Private Equity and COVID-19*

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Abstract

We survey more than 200 private equity (PE) managers from firms with $1.9 trillion of assets under management (AUM) about their portfolio performance, decision-making and activities during the Covid-19 pandemic. Given that PE managers have significant incentives to maximize value, their actions during the current pandemic should indicate what they perceive as being important for both the preservation and creation of value. PE managers believe that 40% of their portfolio companies are moderately negatively affected and 10% are very negatively affected by the pandemic. The private equity managers—both investment and operating partners—are actively engaged in the operations, governance, and financing in all of their current portfolio companies. These activities are more intensively pursued in those companies that have been more severely affected by the Covid-19 pandemic. As a result of the pandemic, they expect the performance of their existing funds to decline. They are more pessimistic about that decline than the VCs surveyed in Gompers et al. (2020b). Despite the pandemic, private equity managers are seeking new investments. Relative to the 2012 survey results reported in Gompers, Kaplan, and Mukharlyamov (2016): the PE investors place a greater weight on revenue growth for value creation; they give a larger equity stake to management teams; and, they also appear to target somewhat lower returns.

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1 Introduction

Private equity (PE) investors are typically viewed as quintessential ideal shareholders. They usually own a majority of the equity in the companies within their portfolio, take active roles in governance and operations, and seek to maximize the value of their investments given that private equity managers are typically compensated with a large share of the profits of the funds (Gompers and Lerner (1999)). Jenson (1989) argues that private equity represented a superior organizational form over dispersed public ownership. Research, including Kaplan (1989a,b), Acharya et al (2013), Davis et al (2014), has consistently shown that PE firms increase the productivity of their portfolio companies. PE returns also have consistently outperformed the public markets both gross and net of fees (Brown and Kaplan (2019)). Our prior survey, Gompers, Kaplan, and Mukharlyamov (2016) (GKM 2016), explored how private equity firms pursue investment decision-making as well as operational, governance, and financial engineering.

Covid-19 has dramatically and unexpectedly shocked the global economy. In the short-run, financial performance, including revenue and cash flows, have been significantly affected. Additionally, uncertainty about the future of the pandemic potentially hinders the ability to make new investment decisions. In response to this shock, we have undertaken a second survey of the private equity industry to understand investors' responses to this crisis. The new survey provides insights about how highly motivated owners of companies are managing the economic implications of the crisis. In particular, given that Covid-19 is an exogenous shock to economic performance, we ask private equity manages to divide their portfolio into three categories of firms: those affected positively or unaffected by the pandemic (green light), those moderately affected by the pandemic (yellow light), and those severely affected by the pandemic (red light). By comparing across green, yellow, and red light companies, we consider how important different actions are for maintaining value across differential economic shocks to performance, particularly underperforming firms. Second, by comparing the survey results to GKM 2016 (conducted from 2011 to 2013), we study how the industry has adapted over time and from more "normal" times.

We survey more than 200 private equity (PE) managers from firms with $1.9 trillion of assets under management (AUM). We first establish that the Covid-19 pandemic has had a meaningful impact on private equity firms by asking them to assess the health of their existing portfolio companies. On average, 50.9% of private equity firm portfolio companies are unaffected by the pandemic, 39.9% are somewhat affected, and 9.6% are severely affected. This heterogeneity allows us to explore differential activity across those categories. In particular, we look at how the actions that private equity firms are undertaking in various categories of distress indicate their importance for helping underperforming companies. Consistent with the impact on portfolio companies, we also find that the outlook for the performance of their existing private equity portfolios (both internal rate of return and the multiple on invested capital) has been significantly negatively affected. This will make outperformance of public markets, particularly the S&P 500, difficult going forward.

This survey on the effects of Covid-19 follows a similar organizational structure to that employed in GKM 2016. Kaplan and Strömberg (2009) classify three types of value increasing actions—financial engineering, governance engineering, and operational engineering. These value-increasing actions are not necessarily mutually exclusive. GKM 2016 identify and tabulate the key decisions made by 79 private equity (PE) investors (with a total of over $750 billion of private equity assets under management as of the end of 2012). That sample, like the current sample, included private equity firms across a spectrum of investment strategies, size, industry specialization, and geographic focus. The GKM 2016 survey asked PE managers questions about financial engineering—how they value companies and think about portfolio company capital structures; governance engineering—how they think about management incentives, governance and monitoring; and operational engineering—how they think about value creation, both before closing the transaction and after the transaction.

GKM 2016 find that all three forms of engineering are important. For financial engineering, PE firms set the capital structure based upon both market timing, i.e., they look to use debt when interest rates are low, as well as to provide incentives for management to maximize cash flows. These results are consistent with academic theory and teaching. In choosing the capital structures

for their portfolio companies, PE investors appear to rely equally on factors that are consistent with capital structure trade-off theories of Myers (1977) and those that are consistent with market timing of Baker and Wurgler (2002).

In governance engineering, PE investors expect to provide strong equity incentives to their management teams and believe those incentives are very important. They regularly replace top management, both before and after they invest. And they structure smaller boards of directors with a mix of insiders, PE investors and outsiders. These results are consistent with research on value enhancing governance structures that have been identified in other settings.

Finally, GKM 2016 find that PE managers place a heavy emphasis on operational engineering, i.e., adding value to their portfolio companies, both before and after they invest. The sources of added value, in order of importance, were increasing revenue, improving incentives and governance, facilitating a high-value exit or sale, making additional acquisitions, replacing management, and reducing costs.

In this paper, we consider three main types of PE managers' actions.First, we look at how they are managing their portfolios and trying to mitigate the damage. In doing so, we look at operational and governance engineering, both of which are meant to improve operations and maximize cash flows of the business. And we look at financial engineering that is designed to improve firms' liquidity and ensure that portfolio companies have the financial resources that they need to survive until the pandemic is over. Financial engineering in light of a reduction in current operating cash flows may be necessary to ensure portfolio companies do not default on their debt obligations.

For severely affected portfolio companies, we find, unsurprisingly, that the most common activities for PE managers are reducing head count and reducing costs. These activities are much less important for firms that are relatively unaffected. Similarly, replacing management is far more likely in severely affected companies than in unaffected companies. On the other hand, providing general operational and strategic guidance as well as recruiting new board members is similar across all three categories of companies.

The most consistent financial engineering strategy that PE managers employ to improve liquidity is drawing down the company revolving lines of credit (revolvers). The more severely affected the portfolio company, the more likely the PE manager is to draw down the revolver. Larger and older PE organizations exhibit a significantly higher propensity to draw down revolvers. A second source of potential liquidity is equity investments. The vast majority of PE managers who indicate a desire to raise equity in existing portfolio companies indicate that the source of the equity would likely be the existing fund that had invested in the company, not a later fund or a third-party fund. Smaller PE firms, which likely have smaller portfolio companies, also are more likely to help their companies access the Paycheck Protection Program (PPP). Some PE managers indicate a desire to refinance the debt and to extend maturities.

Second, we explore the impact of the pandemic on investment decision-making. In the current crisis, private equity managers still spend a significant portion of their time sourcing and evaluating new investments. Among the criteria that PE managers use to evaluate new investment opportunities, business model ranked as the most important followed closely by the management team. This is similar to the results in GKM 2016. When asked where they expect value creation to come from, the PE investors overwhelmingly pointed to growth in revenue as the key driver with reduction in costs a distant second. The focus on increased revenue versus cost reduction is greater than that reported in GKM 2016. In addition, the PE investors indicate they are giving a larger equity stake to management teams than in the previous survey. Finally, they also appear to target somewhat lower returns. For new investments, the PE managers target IRRs averaging 22.6%, but that target is lower than the 27.0% reported in GKM 2016.

Among industries, information technology (IT) and health care are the two most attractive industry. This is not surprising given the public market performance of these sectors. These preferences also are consistent with Gompers, Gornall, Kaplan, and Strebulaev (2020b) who find that venture capital portfolio companies (which are heavily weighted in the IT and health care industries) have been relatively unaffected by the pandemic. North America and Western Europe remain the most attractive geographies (despite how severe the pandemic was in those geographies) while LBOs and growth equity remain the most attractive types of investments.

Third, our survey asks about the internal operations of the PE firms. We seek to understand whether time allocation of investment and operating partners has changed given the external shock of Covid-19. We find that both investment and operating partners are spending the bulk of their time helping existing portfolio companies. At the same time, investment partners are still spending 17.7 hours per week finding and evaluating new deals. In total, investment partners are working nearly 60 hours per week while operating partners are working in excess of 50 hours per week. Investment partners also are meeting with limited partners 3.6 hours per week. Roughly 21% of limited partners have expressed a desire for reduced capital calls.

Finally, despite the pandemic, PE managers are optimistic about both their own performance and that of the PE industry overall. 76.8% of managers believe that the fund they currently manage will outperform the public markets either somewhat or substantially. 35.3% of PE investors believe that the overall PE industry will perform slightly better than the public markets while 53.1% predict that the entire PE industry will perform somewhat or much better than the public markets.

The paper proceeds as follows. In Section 2, we describe our research design and report summary statistics. In Section 3, we report our results. In Section 4, we conclude.

2 Research and Survey Design

2.1. Design

We created the survey to determine how the Covid-19 pandemic has affected PE investors. We also designed the survey with the intent of comparing answers to our prior survey from 2011 to 2013, primarily in 2012, in GKM 2016. We initially tested the survey on a small number of PE investors in the May 2020. We revised the survey to reflect some ambiguities in our questions and to add some additional questions. The final survey includes 54 questions and is available on Paul Gompers's website.

2.2. Delivery and Response

We distributed the survey to PE investors during July and early August 2020. We distributed it to the alumni of Chicago Booth and HBS employed in PE and to investors where one of the co-authors knew or was introduced to a senior investment professional. We received our last survey response in early August 2020. The vast majority of survey responses, therefore, were received in July 2020.

We invited a total of 1,180 investment professionals to participate in the survey by filling out an online questionnaire. Of these, 272 filled out some part of the survey; the median respondent answered 96% of questions shown to them.[2] The response rate of roughly 23% is much higher than the response rate for other surveys. Graham and Harvey (2001) obtain a response rate of 8.9% for CFOs while Da Rin and Phalippou (2014) obtain a response rate of 13.8% for PE limited partners.[3]

The 272 individual responses correspond to 214 PE firms. For PE firms with two or more respondents, we obtain a firm-level response by averaging out the responses of the individual investors.

We also study the within-firm variation in responses obtained from multiple people and establish notable agreement between them.[4] This is consistent with the survey's efficacy in

[2] From the participant's perspective, the survey is path-dependent. For example, respondents with no portfolio companies severely affected by the Covid-19 pandemic were not asked about the value-add activities they pursue in such companies. For that reason, the number of survey questions varies by person.

[3] Since participants were allowed to skip questions, for a subset of questions, especially toward the end of the survey, the effective response rate is commensurate with that of Da Rin and Phalippou (2014).

[4] First, we calculated the average pairwise Euclidean distance between vectors of Z-scores representing survey responses from different people at the same PE firm. Second, to establish the benchmark, we randomly perturbed survey responses to create 1,000 datasets with observations within the same PE firm matched by chance alone. Based on the distribution of 1,000 pseudo distances computed from the step 2 datasets, the actual distance measured in step 1 is 2.8 standard deviations below the *lower bound* of that distribution.

eliciting meaningful information. In addition, among participants who handled the survey in one sitting, the median respondent dedicated 15-16 minutes to the questionnaire. Taking into account how senior the sample participants are in their PE firms' hierarchy (Panel C of Table 1), they have clearly taken the survey seriously.

2.3. Private Equity Firm Characteristics

Table 1 provides some summary statistics for the firms of the PE investors who responded to the survey. We obtained cumulative AUM in PE[5], dry powder available, number of past PE deals, number of employees, and geographic distribution of offices from Preqin. Information on firms not covered by Preqin is taken from firm websites and media articles.

The table shows that there is a large variation in the size of the firms as measured by assets under management (AUM). The mean AUM is just under $10.7 billion. A quarter of the firms have AUM under $392.5 million while a quarter have AUM above $8.1 billion. Table 2 looks at average equity check size that our PE respondents are investing. On average (median) our firms invest $140.2 ($50.0) million. Larger and older PE firms write larger checks ($194.8 and $231.2 million) than do smaller and younger PE firms ($85.6 and $58.8 million).

Overall, PE managers at 214 different firms with total AUM of roughly $1.9 trillion filled out the survey. Because the participants were allowed to skip questions, the amount of AUM represented by the survey data differs by question. But even the question with the fewest responses among questions available to all—the last question in the survey—still covers 126 PE firms with AUM of $1.3 trillion. Clearly, we have solid coverage of the largest PE firms. Each year, Private Equity International (PEI) Media ranks the top PE firms globally by AUM. Our sample includes

[5] This measures cumulative AUM for the PE firm, not the size of the most recent fund.

twelve of the top twenty-five in PEI's 2019 list; among these, nine followed through till the last question. Given this, we believe that our results are reflective of a meaningful fraction of the PE industry.

3 Results

3.1. Covid-19 Effects on Private Equity Industry

We first examine the PE investors' overall assessments of implications of the Covid-19 pandemic. We explore these assessments at both the individual portfolio company level as well as the aggregate fund return level. We asked PE managers to assess the relative fraction of their portfolio that is unaffected or positively affected by the pandemic (green light), somewhat affected (yellow light), and severely affected (red light) by the Covid-19 pandemic. Because most of the companies were likely similarly situated before the exogenous effects of the pandemic, comparing across these three categories allows us to highlight actions PE managers take at various stages of distress. Table 3 shows that PE investors believe that 50.9% of their portfolios is unaffected by the pandemic, 39.9% of the portfolio is somewhat affected, and 9.6% is severely affected.

We next ask how the PE managers expect the current Covid-19 pandemic to impact fund performance. Like GKM 2016, we ask whether their funds target an Internal Rate of Return (IRR) and/or a Multiple on Invested Capital (MOIC). Slightly more PE managers target an MOIC (81.8%) than IRR (60.4%) in Table 4. Given that these add up to more than 100%, it is clear that many managers target both MOIC and IRR.

Because roughly 50% of the PE portfolios have been adversely affected by the pandemic, we asked the PE investors how they thought the pandemic would affect the IRRs and MOICs on their existing funds. Table 5 shows that 85.4% of PE investors expect their fund's IRR to be adversely affected and 58.8% of respondents expected their existing fund's MOICs to be adversely affected.

The average (median) change in expected IRR is -4.4% (-4.9%) while the average (median) expected change in MOIC is -0.24 (-0.20).

These represent a substantial effect relative to the typical target IRR and MOIC. When we compare these results to those of a similar and contemporaneous survey of venture capital industry (Gompers, Gornall, Kaplan, and Strebulaev (2020b)), we find that the PE industry is substantially more affected by the Covid-19 pandemic. In the venture capital (VC) survey, although a similar percentage of the portfolio was negatively affected (10%), the VCs expected declines in IRR (MOIC) of only 1.6% (0.07).

The declines in PE IRRs and MOICs also appear substantial compared to the return on the S&P 500 through the end of July 2020. At that time, the S&P 500 had a positive year-to-date total return in 2020 of 2.5%, driven, in particular, by the success of the large technology companies. That performance is likely to make comparisons of PE returns to the S&P 500 very challenging for existing vintages. The comparisons will be less challenging with the less technology heavy Russell 2000 which had a year-to-date total return of -10.4% at the end of July 2020.

3.2. Existing Portfolio Implications

GKM 2016 examines a variety of actions that PE firms perform to add value to their portfolio companies. In that survey, PE investors place a heavy emphasis on adding value through operational and governance engineering. PE investors indicated that they place a heavy emphasis on adding value to their portfolio companies, both before and after they invest. The sources of that added value, in order of importance, were increasing revenue, improving incentives and governance, facilitating a high-value exit or sale, making additional acquisitions, replacing management, and reducing costs. Consistent with adding operational value, the PE managers make

meaningful investments in employees and advisors who provide advice and help in implementing operating improvements. Additionally, PE managers put a strong emphasis on implementing high powered equity incentives to their management teams and thought those incentives are very important. They also focused on creating smaller board of directors with a mix of insiders, PE investors, and outsiders.

In the earlier survey, PE investors also placed importance on financial engineering, i.e., putting in place the type of capital structure that could potentially enhance value. PE investors appeared to rely equally on factors that are consistent with capital structure trade-off theories and those consistent with market timing. The results were different from those for the CFOs in Graham and Harvey (2001). The market timing result was consistent with the results in Axelson, Jenkinson, Strömberg, and Weisbach (2013).

3.2.1. Operational and Governance Engineering

Our next set of questions involves examining how PE investors are managing their existing portfolio companies through operational and governance engineering. The first question asks who works with portfolio companies. Table 6 reports that 84.4% of existing portfolio companies have involvement of deal team members, 57.6% have operating partners involved in their management, and 23.0% have outside consultants actively engaged.

Table 7 presents the results concerning how often the PE manager has interacted during the pandemic with the typical portfolio company. The intensity of interaction has been very high. 81.7% interact with the typical portfolio company at least weekly. 50.7% interact multiple times per week while 6.8% were interacting daily. This is substantially higher than the rate of portfolio company interaction in Gompers, Gornall, Kaplan, and Strebulaev (2020b) for VCs. VCs meet

with 26% of the portfolio once a week, 26% multiple times per week, and 2% daily. In the current crisis, PE managers appear to be more hands on than VCs.

Based on the classification from Table 3, we asked PE managers the types of activities they engaged in within their existing portfolio companies. Panels A and B of Table 8 present the percent of portfolio companies in the green, yellow, and red categories in which they are performing specific operational or governance engineering activities.

The prevalence of different actions, in general, is monotonically higher going from green to yellow to red portfolio companies. For example, reducing head count is an activity in only 28.5% of unaffected portfolio companies, while it rises to 65.7% in moderately affected companies, and to 87.1% in severely affected companies. Similarly, reducing other costs occurs in 47.8% of the green companies, 78.2% of yellow companies, and 91.0% of red companies.

In all three categories (green/yellow/red) of portfolio companies, PE managers are active in providing general operational (64.3%/77.5%/82.4%) and strategic guidance (79.7%/88.6%/89.8%). This is consistent with GKM 2016 in which PE managers take active roles in providing support.

The PE managers in our survey are also actively involved in governance engineering and their involvement increases as firms become more severely affected. For example, in all categories of companies (5.8%/12.2%/19.2%), PE managers actively seek to replace the CEO or CFO. The percentage of PE managers involved in other senior management replacement is similarly high (7.6%/13.4%/25.4%). Hiring other managers and recruiting board members is also an important activity, but is not related to being more severely affected by Covid-19. Overall, the more operationally affected a portfolio company is, the more likely the PE managers are to be deeply involved.

3.2.2. Financial Engineering

GKM 2016 also examine financial engineering by PE managers. Kaplan (1989b) showed that taxes are one source of value in leveraged buyouts. Jensen (1989) argued that leverage imposed financial and operating discipline on company executives and avoided agency costs of free cash flow. As discussed earlier, Covid-19 has been an unexpected shock to many firms' revenue and cash flows. As such, maintaining liquidity and avoiding default is potentially a critical concern for PE investors. To gauge how important liquidity concerns are, we asked PE managers what fraction of their portfolio companies currently had covenant violations. On average, 22.7% of portfolio companies had a covenant violation. There is no significant difference in the rate of covenant violation in small vs. large or old vs. young PE firms.

We asked PE managers about the target capital structure policies for their existing portfolio companies. Table 9 tabulates their answers for bank and long-term debt maturity, debt-to-capital ratio, and debt-to-EBITDA. Average (median) target maturity of bank and other long-term debt are 4.2 (4.0) years and 5.0 (5.0) years. Large PE firms have longer target maturities (4.6 years bank debt / 5.2 years other long-term debt) than small PE firms (3.9 years bank debt / 4.8 years other long-term debt). Target debt-to-capital is 44.6% on average (50.0% median) and is significantly higher for larger (47.4%) PE firms when compared to smaller (41.8%) ones. Debt-to-EBITDA ratios average 3.8 (median 3.6) in our sample and are significantly higher for large (4.6) and old (4.2) when compared to small (3.0) and young (3.4) PE firms.

We also asked PE managers in what fraction of their portfolio companies they sought to refinance their debt. Panel A of Table 10 shows that our PE managers target debt refinancing in 30.5% of their portfolio companies. When we asked the managers to rate the reason for seeking

to refinance (Panel B of Table 10), extending the maturity of the debt rated the highest at 6.1 (on a scale from 1 to 10) followed by the low current rates at 5.2 and (potential) covenant violations being next at 5.1. Larger PE firms rated extending the maturity of the debt (6.6) significantly higher than smaller firms (5.5).

Table 11 compares the target debt policies of our firms during Covid-19 with our earlier survey. Except for debt to EBITDA, all the financial policies of our PE mangers have changed. Debt maturity for both bank and other long-term debt has fallen significantly, falling from 5.25 years to 4.23 years for bank debt and from 6.89 years to 5.01 years for other long-term debt. Target debt-to-capital ratios have also fallen significantly. They were 55.74% in the earlier survey and are 44.6% now. These changes are consistent with an increased riskiness of the portfolio companies and a desire to finance their companies more conservatively.

Panel C of Table 8 tabulates the prevalence of financial engineering activities undertaken by PE managers depending upon the severity of Covid-19 on their portfolio companies. Across a number of areas, PE managers are active in raising cash for their companies. The intensity of these activities is greater the more severely Covid-19 has affected the portfolio company. Across the different categories of portfolio companies (green/yellow/red), a large fraction (40.0%/55.4%/71.0%) are actively drawing down their revolving credit facilities. Similarly, helping their portfolio companies access the Paycheck Protection Program (PPP) is a common activity for the PE managers (17.1%/25.1%/32.3%).

Drawing down revolvers and accessing the PPP program are both non-dilutive (from an equity perspective) ways to raise cash for portfolio companies. We also asked whether PE managers if they were pursuing equity infusions for their portfolio companies. Except for the most severely affected companies, raising new equity has been a relatively infrequent activity for PE

managers. In 34.5% of the severely affected (red) companies, however, PE managers actively sought to raise equity.

We also asked whether the PE firm sought to raise the equity from third parties, the same fund that had invested in the portfolio company, or a later fund. By far the most common potential source of equity is the same fund that had invested in the company. In 35.7% of the severely affected companies, PE managers were pursuing equity investments from the same fund. Third parties represent the second most frequent target source of equity financing – in 12.7% of severely affected portfolio companies. Later funds by the same manager are almost never mentioned as a source of equity financing for portfolio companies. Even in severely affected companies, only 2.5% of the time did PE managers consider an equity investment from a later fund. This is consistent with the conflict of interest perceived by limited partners in cross-fund investing.

We find significant differences when we compare different types of PE firms. For example, across all portfolio company categories (green/yellow/red), small PE firms are far more likely to help their companies participate in the PPP program. This is perhaps not surprising because much of the PPP program was targeted at smaller businesses and smaller PE firms hold smaller companies in their portfolio. Older and larger PE firms are more likely to be helping their portfolio companies draw down their revolvers across each category of portfolio companies (green/yellow/red). For equity investments, there is no consistent pattern of activity across fund size or age.

Overall, we find that PE firms are active in seeking additional cash for their portfolio companies. Non-dilutive financing (either bank revolvers or the PPP program), unsurprisingly, is preferable to outside equity. Outside equity appears to be an option in only the most severely affected companies.

3.3. Exit Implications

Exiting investments is a critical element of the PE process. We asked a set of questions concerning whether and how exits might be affected by the Covid-19 pandemic. Given the turmoil in operations identified above, one might expect that exits are not top of mind for PE firms. In Panel A of Table 12**,** we ask PE managers whether their investment horizon has decreased, stayed the same, or increased in the current environment. Fewer than 1% answered that their investment horizon has decreased; 72.2% of respondents indicated that their investment horizon has increased. At the same time, in Panel A of Table 13**,** we find that PE managers have not given up on exiting. More than 55% of PE managers still seek to exit existing portfolio companies.

Finally, we asked about the attractiveness of different types of exits in current financial markets. Strategic sales are rated most highly by PE managers in Panel B of Table 13, averaging 7.2 on a scale from 1 to 10. Sales to financial buyers is the next most highly rated exit path, receiving 6.3 on average. Pursuing an IPO is rated significantly higher by larger (4.6) and older (4.3) PE organizations than by smaller (2.3) and young (2.7) firms did, likely reflecting the fact that smaller portfolio companies do not have the option to go public.

Overall, then, despite the current impact of Covid-19, PE managers are still seeking to gain liquidity in their portfolios.

3.4. Investment Decision-Making Implications

To this point, our analysis has largely focused on how PE managers engage with their existing portfolio companies. In this section, we examine how the Covid-19 pandemic has affected decision-making on future investments.

GKM 2016 identify deal sourcing and deal selection as important elements of the PE investment process. We find in Table 14 that virtually all PE firms (94.6%) in our sample are still seeking new investments. At the same time, 14.6% of our respondents indicated that they anticipate that they will walk away from signed deals. While these may seem at odds with each other, clearly the terms agreed to prior to the onset of the pandemic may be unattractive after.

We asked the PE investors what IRR or MOIC they targeted for new investments in the firm's main fund. In Table 15 we find that for PE firms that target IRR, the average (median) target IRR is 22.6% (24.8%). We do not find any difference between small and large or old and young PE firms. For those who target MOIC, the average (median) MOIC target is 2.7 (2.6). PE firms with offices exclusively in the US have an MOIC target (2.8) that is significantly higher than that of other firms (2.5).

In Table 16, we compare the average IRR and MOIC targets in the current survey to those of our earlier survey. Both IRR and MOIC targets have declined, with the decline in IRR target significant. In GKM 2016, the average PE firm had an IRR target of 27.0% compared to our current survey target of 22.6%.

This reduction in target IRR may reflect the tremendous growth in the PE industry over the past eight years. Global AUM in PE (buyout and growth equity) in 2019 was $3.8 trillion billion versus $1.3 trillion in 2012 according to Preqin. This growth has potentially led to increased purchase multiples for PE investors as well as firms commensurately lowering their target/projected IRRs and MOICs. The decline in target IRR may also reflect, at least partially, the decline in long-term interest rates over this period. These explanations are not mutually exclusive.

The investment horizon of new investments (in Panel B of Table 12) has remained similar to that in GKM 2016 with an average (median) of 5.2 years (5.0 years).

We next asked PE managers what factors they considered most important when deciding whether to invest. In Table 17, we see that business model is the most important investment factor with an average rating of 8.5 followed by management team (8.0), ability to be cash flow positive (7.7), and ability to add value (7.7). These patterns are similar to those in GKM 2016 where the PE investors also rated the business model as the most important factor followed by the management team. The result that business model is more important than management team for PE investors differs from the result in Gompers et al. (2020a) that the management team is more important for VC investors.

Table 18 examines the source of return generation for new deals that PE firms expect in the current Covid-19 environment. We asked PE managers to rate each potential source of value on a scale from 1 to 10. The PE investors overwhelmingly point to growth in revenue as the key driver with an average of 8.2. Reduction in costs is a distant second at 5.4. The focus on increased revenue versus cost reduction is greater than that reported in GKM 2016. This result also indicates that despite the current economic downturn, PE firms remained focused more on increasing revenue than on cutting costs.

This finding is not at all consistent with the frequent criticism that PE firms largely seek to cut employment and costs in their portfolio companies. Instead, this result and the similar result in GKM 2016 indicate that growing the business is the most important strategy to increase value independent of the phase of the economic cycle.

We next asked a series of questions about the types of investments that are most attractive. In Panel A of Table 19 we ask what types of investment strategies are attractive; in Panel B we ask

what industries are attractive; and in Panel C we ask which regions are most attractive, all on a scale from 1 to 10. LBOs, growth equity, and follow-on investments are rated similarly at 6.1; with larger PE firms having a higher proclivity toward LBOs (6.5) compared to smaller firms (5.7) but no statistically significant difference across firm size and age otherwise. Not surprisingly, larger and older firms rated Private Investments in Public Equities (PIPEs) more highly (4.3 and 4.3) than did smaller and younger firms (3.0 and 3.1).

Consistent with the results of Gompers et al. (2020b) for VC deals, PE firms rate IT and Healthcare as the most attractive investment industries at 6.2 and 6.9. Energy, materials, and utilities all rate low, from 2.0 to 2.5. These are also the two sectors in the public market that have done well in the current Covid-19 environment. The S&P 500 Healthcare Index is up 2.35% for the year and the S&P 500 Information Technology Index is up 23.14% for the year.

Interestingly, when we asked which regions are most attractive for PE investments, despite being among the more affected by the Covid-19 pandemic for the longest duration, North America is the most highly rated region at 6.6. Western Europe is next at 3.7. All the other regions are below 2.3. This ranking of regions may reflect the concentration of PE in North America as well as our survey being more highly skewed to managers in North America.

Finally, we asked what fraction of considered investments would end up in an actual investment. We find that 10.9% of considered opportunities are anticipated to end up as an actual investment (Panel B of Table 14). This is substantially higher than the 3.9% that GKM 2016 report. We find it difficult to reconcile these two numbers. Perhaps, the hurdle to be a considered deal is higher and therefore, fewer, higher quality deals are in the pipeline. Second, perhaps the pipeline has become dramatically narrower during Covid-19 and the "denominator" of considered deals has shrunk.

When making investments, PE investors choose among various securities. We asked in what fraction of deals the PE managers use various securities and tabulate the results in Table 20. PE managers say they will use common stock in roughly 60% of their deals. This compares to almost 75% of deals in GKM 2016. In the current environment, PE investors appear to have moved PE investments more towards senior securities. PE managers stated that they used preferred stock in almost 43% of their investments, convertible preferred in 23%, and convertible debt in 13%. Small PE firms were more likely to use senior securities than were large PE firms.

Another critical element of investment decision-making is how much equity to provide to the management team to incentivize them. We asked PE managers how much of the equity is owned by various parties. Table 21 shows that 72.9% of a company's equity is, on average, owned by the PE sponsor. Table 22 compares the results from our earlier survey to our current sample. PE sponsors' ownership has declined from 79.6% on average to 74.9%. CEO ownership has increased to 10.9% from 8.0% while ownership of the top 10 managers and other employees has increased to 11.3% from 8.9%. This suggests that management teams have become a more valuable and scarcer resource over time.

As was true in GKM 2016, large firms and old PE firms typically take more ownership (80.2% and 75.4%) than small and young firms (65.6% and 70.7%). This is likely the case because older and larger PE firms fund larger deals, leaving the management teams with an equity interest of similar (or larger) dollar value.

Overall, PE firms continue to seek out new investments. The firm's business model and then the firm's management team rank as the first and second most important investment criteria. PE investors are seeking to invest in more senior securities and are giving a larger equity stake to management.

3.5. Internal PE Firm Implications

The next set of questions examines how PE firms' internal operations have been affected by the Covid-19 pandemic. We first asked PE managers to detail how investing and operating partners are spending their time during the crisis. Panel A of Table 23 shows the hours per week investing partners spend on various activities. The majority of their time is being spent assisting portfolio companies, 25.2 hours per week.

Consistent with our results above on investment-decision making and that PE firms are exploring new investment opportunities, investing partners are spending time identifying new, potential deals, 17.7 hours per week on average. They also are spending 6.1 hours per week on networking for a total of 23.8 hours per week that is related to new deals. Managing the firm accounts for 6.4 hours per week and meeting with limited partners totals 3.6 hours per week.

Across firm types, PE investors at smaller and younger firms spend more time on managing their firms (7.6 and 8.2 hours per week) relative to investing partners at larger and older firms (5.1 and 4.3 hours). This makes sense if there are more partners in older and larger firms and if they are more likely to have dedicated staff who manage the firm's internal operations. In total, investment partners report they are working an average of 59.3 hours per week, suggesting that the PE investors are highly engaged through the pandemic.

We next asked firms that have operating partners, how the operating partners are spending their time on various activities. Panel B of Table 23 finds that the vast majority of their time is spent assisting portfolio companies, 33.5 hours per week, substantially more than investing partners. The next most time-consuming category is finding and evaluating potential deals at 6.5 hours per week, significantly less than the time spent by investing partners. All the other categories

take relatively modest portions of operating partners' time. On average operating partners are reported to work 50.4 hours per week, again suggesting they are highly engaged.

Given the experience during the financial crisis in which liquidity concerns caused LPs to want reduced or no capital calls, we asked PE managers whether or not they have received similar requests from LPs during the Covid-19 crisis. Table 24 shows that 21% of PE managers indicated that their LPs have communicated a desire for reduced capital calls. Young PE firms have limited partners who are more likely to indicate a desire for reduced capital calls (25.6%) relative to older firms (15.3%). Although the difference is not statistically significant, this may reflect a difference in the LP base of young funds who typically rely on smaller institutions and high net worth individuals for their funding.

Finally, we asked PE managers if they are currently fundraising. Table 25 shows that 38.1% of PE firms have been fundraising in the Covid-19 environment. Given the lifecycle of funds, this figure appears to be overall in line with the proclivity of firms to fundraise during normal times suggesting that the pandemic has had at most a modest effect on the fundraising efforts of firms.

Having said that, larger firms are more than twice as likely to be fundraising as smaller firms (53.2% versus 22.9%). This could be a manifestation of larger firms having a wider spectrum of contemporaneous funds under management. Alternatively, but not in a mutually exclusive sense, larger firms and their LPs might have been more pandemic-resilient as far as fundraising is concerned. The former explanation appears more plausible because the fraction of PE firms that anticipate their next fund to be larger than their current fund is the same (58%) for large and small managers.[6] The overall fundraising findings are consistent with Gompers, Gornall, Kaplan, and

[6] 35% of firms anticipate the next fund to be about the same size as the current fund; 7% expect a reduction in the fund size. 65% of US-headquartered firms expect an increase, while this value (40%) is significantly lower for overseas managers.

Strebulaev (2020b) who find that venture capitalists have likewise continued to fundraise in the Covid-19 environment.

3.6. Return Expectations

Our final questions looked at PE managers' perceptions of their own and the entire PE industry's performance over the next ten years. In Panel A of Table 26, we find they are quite optimistic about their own performance. 34.9% believe they will perform much better than public markets while another 41.9% believe they will perform somewhat better. Only 1.7% think they will perform slightly worse than the public markets.

When we asked the same managers their expectations for the entire industry, they were similarly, albeit slightly less, optimistic. Panel B of Table 26 shows that 41.8% of PE managers believe the industry will perform somewhat better than public markets over the next ten years while 11.3% believe it will perform much better. Large PE firms are more pessimistic about the industry than small PE firms. 16.1% of large managers believe that the PE industry will perform either worse than or on par with the public markets with the corresponding number being 6.9% for small firms.

4 Conclusion

We have reported the results of a survey of more than 200 private equity (PE) managers from firms with $1.9 trillion of AUM about their portfolio performance, decision-making, and activities during the Covid-19 pandemic.

Given that PE managers have significant incentives to maximize value, their actions during the current pandemic should indicate what they perceive as being important for both the preservation and creation of value. PE managers believe that 40% of their portfolio companies are moderately negatively affected and 10% are very negatively affected by the pandemic. The private

equity managers—both investing and operating partners—are actively engaged in the operations, governance, and financing in all of their current portfolio companies. These activities are more intensively pursued in those companies that have been more severely affected by the Covid-19 pandemic. They include helping to reduce headcount and non-headcount costs, providing strategic and operational guidance, and helping to insure liquidity by drawing down revolvers, using the PPP and raising equity. Less frequently, they change out senior management.

As a result of the pandemic, the PE investors expect the performance of their existing funds to decline. They are more pessimistic about that decline than the VCs surveyed in Gompers et al. (2020b). Given the positive performance of the public market, particularly the tech-driven S&P 500 over this period, this is likely to make comparisons with the public markets difficult for the private equity funds.

Despite the pandemic, private equity managers are seeking new investments. Relative to the 2012 survey results reported in Gompers, Kaplan, and Mukharlyamov (2016): the PE investors place a greater weight on revenue growth for value creation; they are giving a larger equity stake to management teams; and, they also appear to target somewhat lower returns. These changes are consistent with the large increase in commitments to PE since 2012 increasing the competition (and cost) of management teams as well as leading to a modest decline in the returns targeted by PE investors.

References

Acharya, V., Gottschalg, O., Hahn, M., Kehoe, C., 2013. Corporate governance and value creation: evidence from private equity. Review of Financial Studies 26, 368–402.

Ang, A., Chen, B., Goetzmann, W., Phalippou, L., 2013. Estimating private equity returns from limited partner cash flows. Unpublished working paper. Columbia University.

Axelson, U., Jenkinson, T., Strömberg, P., Weisbach, M., 2013. Borrow cheap, buy high? The determinants of leverage and pricing in buyouts. Journal of Finance 68, 2223–2267.

Axelson, U., Sorensen, M., Strömberg, P., 2013. The alpha and beta of buyout deals. Unpublished working paper. LSE.

Baker, G., 1992. Beatrice: a study in the creation and destruction of value. Journal of Finance 47, 1081–1119.

Baker, G., Wruck, K., 1989. Organizational changes and value creation in leveraged buyouts: the case of the O.M. Scott & Sons Company. Journal of Financial Economics 25, 163–190.

Baker, M., Wurgler, J., 2002. Market timing and capital structure. Journal of Finance 57, 1–32.

Bertrand, M., Schoar, A., 2003. Managing with style: the effect of managers on firm policies. Quarterly Journal of Economics 118, 1169-1208.

Brav, A., Graham, J., Harvey, C., Michaely, M., 2005. Payout policy in the 21st century. Journal of Financial Economics 77, 483–527.

Brealey, R., Myers, S., Allen, F., 2013. Principles of Corporate Finance. McGraw Hill, New York.

Brown, Gregory W. and Kaplan, Steven N., Have Private Equity Returns Really Declined? Journal of Private Equity, 2019, Volume 22 (4), 11-18.

Chung J., Sensoy B., Stern L., Weisbach M., 2012. Pay for performance from future fund flows: the case of private equity. Review of Financial Studies 25, 3259–3304.

Cohn J., Mills, L., Towery, E., 2014. The evolution of capital structure and operating performance after leveraged buyouts: evidence from U.S. corporate tax returns. Journal of Financial Economics 111, 469–494.

Cohn J., Towery, E., 2013. The determinants and consequences of private equity buyouts of private firms: evidence from U.S. corporate tax returns. Unpublished working paper. University of Texas.

Coles, J., Daniel, N., Naveen, L., 2008. Boards: does one size fit all? Journal of Financial Economics 87, 329–356.

Da Rin, M., Phalippou, L., 2014. There is something special about large investors: evidence from a survey of private equity limited partners. Unpublished working paper. University of Oxford.

Davis, S., Haltiwanger, J., Handley, K., Jarmin, R., Lerner, J., Miranda, J., 2014. Private Equity, Jobs, and Productivity. American Economic Review 104, 3956–3990.

Fama, E., Jensen, M., 1983. Separation of ownership and control. Journal of Law and Economics 26, 301–325.

Gompers, P., Gornall, W., Kaplan, S., Strebulaev, I., 2020a. How Do Venture Capitalists Make Decisions? Journal of Financial Economics, 2020, Volume 135, 169-190.

Gompers, P., Gornall, W., Kaplan, S., Strebulaev, I., 2020b. Venture Capital and Covid-19. Unpublished working paper, Harvard Business School.

Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices. Quarterly Journal of Economics 118, 107–156.

Gompers, P., Kaplan, S., Mukharlyamov, V., 2016. What do private equity investors say they do? Journal of Financial Economics 121, 449-476.

Gompers, P., Lerner, J., 1999. An analysis of compensation in the US venture capital partnership. Journal of Financial Economics 51, 3–44.

Graham, J., Harvey, C., 2001. The theory and practice of corporate finance: evidence from the field. Journal of Financial Economics 60, 187–243.

Guo, S., Hotchkiss, E., Song, W., 2011. Do buyouts (still) create value? Journal of Finance 66, 479–511.

Harris, R., Jenkinson, T., Kaplan, S., 2014. Private equity performance: what do we know? Journal of Finance 69, 1851–1882.

Hermalin, B., Weisbach, M., 1998. Endogenously chosen boards of directors and their monitoring of the CEO. American Economic Review 88, 96–118.

Higson, C., Stucke, R., 2012. The performance of private equity. Unpublished working paper. London Business School.

Jensen, M., 1986. Agency cost of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323–329.

Jensen, M., 1989. Eclipse of the public corporation. Harvard Business Review 67, 61–74.

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. Journal of Financial Economics 3, 305–360.

Jensen, M., Murphy, K., 1990. Performance pay and top-management incentives. Journal of Political Economy 98, 225–264.

Kaplan, S., 1989a. The effects of management buyouts on operating and value. Journal of Financial Economics 24, 217–254.

Kaplan, S., 1997. The evolution of US corporate governance: we are all Henry Kravis now. Journal of Private Equity 1, 7–14.

Kaplan, S., Sensoy, B., Strömberg, P., 2009. Should investors bet on the jockey or the horse? Evidence from the evolution of firms from early business plans to public companies. Journal of Finance 64, 75–115.

Kaplan, S., Strömberg, P., 2009. Leveraged buyouts and private equity. Journal of Economic Perspectives 23, 121–146.

Metrick, A., Yasuda, A., 2010. The economics of private equity funds. Review of Financial Studies 23, 2303–2341.

Myers, S., 1977. Determinants of corporate borrowing. Journal of Financial Economics 5, 145–175.

Myers, S., 1984. The capital structure puzzle. Journal of Finance 39, 575–592.

Page, B., 2011. CEO ownership and firm value: evidence from a structural estimation. Unpublished working Paper, University of Rochester.

Robinson, D., Sensoy, B., 2013. Do private equity fund managers earn their fees? Compensation, ownership, and cash flow performance. Review of Financial Studies 26, 2760–2797.

Strömberg, P., 2008. The new demography of private equity. In: Globalization of Alternative Investment Working Papers Volume 1, The Global Economic Impact of Private Equity Report 2008, World Economic Forum, pp. 3-26.

Table 1: Respondents

This table describes the sample private equity (PE) investor respondents. The data in Panels A and B are from Preqin; individual positions in Panel C are from the current survey. To ensure the anonymity of the survey participants, we report rounded values of the median and the percentiles in Panel A.

Panel A: Summary statistics of sample firms

PE firm characteristic	N	Mean	25th percentile	Median	75th percentile	St. dev.
Age (years)	212	21.7	12.0	20.0	30.0	14.0
AUM (US$m)	176	10,678.0	400.0	1,800.0	8,000.0	23,061.5
Dry powder available (US$m)	155	3,451.9	100.0	500.0	2,000.0	7,009.8
Number of past PE deals	199	122.0	5.0	35.0	100.0	234.7
Number of employees	166	92.9	10.0	25.0	55.0	233.4
Number of countries with offices	214	3.1	1.0	1.0	2.0	4.5
Office in the US (binary)	214	80.4%				
HQ in the US (binary)	214	72.0%				

Panel B: Geographic distribution of sample firms

Region of HQs	Firms	
	Number	Fraction
North America	158	73.8%
Western Europe	22	10.3%
Asia	9	4.2%
Africa	6	2.8%
Eastern Europe	6	2.8%
South America	5	2.3%
Middle East	4	1.9%
Oceania	4	1.9%
Total	214	100.0%

Panel C: Positions of individual respondents

Position	People	
	Number	Fraction
Managing Partner	106	39.0%
Managing Director	51	18.8%
General Partner / Director	31	11.4%
Principal / VP	67	24.6%
Other	17	6.3%
Total	272	100.0%

Table 2: Average equity check

This table reports the average equity expected in the Covid-19 environment by the sample private equity (PE) investors. Question is: "In the current Covid-19 environment, what do you anticipate your average equity check in your primary fund will be in 2020?" The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Average equity check (US$m)	140.2	50.0	85.6	194.8*	58.8	231.2***
Observations	144	144	72	72	76	68

Table 3: The Covid-19 pandemic's impact on the portfolio

This table describes the impact of the Covid-19 pandemic on the portfolios of the sample private equity (PE) investors. Question is: "In the current Covid-19 environment, what fraction of your portfolio companies are currently…?" Green light applies to portfolio companies affected positively or unaffected by the pandemic; yellow light—moderately affected; red light—severely affected. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Without symptoms (green)	50.9	50.0	53.3	48.4	50.2	51.5
Sick, but ok (yellow)	39.9	37.5	37.8	41.9	41.4	38.2
In intensive care (red)	9.6	9.2	9.5	9.7	8.9	10.3
Observations	213	213	107	106	112	101

Table 4: Target performance metrics

This table reports the propensity of the sample private equity (PE) investors to target IRR or MOIC. Question is: "Do you target IRR or multiple on invested capital (MOIC)? Select all that apply." The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

		AUM		Age	
Target of choice	Mean	Low	High	Young	Old
IRR	60.4	51.4	69.6**	64.6	55.4
MOIC	81.8	82.2	81.4	78.5	85.7
Other	8.4	6.8	9.9	8.9	7.8
Observations	145	73	72	79	66

Table 5: Pandemic's impact on fund performance

This table describes the impact of the Covid-19 pandemic on the expected performance of the existing funds managed by the sample private equity (PE) investors. Panels A and B focus, respectively, on the IRR and the MOIC. The number of observations in each panel reflects the number of sample PE firms that target that metric. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: IRR						
Yes, pandemic will affect IRR (percent of PE firms)	85.4		81.8	88.9	80.9	90.5
Observations	88		44	44	47	41
Expected change in gross IRR (percentage points)	-4.4	-4.9	-4.5	-4.3	-4.5	-4.3
Observations	87	87	44	43	47	40
Panel B: MOIC						
Yes, pandemic will affect MOIC (percent of PE firms)	58.8		60.0	57.6	54.8	63.1
Observations	119		60	59	62	57
Expected change in gross MOIC	-0.24	-0.20	-0.23	-0.25	-0.16	-0.33*
Observations	117	117	59	58	60	57

Table 6: Participants actively involved with portfolio companies

This table reports the fraction of portfolio companies with active participation in the current Covid-19 environment by each specified group for the sample private equity (PE) investors. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
Participants	Mean	Median	Low	High	Young	Old
Deal team	84.4	100.0	78.8	90.1***	81.3	88.2
Operating partners	57.6	63.3	54.9	60.3	55.6	60.0
Outside consultants	23.0	20.0	21.0	25.1	24.5	21.2
Other	3.8	0.0	3.1	4.5	3.8	3.8
Observations	163	163	82	81	91	72

Table 7: Frequency of interactions with portfolio companies

This table reports how frequently the sample private equity (PE) investors have interacted with the management of a typical company in their portfolio since the beginning of the Covid-19 pandemic. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

		AUM		Age	
Frequency of interactions	Mean	Low	High	Young	Old
Never	0.1	0.0	0.3	0.0	0.3
Less than once a month	0.8	0.0	1.7	1.2	0.4
Once a month	5.4	5.4	5.5	9.9	0.0***
2-3 times a month	11.8	13.5	10.0	8.6	15.6
Once a week	24.2	24.3	24.1	24.7	23.7
Multiple times a week	50.7	50.0	51.5	45.7	57.0
Every day	6.8	6.8	6.8	9.9	3.0*
Observations	147	74	73	81	66

Table 8: Sources of value in existing portfolio companies during the Covid-19 pandemic

This table reports the percent of portfolio companies—tabulated by the extent of the Covid-19 pandemic's impact—in which the sample private equity (PE) investors pursue specified activities: operational engineering (Panel A), governance engineering (Panel B), and financial engineering (Panel C). Green light applies to portfolio companies affected positively or unaffected by the pandemic; yellow light—moderately affected; red light—severely affected. Standard errors appear in brackets.

Activity	Green	Yellow	Red
Panel A: Operational engineering			
Reducing head count	28.46	65.74	87.07
	[2.30]	[2.95]	[2.61]
Reducing other costs	47.81	78.23	91.02
	[2.81]	[2.55]	[2.37]
Provide operational guidance	64.33	77.52	82.38
	[2.89]	[2.81]	[3.36]
Provide strategic guidance	79.74	88.55	89.77
	[2.52]	[1.99]	[2.59]
Connect companies with potential	51.58	52.46	61.87
customers/suppliers/strategic partners	[3.00]	[3.28]	[4.22]
Observations	168	155	96
Panel B: Governance engineering			
Change CEO or CFO	5.80	12.16	19.20
	[1.08]	[1.87]	[2.98]
Change other senior management	7.60	13.38	25.36
	[1.15]	[1.91]	[3.29]
Help companies hire managers	28.57	33.00	30.73
	[2.64]	[3.23]	[4.11]
Help companies hire board members	23.14	25.09	21.40
	[2.64]	[3.02]	[3.66]
Observations	168	155	96

Activity	Green	Yellow	Red
Panel C: Financial engineering			
Using the PPP	17.11	25.10	32.33
	[2.46]	[3.01]	[4.25]
Getting liquidity	34.46	48.17	66.98
	[2.74]	[3.37]	[4.21]
Drawing down revolvers	40.02	55.41	71.04
	[3.00]	[3.26]	[4.02]
Raising equity	7.69	12.20	34.45
	[1.49]	[2.02]	[4.17]
Equity infusion from 3rd party	4.26	5.84	12.73
	[1.23]	[1.40]	[2.82]
Equity infusion from same fund	6.17	12.86	35.68
	[1.16]	[1.89]	[4.08]
Equity infusion from later fund	2.18	1.78	2.51
	[0.82]	[0.76]	[1.09]
Seeking an exit	11.49	7.21	15.13
	[1.49]	[1.55]	[3.10]
Observations	168	155	96

Table 9: Target capital structure policies

This table describes the capital structure policies currently targeted by the sample private equity (PE) investors for their existing portfolio companies. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Maturity of bank / senior debt (years)	4.2	4.0	3.9	4.6***	4.0	4.5*
Observations	145	145	73	72	79	66
Maturity of other long-term debt (years)	5.0	5.0	4.8	5.2	4.8	5.2
Observations	133	133	67	66	71	62
Total debt-to-capital ratio, D/(D+E) (%)	44.6	50.0	41.8	47.4**	43.8	45.5
Observations	142	142	71	71	77	65
Debt-to-EBTDA	3.8	3.6	3.0	4.6***	3.4	4.2***
Observations	143	143	72	71	78	65

Table 10: Debt refinancing

This table describes debt refinancing decisions. Panel A reports the fraction of portfolio companies in which the sample private equity (PE) investors have refinanced or seek to refinance the debt over the next 6 months. Panel B shows how important—on a scale of 1 (least) to 10 (most)—the specified factors are for the refinancing decisions, as indicated by a subset of the sample PE investors with plans to refinance. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Debt (expected to be) refinanced						
Percent of portfolio companies	30.5	25.0	33.0	27.9	27.9	33.8
Observations	141	141	71	70	79	62
Panel B: Rationale for debt refinancing						
Low current rates	5.2	5.0	5.3	5.1	4.9	5.5
Desire to extend maturity of debt	6.1	7.0	5.5	6.6**	5.8	6.4
Violation or potential violation of covenants	5.1	5.0	4.9	5.3	5.3	4.8
Precautionary	4.1	4.0	4.2	4.1	4.0	4.3
Other	1.7	1.0	1.5	1.9	1.8	1.6
Observations	132	132	66	66	72	60

Table 11: Debt policies in normal times vs. Covid-19

This table compares the target debt policies of the sample private equity (PE) investors surveyed in July–August 2020 during the Covid-19 pandemic with the results of a similar survey conducted in 2011–2013, i.e., normal times (Gompers, Kaplan, and Mukharlyamov 2016). Statistical significance of the difference between means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Typical target	**2011–2013**	**Covid-19**
Maturity of bank / senior debt (years)	5.25	4.23***
Standard errors	[0.15]	[0.12]
Observations	64	145
Maturity of other long-term debt (years)	6.89	5.01***
Standard errors	[0.17]	[0.15]
Observations	64	133
Total debt to capital ratio, D/(D+E), %	55.74	44.60***
Standard errors	[1.76]	[1.19]
Observations	62	142
Total debt to EBITDA Ratio	3.9	3.8
Standard errors	[0.14]	[0.13]
Observations	60	143

Table 12: Investment horizon

This table describes the investment horizon of sample private equity (PE) investors in the current Covid-19 environment. Panel A shows the pandemic-induced change in the investment horizon; Panel B reports the current levels. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Investment horizon's change in the current Covid-19 environment						
Decreased	0.1		0.0	0.2	0.0	0.2
Stayed the same	27.7		27.4	28.0	27.5	27.9
Increased	72.2		72.6	71.9	72.5	71.9
Observations	146		73	73	80	66
Panel B: Investment horizon in the current Covid-19 environment						
Investment horizon	5.2	5.0	5.3	5.1	5.1	5.4
Observations	158	158	79	79	85	73

Table 13: Exit

This table describes the intention to exit investments and the attractiveness of different exit routes. Panel A reports the fraction of the sample private equity (PE) investors actively seeking to exit current portfolio companies in today's Covid-19 environment. Panel B shows how attractive—on a scale of 1 (least) to 10 (most)—the specified exit routes are, as indicated by a subset of the sample PE investors seeking exits. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Actively seeking to exit existing portfolio companies						
Yes, seeking exit (percent of PE firms)	55.3		55.4	55.2	61.1	48.2
Observations	147		74	73	81	66
Panel B: Exit routes and their attractiveness						
IPO	3.4	2.0	2.3	4.6***	2.7	4.3**
Strategic sale	7.2	7.5	7.2	7.1	6.9	7.4
Financial sale	6.3	7.0	6.1	6.5	6.2	6.3
Other	1.1	1.0	1.2	1.0	1.0	1.2
Observations	83	83	42	41	43	40

Table 14: Deal funnel

This table describes the propensity of the sample private equity (PE) investors to seek out potential new investments (Panel A), to invest in considered opportunities (Panel B), and to walk away from a signed deal before closing (Panel C) in the current Covid-19 environment. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Are you currently seeking out potential new investments?						
Yes (percent of PE firms)	94.6		94.0	95.2	89.3	100.0***
Observations	167		84	83	84	83
Panel B: In the current Covid-19 environment, what fraction of all considered opportunities do you anticipate you will end up investing in?						
Percent of all considered opportunities	10.9	8.3	10.7	11.2	10.9	11.0
Observations	150	150	75	75	80	70
Panel C: In the current Covid-19 environment, have you or do you anticipate walking away from a signed deal before closing?						
Yes (percent of PE firms)	14.6		15.1	14.1	13.7	15.5
Observations	166		83	83	84	82

Table 15: Performance targets

This table reports the gross IRR and MOIC targets, in the current Covid-19 environment, in the primary fund of the sample private equity (PE) investors that target either metric. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Target gross IRR (percent)	22.6	24.8	23.1	22.1	22.6	22.6
Observations	88	88	44	44	47	41
Target gross MOIC (x)	2.7	2.6	2.8	2.6	2.6	2.7
Observations	114	114	57	57	58	56

Table 16: Performance targets in normal times vs. Covid-19

This table compares performance targets of the sample private equity (PE) investors surveyed in July–August 2020 during the Covid-19 pandemic with the results of a similar survey conducted in 2011–2013, i.e., normal times (Gompers, Kaplan, and Mukharlyamov 2016). Statistical significance of the difference between means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

	2011–2013	Covid-19
Target gross IRR in primary fund	27.03	22.60***
Standard errors	[1.45]	[0.63]
Observations	62	88
Target gross MOIC in primary fund	2.85	2.69
Standard errors	[0.15]	[0.06]
Observations	62	114

Table 17: Investment factors

This table reports the importance in the current Covid-19 environment of the specified investment factors—on a scale of 1 (least) to 10 (most)—as indicated by the sample private equity (PE) investors. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
Investment factor	Mean	Median	Low	High	Young	Old
Ability to add value	7.7	8.0	7.9	7.5	7.7	7.7
Business model / Competitive position	8.5	9.0	8.5	8.6	8.6	8.4
Fit with Fund	6.9	7.3	6.8	7.0	7.1	6.7
Industry /Market	7.2	8.0	6.9	7.6*	7.1	7.4
Management team	8.0	8.0	8.0	8.1	8.0	8.1
Valuation	7.2	8.0	7.3	7.1	7.2	7.2
Ability to be cash flow positive	7.7	8.0	7.8	7.5	7.8	7.5
Other	1.3	1.0	1.3	1.4	1.2	1.4
Observations	151	151	76	75	76	75

Table 18: Sources of value

This table shows how critical, in the current Covid-19 environment, the specified drivers are (or anticipated to be) in generating returns—on a scale of 1 (least) to 10 (most)—according to the sample private equity (PE) investors. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
Source of value	Mean	Median	Low	High	Young	Old
Growth in revenue of the underlying business	8.1	8.0	7.9	8.3	8.0	8.1
Reducing costs	5.4	5.0	5.5	5.4	5.5	5.3
Industry-level multiple arbitrage	4.6	4.5	4.4	4.8	4.6	4.7
Leverage	3.9	4.0	3.9	4.0	4.0	3.8
Refinancing	3.2	3.0	3.2	3.1	3.2	3.2
Other	1.7	1.0	1.5	1.9	1.9	1.6
Observations	145	145	73	72	77	68

Table 19: Types of investments and their attractiveness

This table shows how attractive, in the current Covid-19 environment, the specified types of investments are—on a scale of 1 (least) to 10 (most)—according to the sample private equity (PE) investors. Panels A, B, and C present the results for investment strategies, industries, and regions, respectively. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Investment strategies						
Leveraged buyouts	6.1	6.0	5.7	6.5*	5.8	6.3
Growth Equity	6.1	6.8	6.4	5.8	6.0	6.1
PIPEs	3.7	3.0	3.0	4.3***	3.1	4.3***
Distressed Debt	4.5	5.0	4.9	4.2	4.4	4.7
Follow-on investments	6.1	7.0	6.3	5.9	6.2	6.1
Other	1.3	1.0	1.4	1.3	1.5	1.1*
Observations	150	150	75	75	79	71
Panel B: Industries						
Energy	2.0	1.0	2.2	1.7	2.1	1.9
IT	6.2	7.0	6.1	6.3	5.7	6.7*
Materials	2.5	1.0	2.3	2.6	2.3	2.7
Telecommunication Services	4.2	4.0	4.2	4.2	4.0	4.4
Industrials	3.8	4.0	3.7	3.9	3.6	4.0
Utilities	2.3	1.0	2.2	2.5	2.0	2.7*
Consumer	3.9	4.0	3.8	3.9	3.9	3.8
Health Care	6.9	7.0	6.8	7.0	6.9	6.9
Financial	4.0	4.0	4.0	4.0	4.2	3.8
Other	1.9	1.0	2.0	1.8	2.0	1.8
Observations	147	147	74	73	79	68
Panel C: Regions						
North America	6.6	7.0	6.6	6.6	6.4	6.7
Southeastern Asia	2.3	1.0	2.5	2.1	2.3	2.3
Latin America	1.9	1.0	1.6	2.2	1.7	2.1
Africa	1.6	1.0	1.6	1.5	1.8	1.3*
Western Europe	3.7	4.0	3.4	4.0	3.8	3.7
Australasia	2.3	1.0	2.1	2.5	2.1	2.5
Eastern Europe	2.2	1.0	2.4	2.1	2.5	1.9
Eastern Asia	1.9	1.0	1.9	1.9	2.0	1.9
Middle East	1.4	1.0	1.6	1.3	1.6	1.2*
Other	1.0	1.0	1.0	1.1	1.0	1.1
Observations	139	139	70	69	74	65

Table 20: Types of securities

This table reports the percentage of new deals on which the sample private equity (PE) investors anticipate using each of the specified securities or instruments in the current Covid-19 environment. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
Security	Mean	Median	Low	High	Young	Old
Straight common stock	59.3	74.6	57.1	61.5	58.2	60.7
Preferred stock	42.7	40.0	46.6	38.7	44.1	41.0
Convertible preferred	23.0	10.0	24.5	21.6	21.4	24.9
Convertible debt	12.6	0.0	16.0	9.2*	14.7	10.1
Other	3.4	0.0	5.3	1.5	2.8	4.1
Observations	138	138	69	69	74	64

Table 21: Typical equity ownership

This table reports the typical equity stakes in new portfolio companies as expected by the sample private equity (PE) investors in the current Covid-19 environment. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
PE investors	72.9	80.0	65.6	80.2***	70.7	75.4
CEO	10.9	5.0	14.8	7.0***	12.1	9.5
Top 10 Management (excluding CEO)	8.9	7.0	11.0	6.8***	9.5	8.2
Top 10 Management (including CEO)	19.8	15.0	25.7	13.8***	21.7	17.7
Other employees	2.4	0.0	2.8	2.1	2.7	2.2
Other	4.7	0.0	5.9	3.4	5.0	4.3
Observations	138	138	69	69	73	65

Table 22: Typical equity ownership in normal times vs. Covid-19

This table compares the typical equity stakes in new portfolio companies as reported by the sample private equity (PE) investors surveyed in July–August 2020 during the Covid-19 pandemic with the results of a similar survey conducted in 2011–2013, i.e., normal times (Gompers, Kaplan, and Mukharlyamov 2016). Statistical significance of the difference between means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

	2011–2013	Covid-19
PE investors	79.58	72.93**
	[2.00]	[1.59]
CEO	7.99	10.93*
	[1.29]	[1.05]
Top 10 Management (excluding CEO)	7.16	8.91**
	[0.43]	[0.57]
Top 10 Management (including CEO)	15.15	19.83**
	[1.46]	[1.39]
Other employees	1.75	2.43
	[0.50]	[0.32]
Other	3.55	4.65
	[1.16]	[0.77]
Observations	64	137

Table 23: Time use

This table describes how investing partners (Panel A) and operating partners (Panel B) spend their time (in hours) during the Covid-19 pandemic as indicated by the sample private equity (PE) firms which reported having both types of partners. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

			AUM		Age	
	Mean	Median	Low	High	Young	Old
Panel A: Investing partners						
Assisting current portfolio companies	25.2	21.7	21.8	28.6**	25.1	25.2
Finding and evaluating potential deals	17.7	15.0	18.4	17.0	16.3	19.3
Networking	6.1	5.0	7.1	5.1*	6.3	5.9
Meeting with limited partners	3.6	2.5	3.6	3.5	4.3	2.7*
Management of your firm	6.4	5.0	7.6	5.1	8.2	4.3**
Other	0.4	0.0	0.4	0.5	0.4	0.5
Total (hours)	59.3	57.0	58.9	59.8	60.5	58.0
Observations	93	93	47	46	50	43
Panel B: Operating partners						
Assisting current portfolio companies	33.5	30.0	27.2	39.8***	29.5	38.0*
Finding and evaluating potential deals	6.5	5.0	7.0	6.0	6.5	6.6
Networking	3.7	2.2	4.4	3.1	4.4	3.0
Meeting with limited partners	1.5	0.0	1.8	1.2	2.0	0.9*
Management of your firm	4.3	0.0	6.3	2.2**	6.0	2.3**
Other	0.9	0.0	0.7	1.0	0.7	1.1
Total (hours)	50.4	50.0	47.3	53.4	49.1	51.8
Observations	92	92	46	46	49	43

Table 24: LPs' desire for reduced capital calls

This table reports the percentage of the sample private equity (PE) investors that indicated that their limited partners (LPs) have communicated a desire for reduced capital calls in the current Covid-19 environment. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

		AUM		Age	
	Mean	Low	High	Young	Old
Yes, LPs communicated a desire for reduced capital calls (percent of PE firms)	21.0	21.1	21.0	25.6	15.3
Observations	141	71	70	78	63

Table 25: Fundraising

This table reports the percentage of the sample private equity (PE) investors that are fundraising in the current Covid-19 environment. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

		AUM		Age	
	Mean	Low	High	Young	Old
Yes, currently fundraising (percent of PE firms)	38.1	22.9	53.2***	31.9	44.2
Observations	144	72	72	72	72

Table 26: Private equity performance expectations

This table describes the sample private equity (PE) investors' perceptions of their own performance (Panel A) and that of the entire PE industry (Panel B) over the next ten years relative to the overall stock market. The sample is divided into subgroups based on the median of assets under management and the age of PE firm. Statistical significance of the difference between subgroup means at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

		AUM		Age	
	Mean	Low	High	Young	Old
Panel A: Respondent's investments relative to the overall stock market					
Much worse	0.0	0.0	0.0	0.0	0.0
Slightly worse	1.7	0.0	3.5*	1.3	2.3
About the same	7.4	8.2	6.7	10.6	3.5*
Slightly better	14.1	16.4	11.7	12.5	16.0
Somewhat better	41.9	37.7	46.2	40.6	43.4
Much better	34.9	37.7	32.0	35.0	34.7
Observations	145	73	72	80	65
Panel B: Private equity industry relative to the overall stock market					
Much worse	0.0	0.0	0.0	0.0	0.0
Slightly worse	5.4	4.2	6.7	5.1	5.8
About the same	6.1	2.8	9.5*	4.4	8.2
Slightly better	35.3	41.0	29.7	34.2	36.8
Somewhat better	41.8	44.4	39.1	49.4	32.6**
Much better	11.3	7.6	15.0	7.0	16.7*
Observations	144	72	72	79	65