

# Internet Appendix to “Financial intermediation in private equity: how well do funds of funds perform?” ☆

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## 1. Contents

This internet appendix provides additional results and robustness checks, which are not included in the main paper:

1. Table IA1 replicates Table 6 in the main paper, but using the Russell 2000 as the benchmark portfolio for the calculation of the PME variable.
2. Table IA2 Panel A replicates Table 6 in the main paper, but constructs Excess PMEs relative to median fund returns, and the S&P 500 as the benchmark portfolio. Panel B performs the same calculation but uses the Russell 2000 as the benchmark portfolio for the calculation of the PME variable.

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☆ This research has been supported by the UAI Foundation and the Private Equity Research Consortium. We thank Burgiss for supplying data and especially James Bachman and Julia Bartlett. We also thank Wendy Hu and William Waller for excellent research assistance. And we thank Bill Schwert (the Editor), an anonymous referee, Arthur Korteweg, Peter Cornelius, and participants at the January 2017 American Finance Association conference and at various other seminars for helpful suggestions. Harris has invested in private and public equities and has held a board position for funds investing in public equities. Kaplan has invested in and consulted to buyout and venture capital funds of funds. Jenkinson has consulted to limited partners, and has held board positions in private equity-backed portfolio companies and in a fund investing in private equity. He also has invested in private and public equities. Stucke participated in this research during his time at Oxford University; the views and opinions expressed in this article are those of the author and do not necessarily reflect views of his current employer.

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3. Table IA3 replicates Table 7 in the main paper, but using the Russell 2000 as the benchmark portfolio for the calculation of the PME variable.
4. Table IA4 replicates Table 9 in the main paper, but using the Russell 2000 as the benchmark portfolio for the calculation of the PME variable.

**Table IA1**

This table replicates Table 6 in the main paper, and reports summary statistics for performance metrics of Funds of Funds PME relative to Synthetic Funds of Funds PME but using the Russell 2000 as the benchmark portfolio for the calculation of PME (rather than the S&P 500 in Table 6). Excess PME is the difference in the Fund of Funds PME and the mean PME of the Synthetic Funds of Funds in the same strategy and vintage year. Percentile PME is the percentile of the Fund of Funds PME in the distribution of Synthetic Funds of Funds PME in the same strategy and vintage year. Panel A constructs synthetic funds of funds based on the naive strategy outlined in the text. Panel B constructs synthetic funds of funds based on the informed strategy outlined in the text. For the averages, we report the significance of the test of the hypothesis that Excess PME equals 0.0 and Percentile PME equals 50.0. \*, \*\*, \*\*\* denotes significance at the 10, 5 and 1 percent levels, respectively.

Panel A: Naïve Synthetic Funds of Funds																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.16	-0.07***	-0.09	0.01	-0.16	-0.09***	-0.10	-0.01	-0.19	-0.12***	-0.11	-0.01	-0.11	0.02	-0.04	0.06
Percentile PME	3	33***	20	58	1	27***	12	47	2	30***	17	57	18	46	46	75
Panel B: Informed Synthetic Funds of Funds																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.17	-0.07***	-0.08	0.01	-0.15	-0.07***	-0.08	0.00	-0.20	-0.12***	-0.11	-0.01	-0.17	0.02	-0.05	0.05
Percentile PME	1	32	16	58	1	30	15	53	0	28	11	53	5	40	34	73

**Table IA2**

This table reports summary statistics for the Excess PME, where the latter is calculated as the difference in the Fund of Funds PME and the median PME of the Synthetic Funds of Funds in the same strategy and vintage year. It therefore replicates Table 6 in the main table but using median returns rather than mean returns. Panel A uses the S&P 500 as the benchmark portfolio for the calculation of PME; Panel B uses the Russell 2000 as the benchmark portfolio. The first row constructs synthetic funds of funds based on the naive strategy outlined in the text. The second row constructs synthetic funds of funds based on the informed strategy outlined in the text. For the averages, we report the significance of the test of the hypothesis that Excess PME equals 0.0 and Percentile PME equals 50.0. \*, \*\*, \*\*\* denotes significance at the 10, 5 and 1 percent levels, respectively.

Panel A: Excess PME relative to median fund returns, using the S&P 500 as the benchmark portfolio																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
<b>Excess PME</b>																
Naive Strategy	-0.15	-0.05**	-0.07	0.02	-0.16	-0.08***	-0.09	-0.01	-0.18	-0.10***	-0.09	0.02	-0.08	0.06	-0.02	0.10
Informed Strategy	-0.16	-0.05**	-0.07	0.02	-0.15	-0.07***	-0.08	0.01	-0.17	-0.10***	-0.09	0.01	-0.13	0.05	-0.04	0.09
Panel B: Excess PME relative to median fund returns, using the Russell 2000 as the benchmark portfolio																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
<b>Excess PME</b>																
Naive Strategy	-0.13	-0.03**	-0.06	0.05	-0.16	-0.06***	-0.07	0.01	-0.13	-0.08***	-0.07	0.05	-0.07	-0.00	-0.00	0.09
Informed Strategy	-0.14	-0.04**	-0.06	0.04	-0.14	-0.05***	-0.06	0.03	-0.16	-0.08***	-0.08	0.04	-0.11	-0.02	-0.02	0.08

**Table IA3**

This table replicates Table 7 in the main paper, and reports analyses performance of funds of funds where we have detailed holdings data, but using the Russell 2000 as the benchmark portfolio for the calculation of PME (rather than the S&P 500 in Table 7). It reports summary statistics for performance metrics of Funds of Funds PMEs relative to Synthetic Funds of Funds PMEs. Excess PME is the difference in the Fund of Funds PME and the mean PME of the Synthetic Funds of Funds in the same strategy and vintage year. Percentile PME is the percentile of the Fund of Funds PME in the distribution of Synthetic Funds of Funds PMEs in the same strategy and vintage year. Synthetic funds of funds are constructed using the Fund of Fund-level benchmarking strategy outlined in the text. For the averages, we report the significance of the test of the hypothesis that Excess PME equals 0.0 and Percentile PME equals 50.0. \*, \*\*, \*\*\* denotes significance at the 10, 5 and 1 percent levels, respectively.

	<u>All Funds of Funds (n=190)</u>				<u>Corporate Finance (n=83)</u>				<u>Generalist (n=54)</u>				<u>Venture Capital (n=53)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.12	-0.06***	-0.03	0.03	-0.11	-0.03**	-0.05	0.03	-0.18	-0.13***	-0.07	0.00	-0.13	-0.02	0.00	0.07
Percentile PME	13	40***	35	65	13	39**	32	66	9	35***	28	58	19	47	54	73

**Table IA4**

This table replicates Table 9 in the main paper and analyzes the fund of funds performance relative to constrained direct investing, but using the Russell 2000 as the benchmark portfolio for the calculation of PME (rather than the S&P 500 in Table 9). It reports summary statistics for performance metrics of Funds of Funds PME relative to Synthetic Funds of Funds PME. Excess PME is the difference in the Fund of Funds PME and the mean PME of the Synthetic Funds of Funds in the same strategy and vintage year. Percentile PME is the percentile of the Fund of Funds PME in the distribution of Synthetic Funds of Funds PME in the same strategy and vintage year. Panel A constructs synthetic funds of funds based on the naive strategy outlined in the text excluding the direct fund with the highest PME in each strategy-vintage year pair. Panel B constructs synthetic funds of funds based on the naive strategy outlined in the text excluding the direct funds in the top decile of PME in each strategy-vintage year pair. Panel C constructs synthetic funds of funds based on the naive strategy outlined in the text with the direct funds in the top decile of PME in each strategy-vintage year pair half as likely to be selected into the synthetic fund of funds as direct funds not in the top decile. Panel D constructs synthetic funds of funds based on the naive strategy outlined in the text with the direct funds in the top quartile of PME in each strategy-vintage year pair half as likely to be selected into the synthetic fund of funds as direct funds not in the top quartile. For the averages, we report the significance of the test of the hypothesis that Excess PME equals 0.0 and Percentile PME equals 50.0. \*, \*\*, \*\*\* denotes significance at the 10, 5 and 1 percent levels, respectively.

Panel A: Excluding Top Performing Direct Fund																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.12	-0.02	-0.04	0.04	-0.13	-0.06***	-0.06	0.02	-0.16	-0.07***	-0.07	0.03	-0.06	0.11	0.02	0.13
Percentile PME	4	39***	28	71	2	32***	18	60	3	36***	24	69	26	55	66	90

  

Panel B: Excluding Top Decile of Direct Funds																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.06	0.05	0.01	0.11	-0.09	-0.00	-0.00	0.06	-0.10	0.00	0.01	0.10	0.00	0.21***	0.09	0.21
Percentile PME	11	54*	59	96	6	47	43	91	8	51	53	94	51	72***	88	99

**Table IA4 (continued)**

Panel C: Reweighted Top Decile of Direct Funds																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.11	-0.01	-0.04	0.05	-0.13	-0.05***	-0.05	0.03	-0.14	-0.07***	-0.06	0.04	-0.06	0.11	0.03	0.13
Percentile PME	5	42*	34	77	2	35***	23	65	4	39	30	74	30	58*	66	88

  

Panel D: Reweighted Top Quartile of Direct Funds																
	<u>All Funds of Funds (n=294)</u>				<u>Corporate Finance (n=135)</u>				<u>Generalist (n=87)</u>				<u>Venture Capital (n=72)</u>			
	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75	P25	Avg	Med	P75
Excess PME	-0.08	0.02	-0.01	0.08	-0.10	-0.02	-0.02	0.05	-0.11	-0.03	-0.03	0.07	-0.02	0.16***	0.06	0.16
Percentile PME	11	49	49	85	6	42**	35	78	9	46	45	85	46	65***	79	89