

# NHH ACPE

ARGENTUM CENTRE for PRIVATE EQUITY

## Newsletter

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This is the fifth edition of the Centre's bi-annual newsletter. The mission of the Argentum Centre for Private Equity at the Norwegian School of Economics is to deliver high quality Private Equity research. To that aim we support research projects at NHH directly and are building a pan-Nordic PE database. The main topic of this newsletter will be a short introduction to the Public Market Equivalent, an alternative to the popular IRR measure.

**Carsten Bienz**  
Centre Director



The Centre was a co-organizer of the Bergen Innovation workshop this spring. Topics included:

- The Trade-off between Ownership and Investment: Evidence from Equity Crowdfunding. Thomas Hellmann, Oxford
- Learning and Success in Entrepreneurship. Sabrina Howell, NYU

A full programme can be found [here](#).

## *Save the date: Bergen FinTech Conference*

The Department of Finance and the ACPE will jointly organize a FinTech conference on **June 8<sup>th</sup>**, at NHH.

## *New Team Member: Kyeong Hun (Kyle) Lee*



Kyle joined NHH's Finance department in July 2017. His research in corporate finance focuses on corporate restructuring, such as LBOs; and how markets interact with product or labor markets and influence managers' decisions. His recent research highlights the role of human capital complementarity in M&A transactions. His research has been published in the Journal of Financial Economics and Contemporary Accounting Research.

Prior to joining NHH, Kyle taught at Higher School of Economics (ICEF) in Moscow and Tulane University in New Orleans. He earned both his Ph.D. in Finance and Bachelor in Math from the University of Iowa. Kyle will teach NHH's first ever Entrepreneurial Finance course starting this spring.

## *ESG in Private Equity*

On December 11<sup>th</sup> last year the ACPE co-organized a conference on ESG in Private Equity at PWC's facilities in Oslo. Most presentations can be found at the centre's [website](#).

Participant's included Narve Reiten, Carlyle's head of ESG, Jackie Roberts, Susanne Gløresen from Formuesforvaltning and Jon Fredrik Vassengen from Argentum.

## *Aksel Mjøs heads "Kapitaltilgangsutvalget"*

The Norwegian government is concerned about the effectiveness of the capital markets in supplying capital to profitable companies and projects. The Ministry of Trade, Industry and Fisheries in March 2017 appointed a new commission to investigate this challenge and potentially come up with new policy initiatives. The mandate includes an assessment of companies by industries, age, size and geography, and capital from any part of the domestic and international capital markets. The chairman of the commission is associate professor (and centre member) Aksel Mjøs and associate professor and department head Jøril Mæland is also a member. Both are from at the Department of Finance at The Norwegian School of Economics.

## Research Focus: Measuring Returns...

*This newsletter will present the Public Market Equivalent (PME).*

*The PME is a better performance measure than the IRR*

*The PME compares capital paid out to capital paid in but discounts both with the market return*

... Or why we should start to use the Public Market Equivalent.

Performance reporting in private equity has not changed in recent years despite the fact that the flaws of the current practice are well known. A first-year finance student can easily cite all the issues with both simple multiple measures and with IRRs, for example the ability to use early recapitalizations to inflate IRRs.

So, what could be done better? Starting in 2005 with Kaplan and Schoar's paper, finance researchers have proposed a different measure, the Public Market Equivalent. The PME compares distributions to capital paid in, but taking into account the cost of capital and risk by discounting each cash flow with the rate of return of the market over the same period. In mathematical terms the PME has the following form:

$$PME = \frac{\sum_{t=1}^T \frac{Distributions_t}{1 + r_{M,t}}}{\sum_{t=1}^T \frac{Calls}{1 + r_{M,t}}}$$

In this form, it looks close to be a multiple measure, yet it improves on the multiple by discounting cash flows. It also improves on the IRR as will be show later on.

The devil is in the details: let's start with the investment amount. Cash calls are distributed over the fund's investment period and occur at different times. The PME's solution here is to discount them to make them comparable. Distributions occur at different times too and need to be discounted similarly. The question that remains is then what risk adjustment to use. Kaplan and Schoar (2005) propose to use the market's return as a risk adjustment, meaning a beta of one. This has the great feature that it makes the returns comparable to other types of investments.

How does it work in practice? Let's look at the following table:

Market Values (starting @ 100)	Cumulative return	Cash Out	Cash In	DF @ $\beta = 1$	PV Out	PV In
100.0		120	0	1.000	120.0	0
112.1	0.121	200	10	1.121	178.4	8.9
113.9	0.139	0	10	1.139	0.0	8.8
112.1	0.121	0	500	1.121	0.0	446.0
				Total	298.4	463.7
				PME:		1.55

For large, diversified investors, the PME is the correct measure to use.

The PME computations can be repeated using different assumptions about the cash flow betas.

Column 1 contains the market values, while column two translates this into returns, relative to the initial period. Column three and four contain deals (or funds) cash flows. "PV Out" and "PV In" report cash flows after they have been discounted with the market discount factor. The market discount factor is simply the cumulative market return (multiplied with a beta of one) plus one.<sup>1</sup> Their quotient is the PME. A simple multiple would have yielded 1.625 as the fund's result.

Interestingly, Sørensen and Jaganathan show that the arbitrary assumption of a beta of one is justified for investors where PE is not the main asset class. The intuitive way to think about this is that a large investor that holds assets that are similar to the market should have a beta of one for his own assets (and cash flows).

A nice feature of this approach is that a sensitivity analysis can be done by repeating the analysis with different values for beta, say  $\beta = 1.5$  or  $\beta = 0.5$ . Such an analysis allows the analyst to consider various levels of systemic risk for the fund without having to make a definite decision on the actual risk taken. The main advantage over the IRR is then that the PME procedure takes both risk and time-value of money into account.

To sum things up: The PME is a relatively new measure performance measure in PE that manages to take into account both risk and the time-value of money. It is better than the IRR and is computationally simple enough to be implemented in a spreadsheet.

#### References:

Kaplan & Schoar, *Private Equity Performance: Returns, Persistence and Capital Flows*, Journal of Finance, 2005  
Sørensen & Jaganathan, *The Public Market Equivalent and Private Equity Performance*, Financial Analysts Journal, 2015.

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<sup>1</sup> We assume that interest rates are zero for simplicity.

## ***Publications***

### *Peer reviewed:*

Lånefinansierte oppkjøp i Norge (LBOs in Norway) in Praktisk økonomi og finansiell, Vol 33, 2017 by Carsten Bienz. An (earlier) English working paper version can be found [here](#).

### *Working Papers:*

Strategic Valuation Management in Private Equity Fundraising by Carsten Bienz (NHH), Charlotte Wallem Rakner (PWC), & Anne Therese Samdal Rasmussen (EY).

### *Master Thesis:*

Private equity in Finland: an assessment of value creation and drivers for buyout activity by Gaute Bakke & Johan Marcus Bull – Berg.

ESG Integration in the Nordic Private Equity Industry by Annik Cecilie Saxegaard Falch.