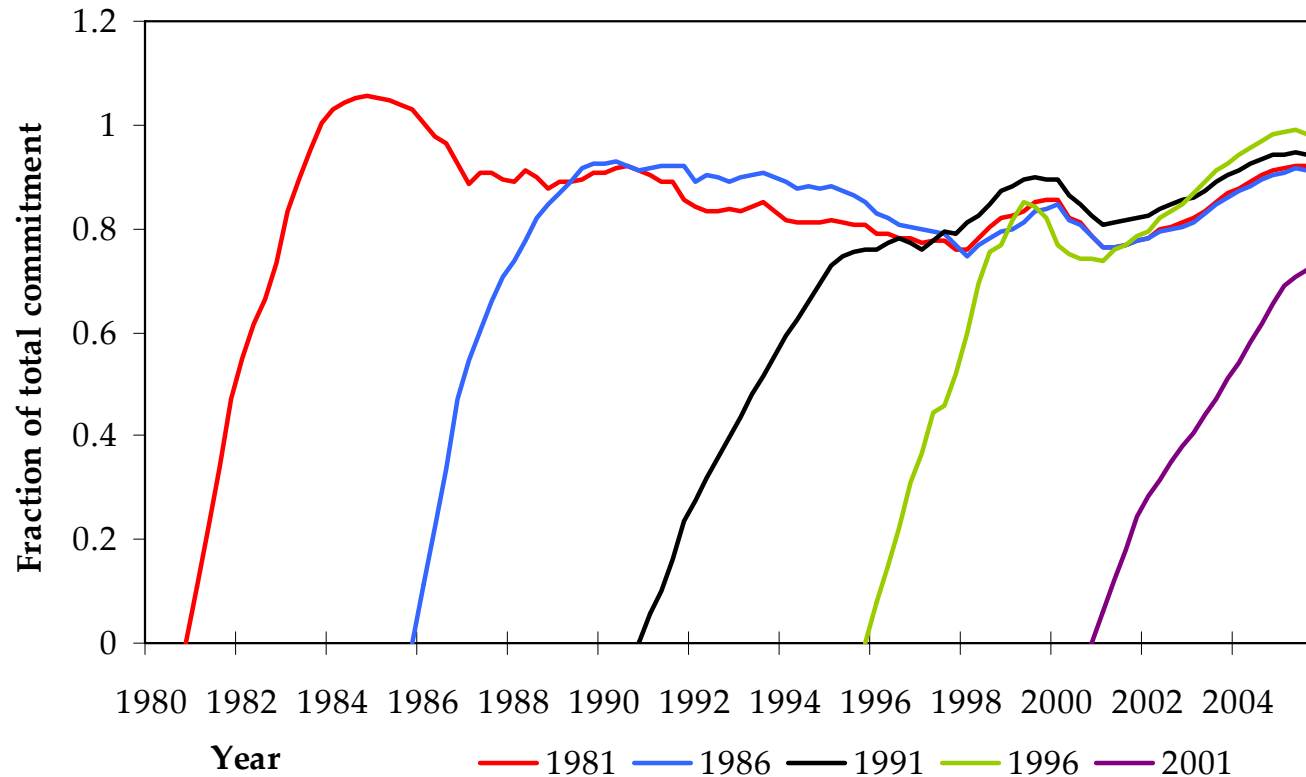
MAIN RESULTS: average cash flows for vintage year '80



- Cash flows: contributions and distributions are on average 4.3% and 3.8% respectively per quarter
- (Re)commitments are on average 6.1% per quarter



MAIN RESULTS: 1981, 1986, 1991, 1996, 2001



- Portfolio investment degrees converge after they mature
- The average investment degrees fall in a small range, 0.82 – 0.88 (average 0.85) with a 9% probability of being overinvested



OVERCOMMITMENT and FUTURE INVESTMENT DEGREE

- Only 90 percent of committed capital is called by private equity funds
→ overcommitment for the recommitment of distributions may be necessary
- Using the current investment degree to scale up the commitments in quarter t , as in strategy III, is sub-optimal
→ to use the future investment degree may be better

$$C_t = \frac{1}{ID_{t+Q}} (D_t + UC_{t-24})(1 + OC)$$

- An investor that can permit herself a higher allocation could consider a 20% overcommitment or the use of the 3-year future investment degree



ROBUSTNESS CHECKS

- To ensure that the results are not driven by a specific region or type we restrict our strategy to
 - (i) US or Europe only, and
 - (ii) Venture Capital or Buy-Out capital only
- The investment degrees for VC (0.86) and BO (0.87) portfolios as well as the US (0.82) and European (0.92) portfolios resemble the results for unrestricted portfolios (0.85). The risks are more widespread

We conclude that our strategy can also be applied successfully to such specialised private equity portfolios



Literature on commitment strategies is very scarce

- Cardie, Cattanach and Kelley (2000): Commit half of the target each year
- Nevins, Conner and McIntire (2004): Convert the allocation target for invested capital to an allocation target for committed capital:

$$C = 1 + \frac{r_{DI}}{r_{IN}}$$

- Both strategies fail to keep the investment degree stable for a prolonged period of time and do not take into account the portfolio characteristics. In particular, the investment degree remains permanently above its target



WRAPPING UP...

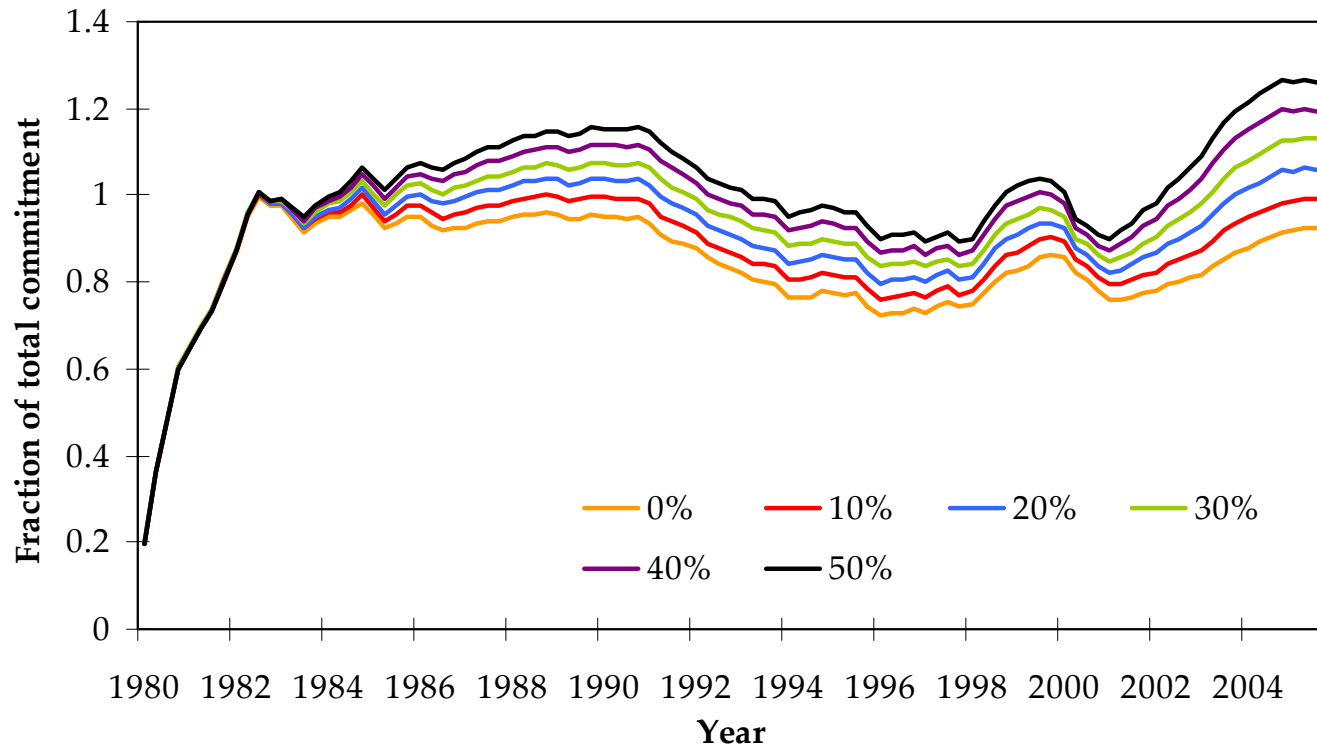
- We design a novel (re)commitment strategy for private equity fund investors
- New commitments depend on current distributions, uncalled past commitments and the portfolio's investment degree
- Great practical relevance for institutional investors, which often aim for a specific private equity exposure as part of their long-term strategic asset allocation
- An investor that can permit herself a higher allocation could consider a 20% overcommitment or the use of the 3-year future investment degree
- Conclusion also holds for restricted portfolios
- In addition we find that a 30% overcommitment is required to achieve the desired exposure to private equity when starting a new portfolio



APPENDIX



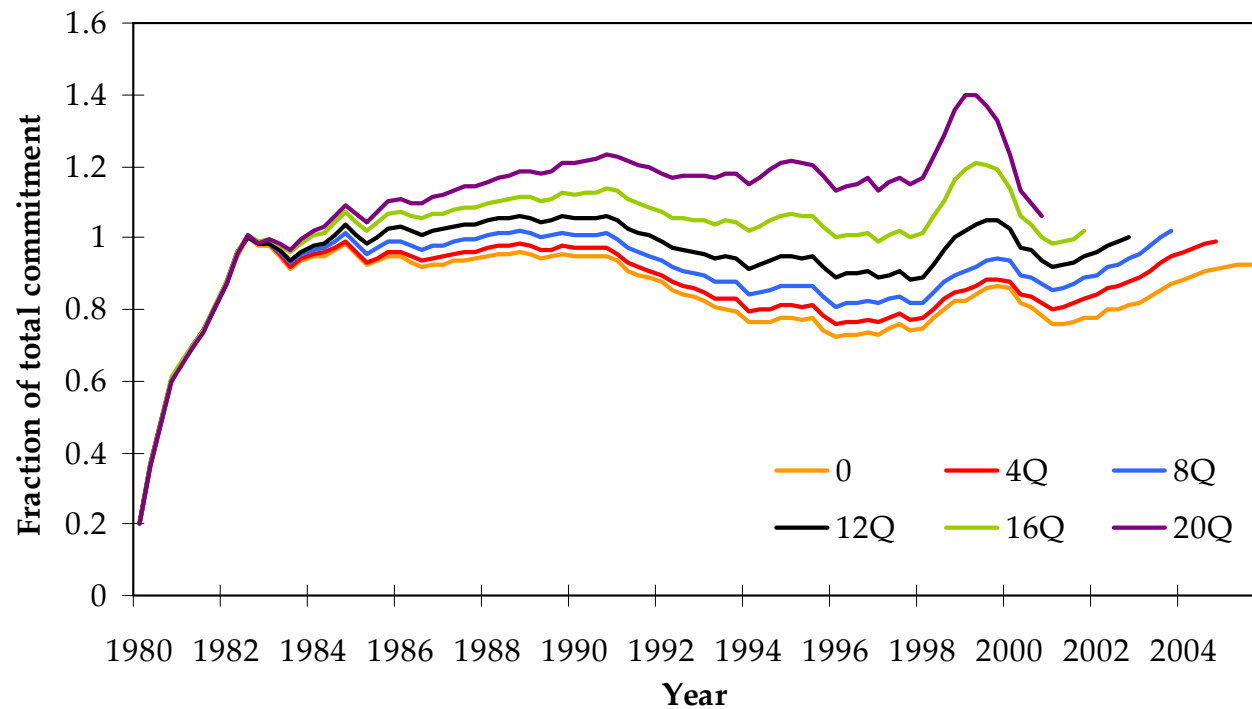
OVERCOMMITMENT: average investment degree for 1980



- Investment degree rises with overcommitment, although the risk of liquidity shortfall rise much faster



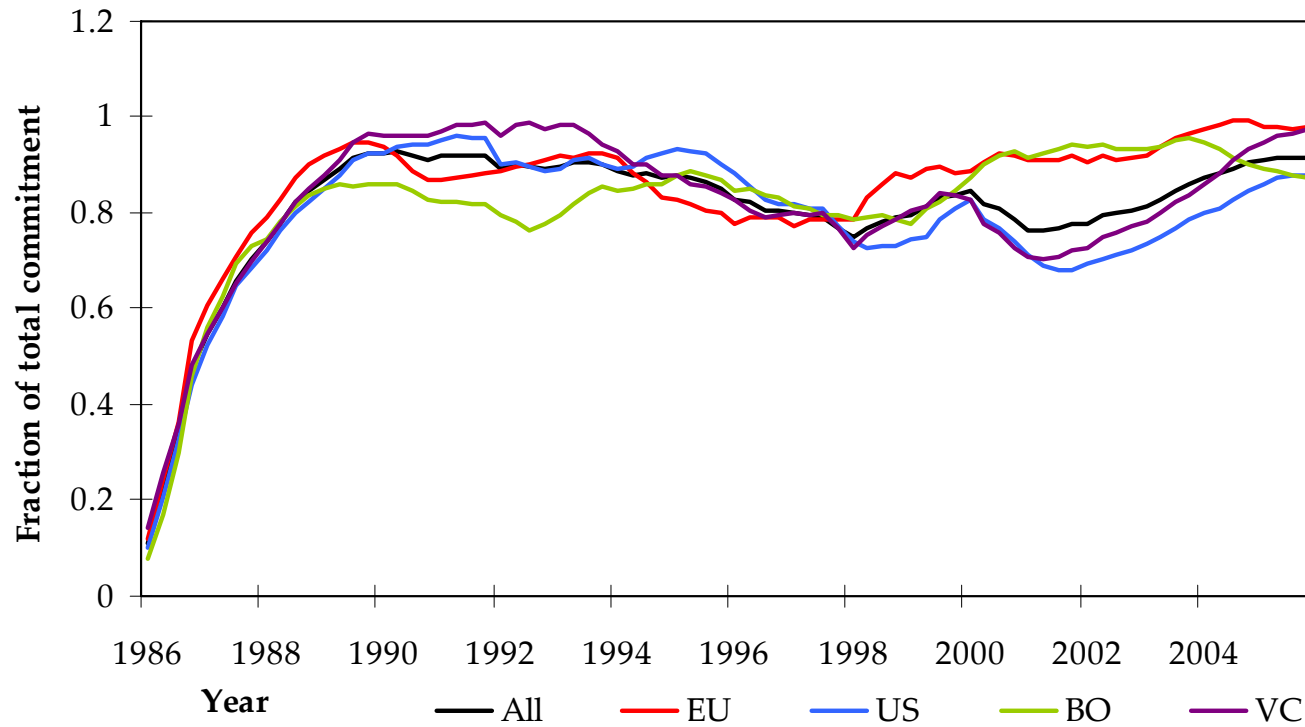
FUTURE INVESTMENT DEGREE: average investment degree for 1980



- Investment degree rises with future investment degree



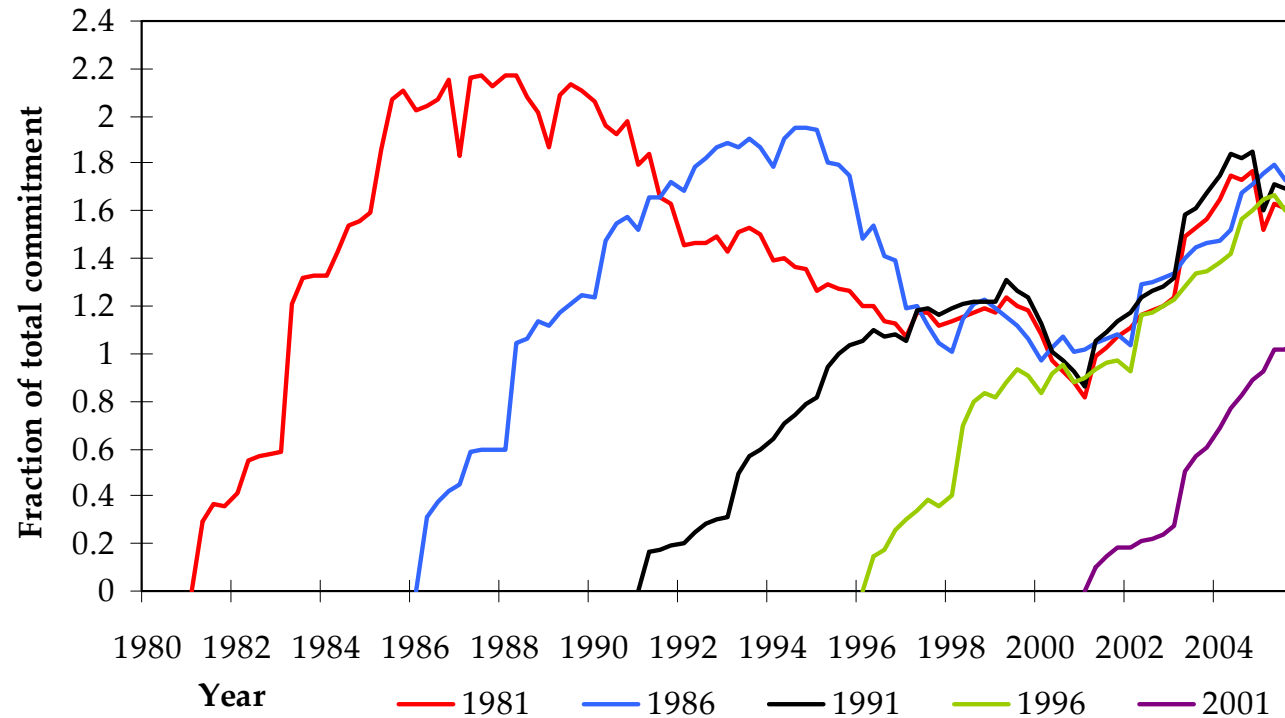
RESTRICTED PORTFOLIOS: average investment degree for 1980



- Restricted portfolios' investment degrees are comparable to the unrestricted portfolios



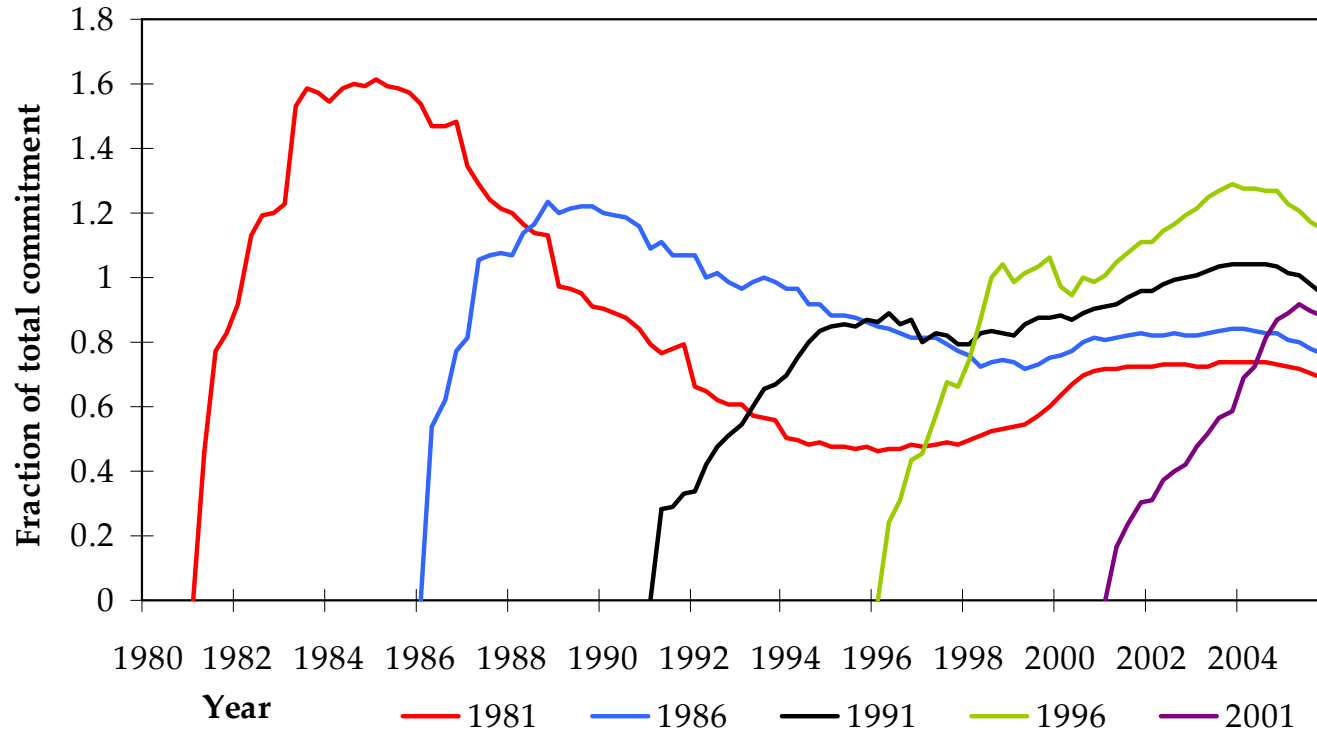
Cardie, Cattanach and Kelley (2000)



- The investment degree remains permanently above its target



Nevins, Conner and McIntire (2004)



- Target commitment level: 170%
- The investment degree is more volatile

