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Short-Termism, Shareholder Payouts, and Investment in the EU*

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Abstract

Investor-driven “short-termism” is said to harm EU public firms’ ability to invest for the long term, prompting calls for the EU to better insulate managers from shareholder pressure. But the evidence offered—in the form of rising levels of repurchases and dividends—is incomplete and misleading, as it ignores large offsetting equity issuances that move capital from investors to EU firms. We show that net shareholder payouts have been moderate, that both investment levels and investment intensity have been rising, and that cash balances have increased. In sum, the data provide little basis for the view that short-termism in the EU warrants corporate governance reforms.

Keywords: short-termism; quarterly capitalism; corporate governance; EU; buybacks; repurchases; dividends; equity issuances; equity compensation; acquisitions; payout policy; capital flows; capital distribution; CAPEX; R&D; investment; innovation

JEL: G14, G32, K22

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“The last years have shown time and time again how short-termism damages European companies and the economy.”

— Michael Barnier, European Commissioner for Internal Markets (2014)

1 Introduction

In both the US and the EU, there are claims that shareholder-driven “short-termism” (or “quarterly capitalism”) is a critical problem for public firms and the economy. Investor pressure to generate short-term results, exacerbated by the growing power of hedge funds, is said to substantially impair firms’ ability to invest and innovate for the long term.¹

While these claims have been greeted skeptically by many academics,² those eager to find evidence of short-termism in the US claim to have found a “smoking gun”: increasingly large cash payouts to shareholders through share repurchases and dividends. The leading exponent of this view is economist William Lazonick, who has argued that these payouts impair firms’ ability to invest, innovate, and provide good wages. In the introduction to his most well-known work, a 2014 *Harvard Business Review* article entitled “Profits Without Prosperity,” Lazonick set out his main claim:

“Corporate profitability is not translating into widespread economic prosperity. The allocation of corporate profits to stock buy-backs deserves much of the blame. Consider the 449 companies in the S&P 500 index that were publicly listed from 2003 through 2012. During that period those companies used 54% of their net income—a total of \$2.4 trillion—to buy back their own stock, almost all through purchases on the open market. Dividends absorbed an additional 37% of their net income. That left very little for investments in productive capabilities or higher incomes for employees.” (Lazonick, 2014)

¹In the US, such claims have been made in the US by academics (Bratton and Wachter, 2010; Coffee and Palia, 2015), corporate lawyers (Lipton, 2015), Delaware judges (Strine, 2010), and think tanks (Aspen Institute, 2009). In the EU, such claims have been made by prominent European business executives (Ralph, 2016), lawyers (Gregor and Bold, 2017), EU officials (EU Commission Press, 2020; Brooksbank, 2014), EU agencies (European Securities and Markets Authority (ESMA), 2019), accounting firms (Ernst & Young, 2020), and academics (Sakinc, 2017).

²A number of leading academics have forcefully argued that hedge funds play a useful role in the market ecosystem (Bebchuk and Jackson, 2012; Gilson and Gordon, 2013; Kahan and Rock, 2007) and that concerns over short-termism are greatly exaggerated (Bebchuk, 2013; Roe, 2013; Kaplan, 2017; Roe, 2018). While market pressures can induce executives to act in ways that boost the short-term stock price at the expense of long-term value (Bushee, 1998; Dichev et al., 2013; Graham et al., 2006) and may undesirably reduce investment at public firms (Asker et al., 2015), these costs must be weighed against the potential reduction in agency costs created by greater director accountability to shareholders. One prominent study finds evidence of such benefits, reporting that shareholder activism increases the stock price at targeted firms in both the short term and the long term (Bebchuk et al., 2015). For an argument that systemic problems driven by short-termism are not present in the EU, see Strand (2015).

The high ratio of shareholder payouts to net income has been cited by other economists ([Kahle and Stulz, 2017](#)) as evidence that US public firms have limited opportunities or incentive to invest, and by asset managers ([Fink, 2015](#)), leading corporate lawyers ([Lipton, 2015](#)), and senior politicians ([Biden, 2016](#)) as evidence that market pressures deprive firms of the capital needed for long-term investment. Senator Elizabeth Warren cited such payout-ratio figures as justification for her proposed Accountable Capitalism Act ([Office of Elizabeth Warren, 2018](#)).

In 2019, we published a paper ([Fried and Wang, 2019](#)) explaining that these widely-cited shareholder-payout figures are incomplete and misleading, for two main reasons.³ First, shareholder payouts tell only half the story of capital movements between firms and shareholders: they fail to account for direct and indirect equity capital inflows through share issuances by firms raising cash, paying employees, and acquiring assets. We found that there is a massive wedge between shareholder-payout figures (that are cited as evidence of short-termism) and *net* shareholder payouts (that measure actual capital movement between firms and shareholders). For example, during 2007-2016, S&P 500 firms distributed to shareholders more than \$7 trillion through stock buybacks and dividends, representing 96% of these firms' net income during that decade. But during this same period, S&P 500 firms absorbed, directly or indirectly, \$3.3 trillion of equity capital from shareholders through share issuances. *Net* shareholder payouts from S&P 500 firms were therefore only about \$3.7 trillion, or 50% of these firms' net income.

Second, the focus on shareholder payouts as a percentage of net income wrongly implies that “net income” reflects the totality of a firm's resources that are generated from its business operations and are available for investment. In fact, net income is calculated by subtracting the many costs associated with future-oriented activities that can be expensed (such as R&D). Indeed, a firm that spends more on R&D will, everything else equal, have a *lower* net income and a *higher* shareholder-payout ratio. At most, net income indicates the additional resources generated by a firm's business operations that are available for (a) investment activities whose cost must be capitalized rather than expensed and (b) *additional* R&D and other activities whose costs would be expensed. Across all US public firms, *net* shareholder payouts constituted only about 33% of *R&D-adjusted* net income (i.e., net income plus R&D expenditures net of taxes) during 2007-2016. This left trillions

³An earlier version of the work, written for a broader audience, was published in the *Harvard Business Review* ([Fried and Wang, 2018](#)).

of dollars for investment, much of which was in fact used for that purpose. The remainder was used to build up cash stockpiles, which could have been deployed for additional investment had there been attractive opportunities. In short, there is little reason to believe that public-firm shareholder payout figures cited by Lazonick indicated a short-termism problem in the US.

Unfortunately, Lazonick-inspired shareholder-payout figures—ones that fail to take into account equity issuances—are now being offered as evidence of short-termism in Europe, including by an accounting firm hired to provide a report on short-termism to the European Commission ([Ernst & Young, 2020](#)). In this paper, we seek to provide EU policymakers and academics with a more accurate picture of capital flows and investment levels in EU public firms, focusing on the period 1992-2019 (the period examined by [Ernst & Young \(2020\)](#)) as well as on the last decade (2010-2019), during which shareholder activism and concerns about short-termism in the EU have become more widespread. Employing the analytical framework of [Fried and Wang \(2019\)](#), we find patterns that do not provide much basis for concern. Interestingly, they are more similar to US patterns than one might expect.

We find that during the period 1992-2019, listed EU firms distributed to shareholders more than €664 billion through stock buybacks and €2.6 trillion through dividends. These cash outflows, which totaled €3.2 trillion, represented 60% of these firms' net income during this period. But during this same period, listed EU firms absorbed, directly or indirectly, €2.5 trillion of equity capital from shareholders through share issuances, far exceeding repurchases. After taking into account equity issuances, we show that net shareholder payouts from listed EU firms during the years 1992-2019 were only about €757 billion, or 14% of these firms' net income over this period. This figure is exceedingly low because net shareholder payouts were negative and often highly negative during all but one year in the 1992-2002 period, as firms absorbed much more equity capital than they distributed, which is an obviously unsustainable investment equilibrium.

For the most recent decade (2010-2019), the figure was 38%, somewhat lower than the 50% figure for the US S&P 500 for the 2007-2016 period, but very similar to the 41% for all US public firms during that period ([Fried and Wang, 2019](#)). We also show that smaller EU public firms, like smaller US public firms ([Fried and Wang, 2019](#)), were net importers of equity capital during almost every year in our almost 30-year sample period: their equity issuances exceeded dividends plus repurchases.

We then examine net shareholder payouts as a percentage of R&D-adjusted net income. For the most recent decade (2010-2019), the figure was 29%, slightly lower than the 33% reported for all US public firms during 2007-2016 (Fried and Wang, 2019). We also show that during the 1992-2019 period EU public firms generated €6.1 trillion of investment-available income (the difference between R&D-adjusted net income and net shareholder payouts), €2.6 trillion of which was generated in the most recent decade.

To understand how this investment-available income was deployed, we consider the level and intensity of investment at EU public firms, as well as their cash levels. Using various measures of investment, we find that investment levels and overall investment intensity increased over the period, and have been relatively stable or increasing over the last 20 years (when data have been more reliable). Moreover, during 1992-2019, cash balances have jumped sevenfold from €133 billion to €960 billion (and grown by nearly 40% over the last decade from €703 billion to €960 billion), suggesting that the limiting factor on investment is a lack of opportunity, not a lack of cash.

Looking beyond the public-firm data, we offer two other observations about why shareholder payouts by public firms are unlikely to pose a problem for the EU economy. First, actual net shareholder payout data understates investment capacity because a public firm that needs more equity capital can simply issue more shares; there is no limit on additional equity issuances, as long as the firm secures any needed shareholder approval. Second, net shareholder payouts are not wasted from a societal investment or innovation perspective, as return-seeking investors recycle them into other firms. Just as smaller EU public firms are net capital absorbers, so are most EU private firms, and net shareholder payouts by large public firms can be used to supply both small public firms and private firms with needed funds.

While we cannot rule out the possibility that short-termist pressures are causing some EU public firms to distribute too much cash to shareholders (or are generating other costs unrelated to capital flows), our look at the data reveals that short-termism in the EU is unlikely to be evidenced by the level of dividends and share repurchases, which are not depriving firms of the capital needed to invest.

The remainder of this paper proceeds as follows. Section 2 focuses on shareholder payouts from EU public firms: dividends plus repurchases. Section 3 provides estimates of equity issuances and net shareholder payouts for EU public firms. It also shows that smaller EU public firms are net

importers of equity capital. Section 4 uses R&D-adjusted net income to explore the investment capacity of EU public firms. It then reports various measures of investment intensity and cash balances. Section 5 concludes.

2 Shareholder Payouts by EU Public Firms

We examine the amount of shareholder payouts—the sum of dividends and repurchases—by EU-headquartered firms during 1992-2019.

To compute shareholder payouts, we rely on data from the Compustat Global’s Daily Security file. Monthly dividends paid by a firm ($Dividends_t$) are estimated by multiplying gross dividends per share (Compustat field *DIV*) with shares outstanding (Compustat field *CSHOC*) and summing over the firm’s observations each year. This estimate includes both ordinary and special dividends. For repurchases, we follow [Boudoukh et al. \(2007\)](#), combining the total dollar amounts spent on stock repurchases and removing the effect of repurchases of preferred shares.⁴ To ensure the comparability of currency amounts, we use Compustat’s exchange rates file to express all relevant nominal amounts (e.g., share price, dividends, repurchases, market capitalization, and investment variables) in Euros. Finally, all our computations are performed on each firm’s “primary security” as identified by Compustat (e.g., excluding ADRs).

Our empirical analysis focuses on EU public firms (firms headquartered in a current EU member-state whose primary listing is on an exchange in the EU) for which we can obtain fundamentals and share price information over a given calendar year (i.e., 12 months of returns and an annual financial report) during the period 1992-2019. Thus, for any firm entering the public market (through an IPO) or exiting the public market (through a going-private transaction, bankruptcy, or other delisting), we exclude equity-capital flows in the calendar year of such entrance or exit event.⁵ Overall, our sample contains 67,745 firm-year observations covering 5,994 unique firms

⁴Total share repurchases can be captured in two fields as defined by Compustat Global: *prstk* (purchase of common shares) and *purtshr* (purchase of treasury shares). We sum values over these two fields then deduct the decrease in the redemption value of preferred shares (*pstkrv*) to arrive at an estimate of stock repurchases.

⁵As explained in [Fried and Wang \(2019\)](#), capital inflows from the IPO of a firm’s shares (and secondary offerings that same year) and firm-shareholder capital movement in the year a firm exits the market are often difficult to trace, and some shareholders of publicly-traded shares continue to own shares after exit (e.g., a controlling shareholder in a go-private transaction).

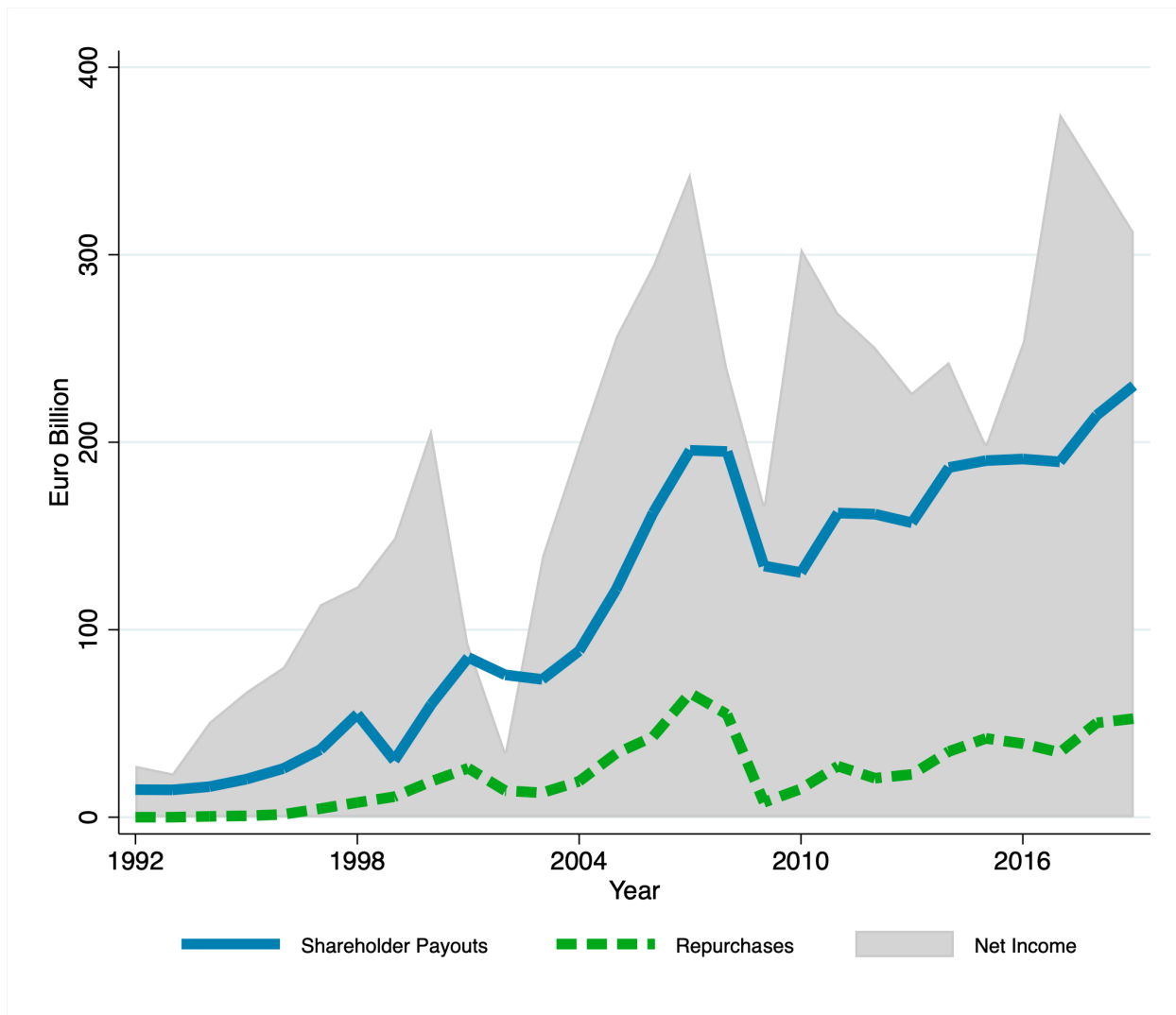


Figure 1: Shareholder Payouts by EU Public Firms (1992-2019). The solid line depicts the time series of total shareholder payouts (dividends + repurchases) among EU public firms. The dashed line and the gray background depict the time-series of aggregate repurchases and aggregate net income, respectively. Details of variable construction are presented in Table A1.

headquartered and traded in a country that is part of the EU as of 2020. We note that Compustat Global’s coverage is less comprehensive in the early 1990s, with 500-800 firms covered each year from 1992 to 1994. Since the late 1990s, coverage is more comprehensive, with 2,000-3,000 firms per year in our sample.

Figure 1 shows that during 1992-2019 EU public firms distributed €3.2 trillion back to shareholders: €664 billion through repurchases and €2.6 trillion through dividends. Similar to Sakinc (2017) and Ernst & Young (2020), we find that shareholder payouts have increased significantly

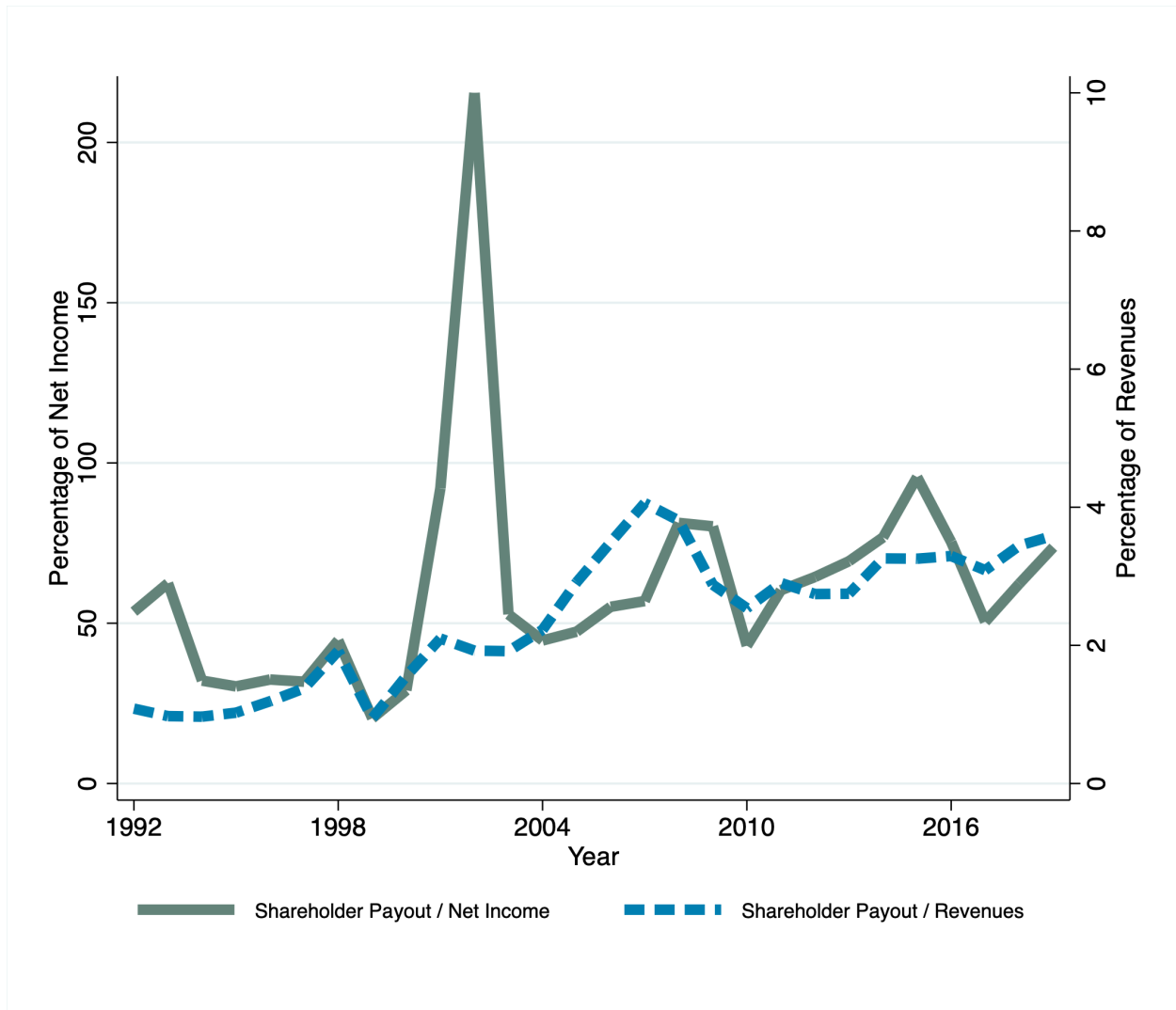


Figure 2: Shareholder Payouts by EU Public Firms as a Percentage of Net Income or Revenues (1992-2019). The solid line depicts the time series of total shareholder payouts (dividends + repurchases) among EU-headquartered firms divided by net income among the same firms. The dashed line depicts total shareholder payout among EU-headquartered firms divided by total revenues among the same firms. Details of variable construction are presented in Table A1.

over the last three decades.⁶ But this increase is in large part due to the increasing number of firms covered by Compustat Global (e.g., data for 1992, 1993, and 1994 reflect only 584, 725, and 798 firms, respectively, while data in the 2000s typically reflect 2,500-3,000 firms each year).

To mitigate potential problems from inconsistent coverage, Figure 2 displays the time-series trend of aggregate shareholder payouts as a percentage of aggregate net income and aggregate

⁶Like Sakinc (2017) and Ernst & Young (2020), our data are sourced from the S&P. Our data are from S&P's Compustat Global database whereas the main data of Sakinc (2017) and Ernst & Young (2020) are obtained from S&P's Capital IQ.

revenues. Overall, we see an upward trend, consistent with [Sakinc \(2017\)](#) and [Ernst & Young \(2020\)](#). Over the 1992-2019 period, 60% of the €5.4 trillion in cumulative net income generated by EU firms was distributed to shareholders through dividends and repurchases. Over the most recent decade (2010-2019), this figure was 65%, much less than the 96% reported for US S&P firms during the period 2007-2016 ([Fried and Wang, 2019](#)).

3 Total Equity Issuances and Net Shareholder Payouts by EU Public Firms

We estimate total equity issuances and net shareholder payouts by EU public firms during 1992-2019 using the sample described in Section 2.

3.1 The Need to Properly Account for Equity Issuances

As explained in [Fried and Wang \(2019\)](#), the problem with using only share repurchases and dividends to capture capital flows between firms and shareholders is that it is based on a flawed assumption: that capital moves only from firms to shareholders. In fact, firms that have conducted an initial public offering (IPO) subsequently issue common shares to investors through both direct (cash-raising) equity issuances (e.g., at-the-market or seasoned equity offerings) and indirect equity issuances (e.g., grants of stock to employees, who later sell the stock to investors), which despite differences in form have economically identical effects on firms and their shareholders.

To include the effect of equity issuances, we should measure *net* shareholder payouts: dividends plus repurchases minus equity issuances or, equivalently, dividends minus net equity issuances (issuances minus repurchases). The finance literature offers three approaches to estimating net equity issuances. The first is to measure the difference between cash inflows from equity issuances and cash outflows from repurchases, using cash-flow statement data from Compustat (e.g., [Frank and Goyal, 2003](#); [Lemmon and Zender, 2003](#); [Lee et al., 2016](#)). The cash-flow approach excludes all indirect equity issuances. The second approach to measuring net equity issuances uses changes in treasury stock, based on balance-sheet data from Compustat (e.g., [Fama and French, 2001](#); [Skinner, 2008](#); [Floyd et al., 2015](#)). The treasury-stock approach includes certain indirect equity issuances, but not all. In particular, it captures only the indirect issuances of shares that had previously been

repurchased, thereby excluding indirect issuances of newly issued shares. The third approach is to measure changes in share count and multiply those changes by the stock price (e.g., [Fama and French, 2005](#); [Welch and Goyal, 2008](#); [Boudoukh et al., 2007](#)). As noted in [Fama and French \(2005\)](#), the share-count method provides the most accurate measure of net equity issuances because it is the only method that accounts for all *indirect* equity issuances. Moreover, [Fried and Wang \(2019\)](#) shows, using US data, that indirect issuances account for an economically significant percentage of total equity issuances.

3.2 Methodology

Following [Fried and Wang \(2019\)](#), we estimate *net* shareholder payouts for EU public firms by computing for each firm dividends paid and net equity issuances:

$$\text{Net Shareholder Payouts} = \text{Dividends} - \text{Net Equity Issuances} \quad (1)$$

where net equity issuances is defined as the amount of direct and indirect share issuances minus the amount of share repurchases. We estimate both dividends and net equity issuances on a monthly basis using the Compustat Global Daily Security file.

As in the prior analysis, monthly dividends paid by a firm (Dividends_t) is estimated by multiplying gross dividends per share (Compustat field *DIV*) with shares outstanding (Compustat field *CSHOC*) and summing over the firm’s observations each month. Monthly net equity issued by a firm ($\text{Net Equity Issuances}_t$) is estimated using the “share count” method following [Fried and Wang \(2019\)](#):

$$\text{Net Equity Issuances}_t = \Delta\text{Shares}_t \times \text{Average Stock Price}_t, \quad (2)$$

where ΔShares_t is the change in shares outstanding from the end of the prior month to the current month, and $\text{Average Stock Price}_t$ is the average daily stock price over the current month. To make prices and shares outstanding comparable over the month, we follow the standard practice of adjusting them using Compustat’s cumulative adjustment factors.⁷ As before, to ensure the comparability of currency amounts, we use Compustat’s daily exchange rates file to express all relevant nominal amounts—share price, dividends, and market capitalization—in Euros.

⁷Shares outstanding is computed as $\text{cshoc}_t \times \text{ajexdi}_t$, and stock price is given by $\frac{\text{prccd}_t}{\text{ajexdi}_t}$.

The main difference between the [Fried and Wang \(2019\)](#) implementation of the share-count methodology and others' is the assumed price at which the net equity issuance occurs. Whereas [Fama and French \(2005\)](#) uses the average of beginning and end-of-month prices and [Welch and Goyal \(2008\)](#) uses end-of-month prices, our approach uses the average of daily closing prices over the calendar month. Because repurchases and equity issuances take place throughout the entire month, the average daily price is likely to better reflect the price at which these transactions take place than a measure using price information from only one or two days during the month.

Nevertheless, this share-count method can still be expected to *over*-estimate net shareholder payouts. Because the share-count approach assumes that equity issuances and repurchases that take place within the same calendar month occur at the same prices (i.e., the average closing daily stock price), the fact that repurchases generally take place at below-average prices (e.g., [Simkovic, 2009](#)) and equity issuances generally place at above-average prices (e.g., [Baker and Wurgler, 2002](#)) will result in an upward bias in net shareholder payouts. Accordingly, actual net shareholder payouts are likely to be even lower than the ones we report; our estimates below are therefore conservative.⁸

3.3 Total Equity Issuances and Net Shareholder Payouts by EU Public Firms

We first report the annual Euro volume of equity issuances by EU public firms during 1992-2019. We obtain the yearly volume of gross equity issuance by adding repurchases (from the Compustat Global Fundamentals Annual file) to net equity issuances (Eq. 2). Figure 3 shows issuance volumes for each year during 1992-2019, alongside repurchases and dividends. The volume of equity issuances was higher than the volume of share buybacks in each year. Over the entire period, the total volume of equity issuances totaled about €2.5 trillion, 270% more than total repurchases and 24% less than the €3.2 trillion in shareholder payouts during the same period.⁹

Because the volume of equity issuances is so large, *net* shareholder payouts (€757 billion) are

⁸As noted in [Fried and Wang \(2019\)](#), this share-count approach treats all issuances identically: an acquisition-paying issuance by one public firm to buy the assets of another is identical to any other kind of indirect (or direct) equity issuance. Such a “public-public” acquisition-paying issuance moves capital from public investors to the acquiring firm, like any other issuance by that firm. But it does not move capital from public investors *in the aggregate* to public firms. Rather, it just changes the type of “tickets” public investors (in the aggregate) hold; instead of holding shares in two public companies, they now hold shares in (a larger) one. However, [Fried and Wang \(2019\)](#) suggests that these types of transactions are unlikely to influence the net shareholder payout estimates, as only a small percentage of public firms (in the US) acquire other public firms by issuing shares.

⁹Over the most recent decade (2010-2019), equity issuances totaled €746 billion, more than twice the €340 billion of share repurchases over the same period.

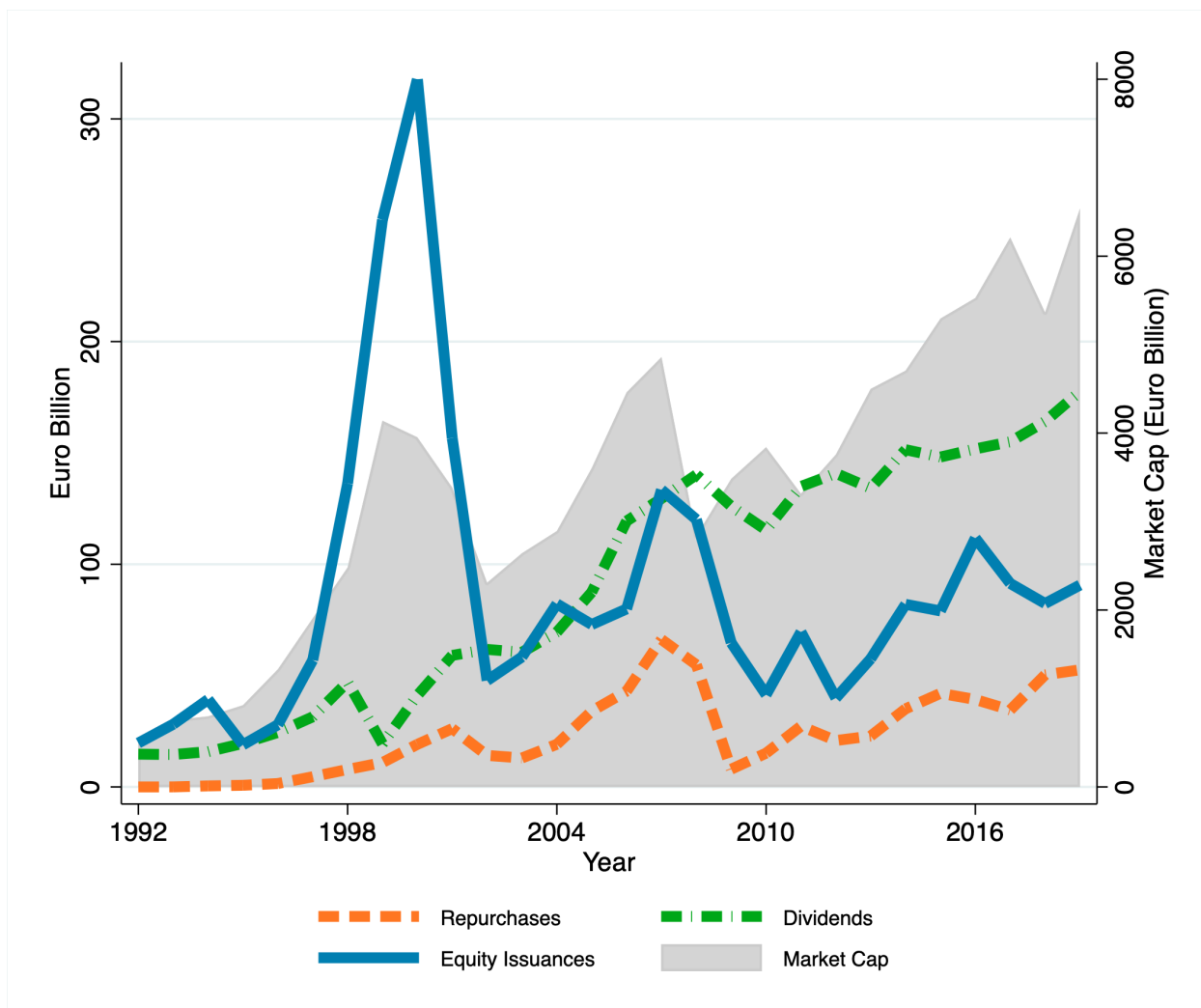


Figure 3: Repurchases, Dividends, and Equity Issuances by EU Public Firms (1992-2019) The solid line depicts the time series of repurchases among EU public firms, computed from Compustat as the purchase of common and preferred shares plus the purchase of treasury shares less any decrease in the value of preferred stock. Equity issuances are computed as the sum of net equity issuances and repurchases. Market capitalization, the gray background, is computed using calendar-year-end share and price data. Details of variable construction are presented in Table A1.

much lower than (only about 25% of) shareholder payouts (€3.2 trillion). Figure 4 shows annual shareholder payouts and net shareholder payouts in EU public firms during 1992-2019, against a backdrop of net income. Across all years, the median net shareholder payout (as a percentage of shareholder payout) was 23%. In nine years (1992-1994, 1996-2001) net shareholder payouts were negative: public equity investors provided EU firms with more capital than they took out. During 1992-2019, cumulative net shareholder payouts for EU firms were only 14% of cumulative net income, a significant drop compared to the ratio of cumulative shareholder payouts to cumulative

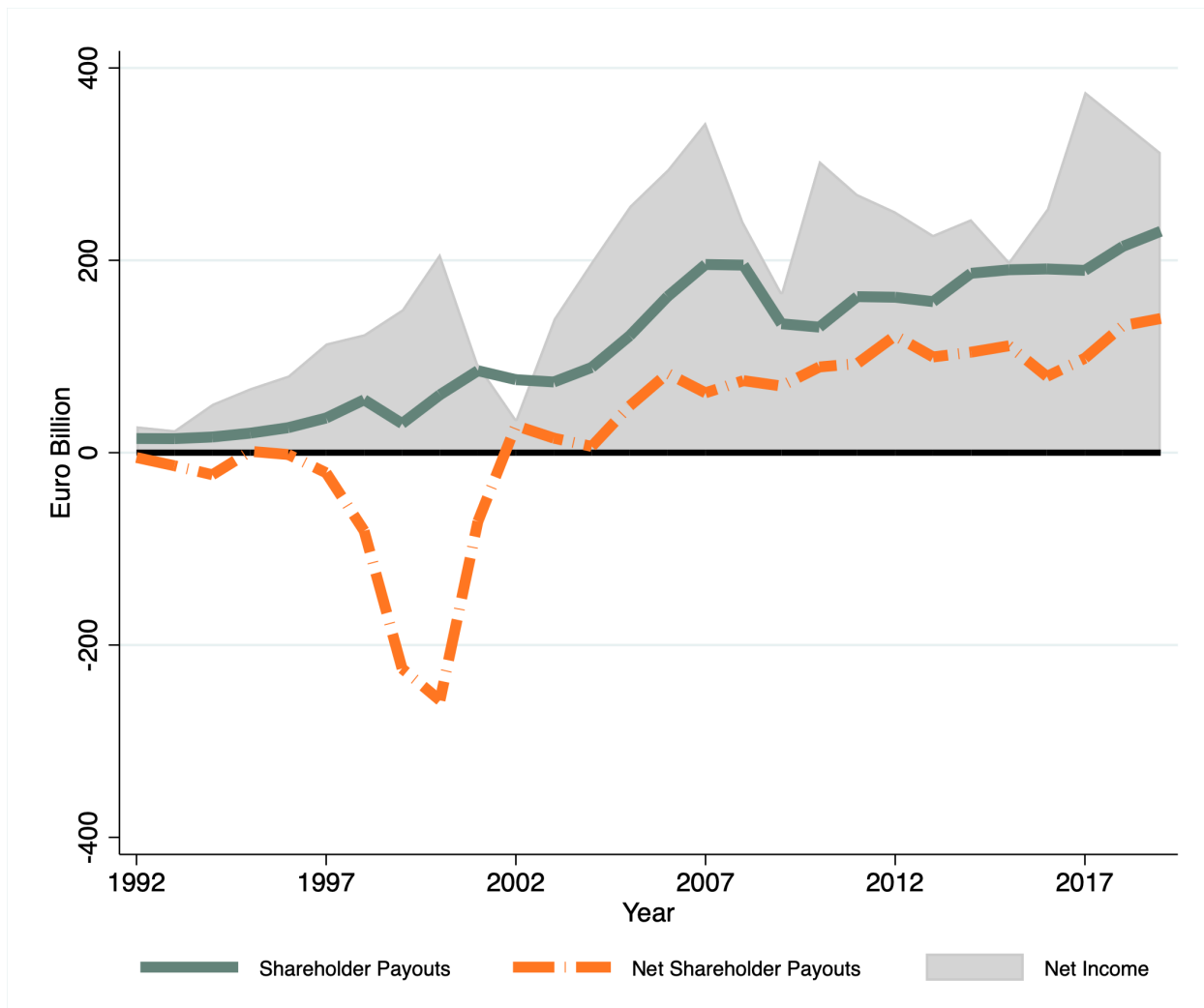


Figure 4: EU Public Firm Shareholder Payouts and Net Shareholder Payouts (1992-2019) The solid line depicts the time series of annual shareholder payouts among EU public firms, computed from Compustat as the sum of dividends and repurchases. The dashed line depicts the time series of annual net shareholder payouts, computed as the sum of dividends and repurchases minus issuances, following Eq. (1) and (2). Aggregate annual net income is depicted in the gray background. Details of variable construction are presented in Table A1.

net income (60%). This figure is exceedingly low because it includes almost an entire decade of negative net shareholder payouts. Obviously, this is an unsustainable investment equilibrium; investors would not buy shares unless they expected firms to distribute cash down the road.

It is thus not surprising that net shareholder payouts eventually turned positive. Over the most recent decade, the ratio of cumulative net shareholder payouts to cumulative net income was 38%, significantly lower than the ratio of cumulative shareholder payouts to cumulative net income (65%), and about the same as the 41% reported for all US public firms for 2007-2016 (Fried and

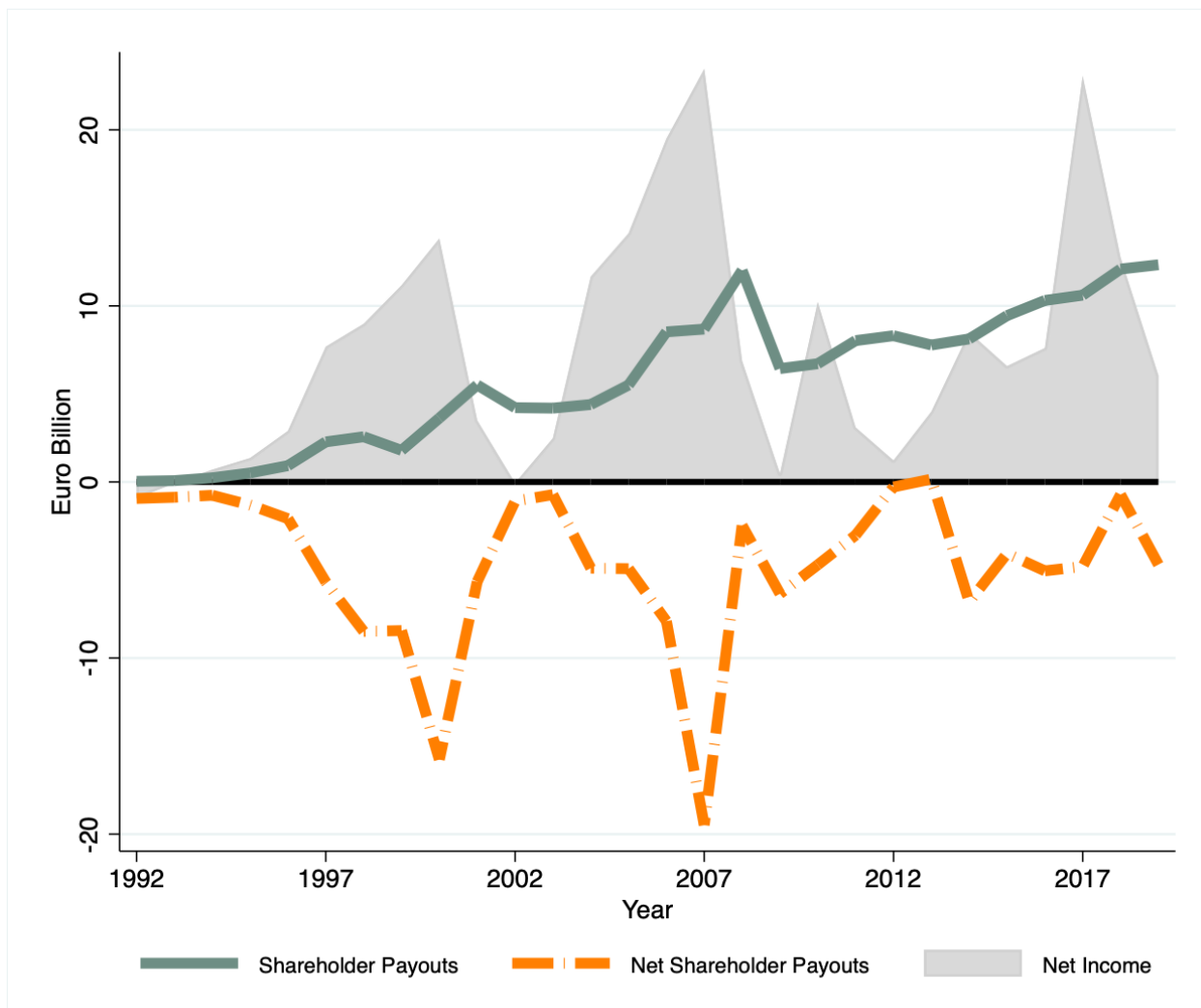


Figure 5: Shareholder Payouts and Net Shareholder Payouts by Smaller EU Public Firms (1992-2019) The solid line depicts the time series of annual shareholder payouts among smaller firms (i.e., firms whose market capitalizations are not in the top 500 in a year), computed as the sum of dividends and repurchases. The dashed line depicts the time series of annual net shareholder payouts, computed as the sum of dividends and repurchases minus issuances, following Eq. (1) and (2). Aggregate annual net income is depicted in the gray background. Details of variable construction are presented in Table A1.

Wang, 2019).

3.4 Smaller Firms

Our analysis above illustrates a main problem with using shareholder payouts (dividends and repurchases) as evidence of short-termism in the public markets: it ignores offsetting equity issuances, both direct and indirect. We next examine the extent to which the patterns in shareholder payouts

are pervasive across EU public firms.

We examine the differences between the largest 500 firms (by market capitalization) each year and all other firms. These 500 firms, which represent between 16% to 25% of our sample in each year since 2000, are likely to be the most established and least in need of excess cash flow. Consistent with this assumption, we find that positive net shareholder payouts are due entirely to these largest firms. In particular, we find that smaller EU public firms (see Figure 5)—those outside of the top 500 in terms of market capitalization in a given year—are net importers of capital in nearly every year of these three decades, absorbing a substantial portion (about 11%) of the net shareholder payouts by the largest 500 firms.

4 Net Shareholder Payouts and Investment Capacity

Having described net shareholder payouts by EU public firms, we proceed to analyze whether net shareholder payouts at these levels were likely to drain public firms of the capital necessary for investment and innovation. The answer is no.

Following [Fried and Wang \(2019\)](#), we examine the ratio of net shareholder payouts to a measure of investment-available income, which is even lower than the ratio of net shareholder payouts to net income. We then examine evidence on EU public firms' investment levels and investment intensity, and show that there is no evidence of a reduction in either during 1992-2019. Moreover, R&D intensity has been increasing steadily since the mid-1990s and is at record highs by 2019. At the same time, cash reserves grew substantially, leaving plenty of dry powder available for additional investment deemed warranted. Together, this evidence is inconsistent with EU firms being drained of capital needed for investment. Rather, they are consistent with public firms having more equity capital than they need for the investment opportunities available.¹⁰

4.1 R&D-Adjusted Net Income

Not only are shareholder payouts an incorrect measure of shareholder-firm capital flows, as we argued above, but net income is a poor measure of income available for investment: it assumes that the expenses deducted to arrive at net income are entirely unrelated to future-oriented investment.

¹⁰To fully trace the sources and uses of capital flows in public firms, one would need to track not only shareholder-firm capital flows but also creditor-firm capital flows ([Fried and Wang, 2019](#)).

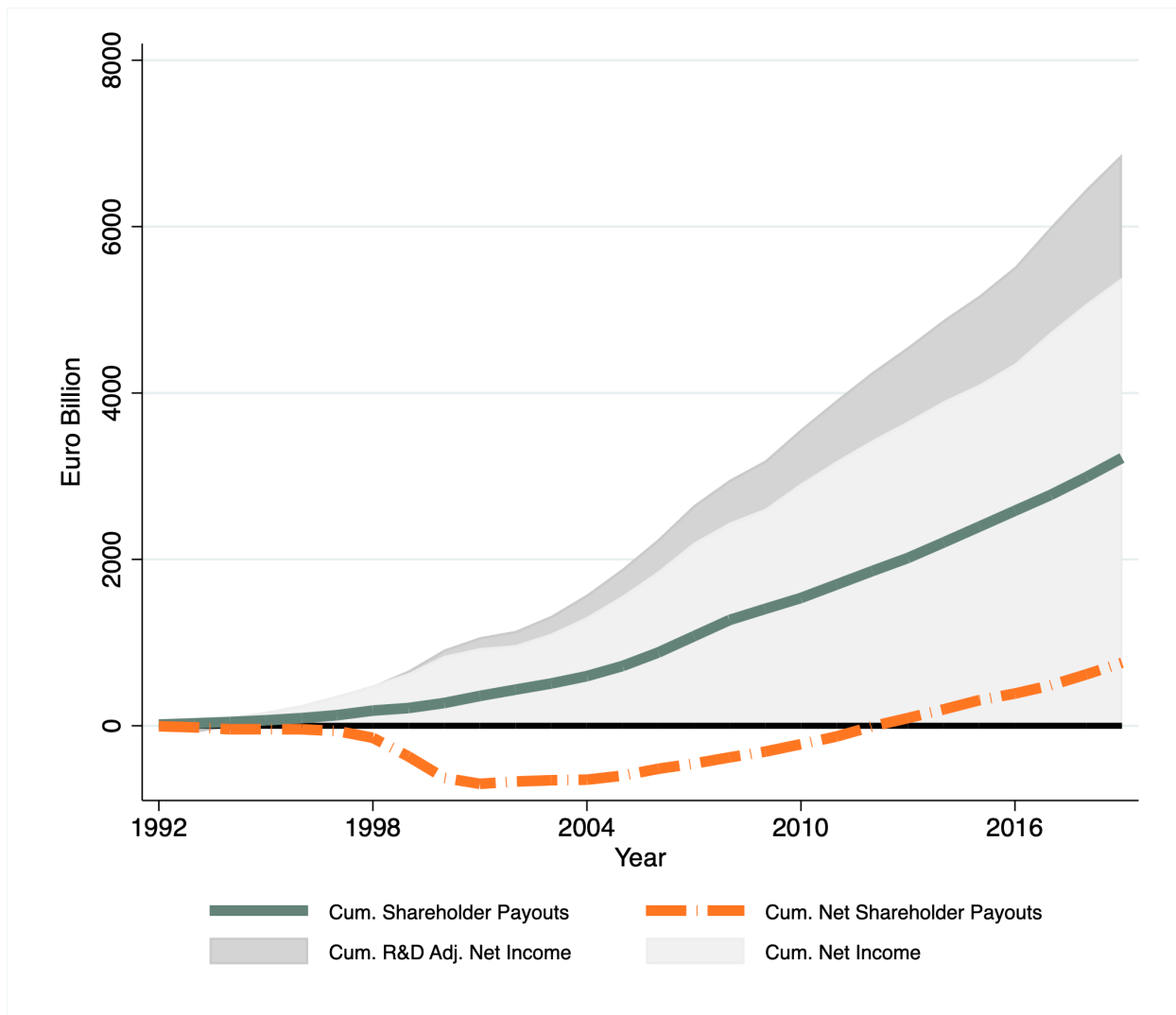


Figure 6: Cumulative Excess Income Available for Investment by EU Public Firms (1992-2019) The short-dash line depicts the time series of the difference between EU public-firm cumulative net income and cumulative shareholder payouts. The long-dash line depicts the difference between EU public-firm cumulative net income and cumulative *net* shareholder payouts. Finally, the solid line depicts the time-series of EU public-firm cumulative R&D-adjusted net income and cumulative *net* shareholder payouts, where R&D-adjusted net income is net income plus R&D expense (net of effective tax rate). Details of variable construction are presented in Table A1.

In fact, net income is computed after deducting the substantial expenses associated with R&D, which is by definition future-oriented. During 1992-2019, for example, total R&D expenditures for EU public firms totalled about 42% of total net income. Therefore, net income at best measures the amount available for CAPEX and *additional* R&D.

Following [Fried and Wang \(2019\)](#), we compute a measure of income available for investment, “R&D-adjusted net income,” which adds a firm’s R&D expenses (net of its effective tax rate) back

to its net income.¹¹ Net shareholder payouts as a percentage of R&D-adjusted net income appear quite low.

Figure 6 shows the cumulative payouts and cumulative net payouts against the background of cumulative net income and cumulative R&D-adjusted net income. During 1992-2019, net shareholder payouts by EU public firms amounted to only 11% of R&D-adjusted net income. After net shareholder payouts, these firms would have had €6.1 trillion available for CAPEX, R&D, and other investment by the end of 2019, even had they started the period with cash balances of zero.¹² In the most recent decade, net shareholder payouts by EU public firms were 29% of R&D-adjusted net income, close to the 33% reported for US public firms during 2007-2016 (Fried and Wang, 2019). After net shareholder payouts during 2010-2019, EU public firms would have had €2.6 trillion available for CAPEX, R&D, and other investment.

As a robustness check, we also performed the analysis using a sample of firms headquartered in the top-four EU economies: Germany, France, Italy, and Spain. We find that during 1992-2019, shareholder payouts amounted to €2.1 trillion, accounting for the majority of the EU shareholder payouts and about 57% of these firms' cumulative net income. However, net shareholder payouts by firms from the top-four EU economies amounted to only 11% of their cumulative net income and 9% of their cumulative R&D-adjusted net income. In the most recent decade, shareholder payouts amounted to 62% of net income, but net shareholder payouts amounted to 37% of net income and 27% of R&D-adjusted net income. At these levels, EU firms, altogether or just those from the largest economies, do not appear to be deprived of capital for investment and innovation.

4.2 Investment Levels, Investment Intensity, and Cash Balances

We now consider what EU public firms did during 1992-2019 with the considerable investment capacity they generated. During this period, overall investment appeared to have climbed significantly, both in absolute terms and as a percentage of revenues. We examine two measures of

¹¹We compute for each firm in each year an effective tax rate as the ratio of tax expense (Compustat Global field *txt*) to pretax income (Compustat field *pi*). To mitigate the influence of outliers, we censor the effective tax rates at 0 and 1.

¹²If investment-available income is measured as the difference between net income and shareholder payouts, public firms only accumulated €2.2 trillion in the 1992-2019 period. Taking into account equity issuances dramatically changes the picture: the cumulative difference between net income and net shareholder payouts during 1992-2019 is €4.6 trillion. Finally, taking into account R&D expenses shows that investment-available income, or the difference between R&D-adjusted net income and net shareholder payouts, totaled €6.1 trillion during 1992-2019 period.

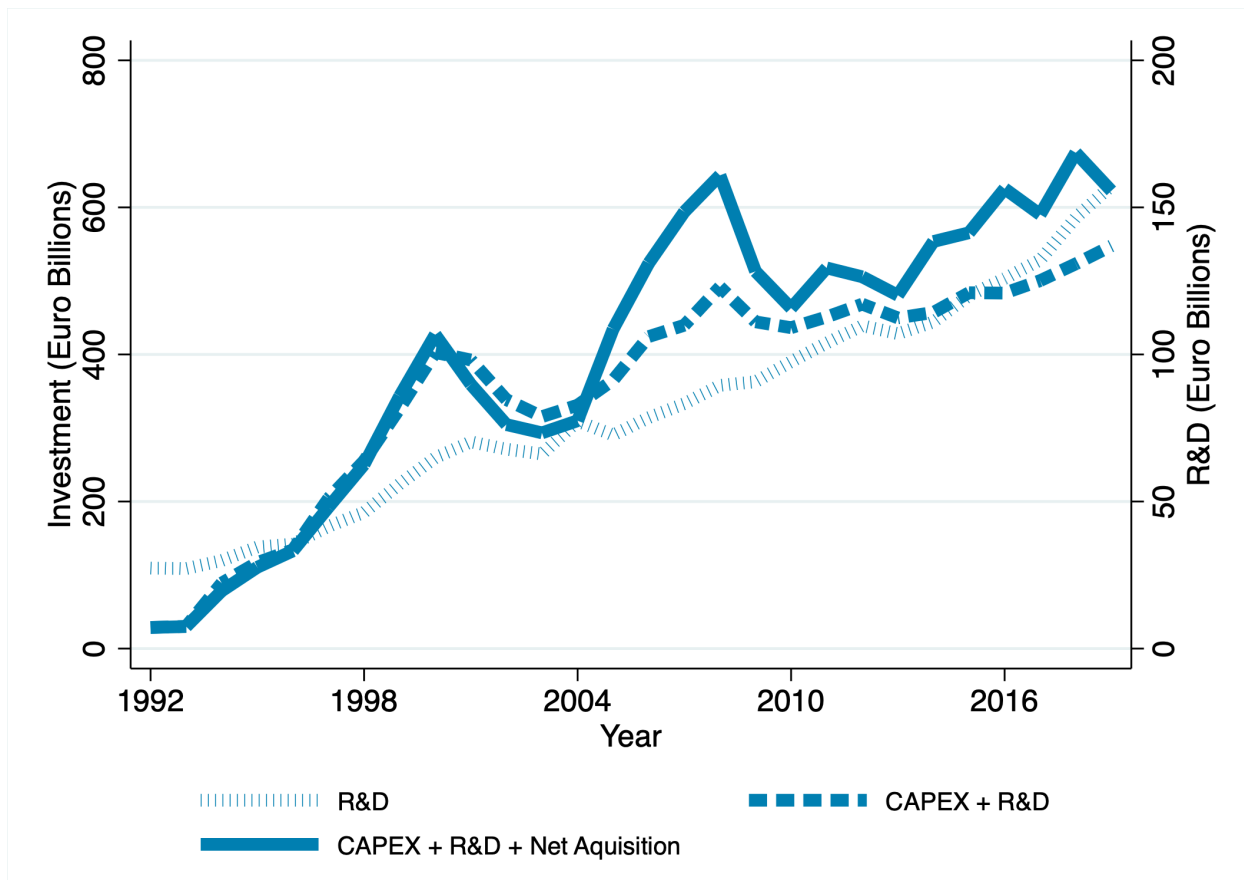


Figure 7: EU Public Firm Investment Levels (1992-2019) The solid line depicts the time series of annual total public-firm investments, sum of capital expenditures (CAPEX), research and development expenses (R&D), and net acquisitions (acquisitions minus sales of fixed assets). The bold-dash line depicts the time series of EU public-firm annual total sum of CAPEX and R&D expenses. The thin-dash line depicts the time series of EU public-firm annual total sum of R&D expenses.

total investment: CAPEX plus R&D (Fried and Wang, 2019) and a broader measure that adds to CAPEX and R&D net acquisitions, or acquisitions (Compustat field *aqc*) minus sale of fixed assets (Compustat field *psfix*) (Richardson, 2006). We examine a broader measure of investment because a firm can invest in its future growth not only by creating additional productive capacities internally (e.g., through CAPEX or R&D), but also by acquiring the productive capacities generated by other firms. We also examine R&D separately because it is closely associated with investment in innovation and also a discretionary, bottom-line-affecting expense that managers are most likely to cut in the face of short-term earnings pressures (Graham et al., 2005).

Figure 7 shows that overall investment levels have increased over the last three decades, regardless of how they are measured. Although there has been variation in these levels corresponding

to the business cycle, there has been a steady trend upwards over time. We note that very few firms disclosed positive CAPEX in the early part of the sample. For example, more than 90% of the firms in 1992-1994 did not report a positive value for CAPEX. The data provider verified that the data reflect what is reported in the financials. Thus, one possibility is that firms' disclosures were evolving over time. From 1997, however, the percentage of firms disclosing positive CAPEX sharply increases: with at least 70% of the firms reporting positive CAPEX. Assuming that the investment disclosures from 1997 onward are most reliable, the observation that investment levels are increasing over time remains unchanged.

Notably, in the most recent decade, when shareholder activism in the EU was on the rise, investment levels increased steadily and reached record highs. EU public firms' investments in CAPEX, R&D, and net acquisitions increased from €463 billion in 2010 to €622 billion in 2019 (a 34% increase), one of the highest levels on record. The 2018 levels totaled €673 billion, the highest on record. We observe similar time-series patterns in EU firms' investments in CAPEX and R&D, which grew 23% from 2010 (€444 billion) to 2019 (€548 billion). Most interestingly, R&D expenditures spiked dramatically during 2010-2019, increasing by nearly 75% from €91 billion to €157 billion.¹³ In each of the last ten years, total R&D expenditures increased and reached a historic high. Given managers' preferences for cutting expenses like R&D in the face of earnings pressures (Graham et al., 2005), these findings are inconsistent with EU corporate managers succumbing to short-termism. Not only have investment levels not collapsed, they have steadily increased and reached record highs in recent years.

It is possible that the rising levels of investments could simply result from inflation or the growing size of businesses. Thus we also examine the evolution of investment intensity, as measured by total investment divided by total revenues (following Fried and Wang, 2019). Figure 8 plots the three investment intensity time series in the 1992-2019 period using the three measures of investment

¹³Our figures on R&D here and below are based only on the expensed portion of companies' R&D expenditure (what Compustat Global's *XRD* field captures). These figures ignore the portion of each period's R&D investments that is capitalized, which is allowed under IFRS for certain development costs. However, our supplemental analyses suggest that including the capitalized portion of companies' R&D expenditures does not yield material differences in our analyses and inferences. In particular, we supplement our Compustat Global sample with data from Worldscope, which collects information about net capitalized development costs (*ITEM2504*) and amortization of capitalized R&D (*ITEM1153*). We then define an alternative measure that better reflects the total investment in R&D in a given year: R&D expense plus amortization of capitalized R&D plus increase in net capitalized development costs. We obtain nearly identical trends and levels in our three investment measures when they are defined using the alternative R&D investment measure. Similarly, our analyses and inferences about investment intensity are nearly identical using the alternative measure of R&D investment.

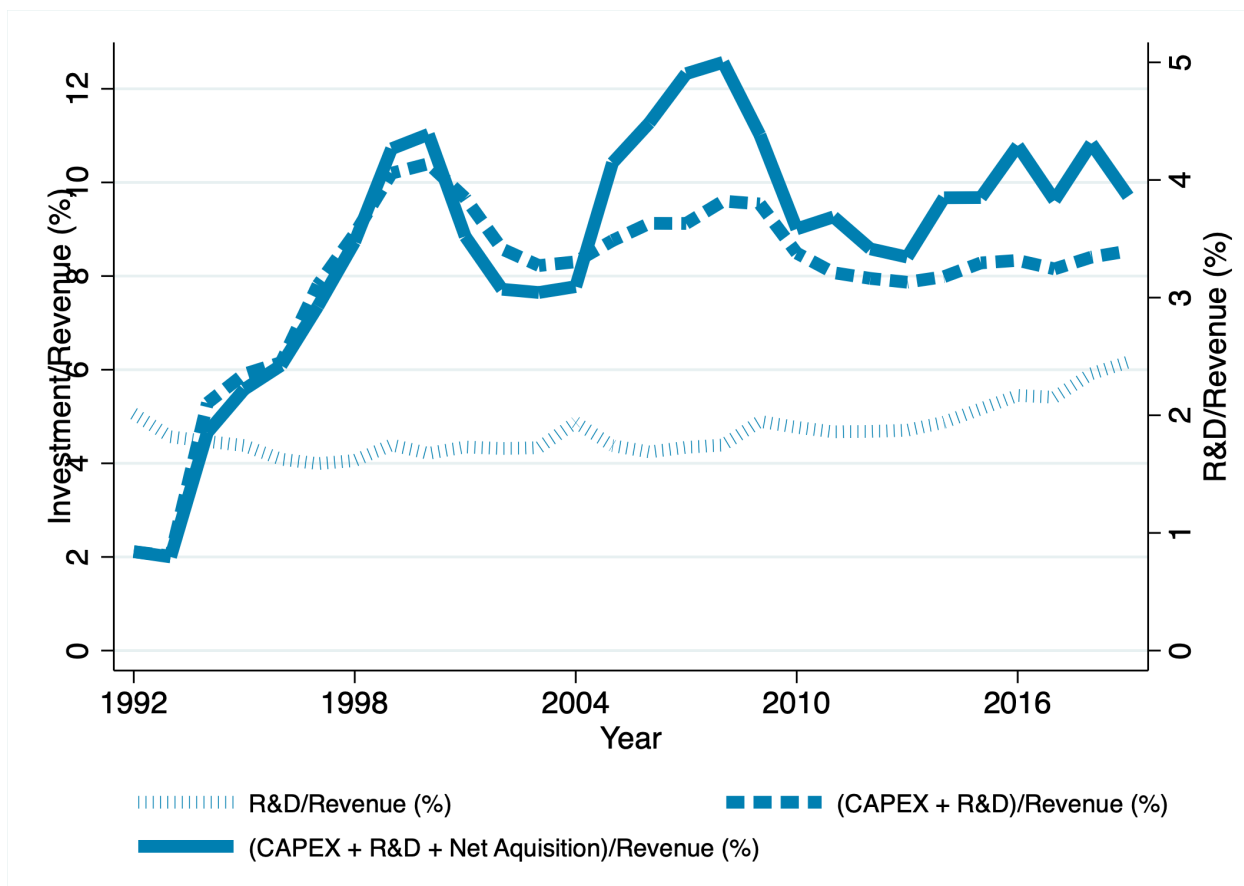


Figure 8: Investment Intensity at EU Public Firms (1992-2019) The solid line depicts the time series of annual total public-firm investments—the sum of capital expenditures (CAPEX), research and development expenses (R&D), and net acquisitions (acquisitions minus sales of fixed assets)—divided by annual total EU public-firm revenues. The bold-dash line depicts the time series of EU public-firm annual total sum of CAPEX and R&D expenses divided by annual total EU public-firm revenues. The thin-dash line depicts the time series of EU public-firm annual total R&D expenses divided by annual total EU public-firm revenues.

from Figure 7.

We again find a general and significant upward trend from the early 1990s to 2019. As mentioned above, one concern is the data quality in the early 1990s. If we use 1997 as a starting point, our inference of an increasing trend in investment intensity is unchanged.¹⁴ Of course, one could

¹⁴The investment intensity patterns we show are inconsistent with the findings of [Ernst & Young \(2020\)](#), which claims that the ratio of EU public-firm CAPEX to EU public-firm total revenues declines from 1992 to 2018, from about 8% to 6%. However, the report’s analysis is based on a subsample of EU firms that disclose positive CAPEX, apparently from Compustat Global, which introduces two problematic biases. First, excluding firms without positive CAPEX obviously biases upward reported investment intensity in periods (such as the 1990s) where there are more such firms. Second, Computstat Global reports more such zero-CAPEX firms than other databases, and if one uses the zero-CAPEX selection criteria on a broader sample of firms, the reported results are reversed. For example, by supplementing Compustat’s CAPEX field using Worldscope (i.e., replacing Compustat CAPEX values with Worldscope whenever Worldscope reports non-missing values but Compustat reports zero or missing values), and following the same sample selection criterion as [Ernst & Young \(2020\)](#), we again find that investment intensity is increasing

cherry-pick a different starting point (say, 2001 or 2008) and show that investment capacity has declined relative to the starting point. However, the evidence of Figure 8 does not show a decline in investment intensity, as one would expect if firms lacked adequate capital.

In the most recent decade, when both shareholder activism and warnings of short-termism have been more common, we find that overall investment intensity has remained stable (moving from 8.49% in 2010 to 8.53% in 2019, calculated using the sum of CAPEX and R&D to capture investment) or increased (from 9.01% in 2010 to 9.70% in 2019, calculated using the broader measure of investment that includes net acquisitions). We highlight that in the most recent decade R&D intensity has increased significantly: from 1.90% in 2010 to 2.45% in 2019 (about a 30% increase). In the last five years of our sample (2015-2019), R&D intensity reached the highest levels observed over the entire sample.¹⁵ Moreover, the significant increase in R&D intensity offsets a decline in CAPEX intensity over the same period (about a 8% decline from 6.59% to 6.08%) so that the intensity of CAPEX and R&D investments combined was increasing during 2010-2019 (from 8.49% to 8.54%). We would not expect these patterns if EU managers succumbed to short-termist pressures; because the value of R&D expenditures is relatively uncertain (compared to, for example, CAPEX), and R&D expenditures reduce the bottom line in the short run, cutting discretionary expenses such as R&D is a common response of managers trying to meet short-term earnings targets (Graham et al., 2005).

One might argue that investment intensity would have been even higher had firms not distributed so much capital to shareholders. Although the counterfactual is not observable, we note that EU public firms' aggregate cash stockpiles were significant and growing over the last three decades. Figure 9 reports aggregate cash (and cash-equivalent short-term investments) on EU public firms' balance sheets during 1992-2019. In 1992, public firms held €133 billion in cash. By 2019, this cash pile had grown sevenfold to €959 billion. Over the last decade, cash levels have grown nearly 40% from €703 billion to €960 billion. As a percentage of total assets, cash on EU public

significantly over the 1992-2019 period.

¹⁵Ernst & Young (2020) shows evidence of a declining trend using a small sample of 475 firms that report positive net income and engage in R&D. We can replicate similar findings using the same sample selection criteria, but once again question the sample selection choices (which drops 63% of the unique firms and 80% of the observations from our sample). For example, focusing only on positive net income firms is likely to bias the sample towards more mature firms. Moreover, more than 30% of our sample of firms that report non-missing R&D report *negative* net income. In our view, the presence of R&D firms with negative earnings is a sign of a well-functioning market, and thus should not be excluded from analysis. A more sensible starting point for analyzing the investment behavior of EU public firms is the full sample of EU public firms.

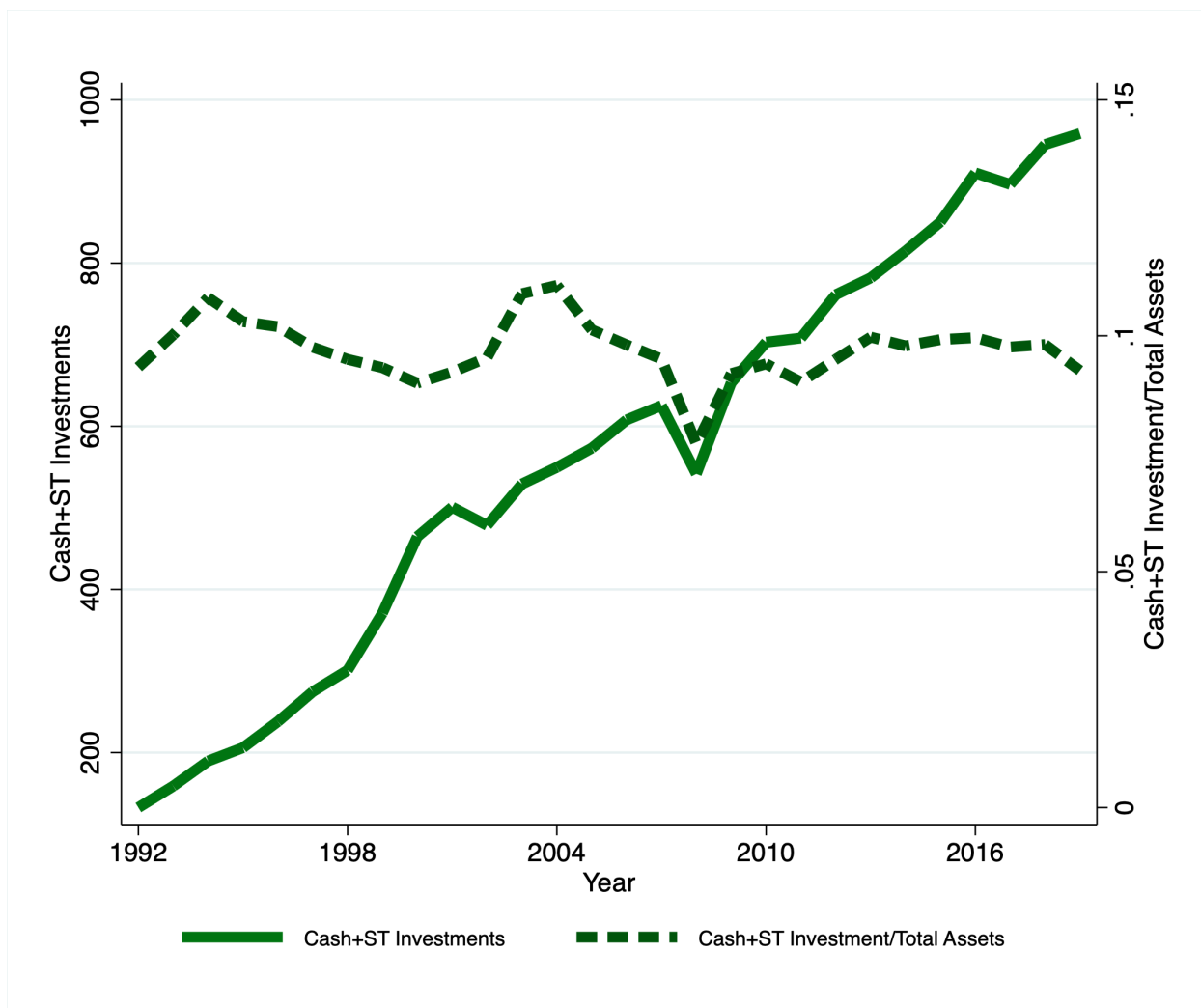


Figure 9: Cash Balances at EU Public Firms (1992-2019) The solid time series reports the Eurodollar level of EU public firms’ aggregate cash and short-term investments (Compustat Global field *che*). The dashed time series reports the ratio of the EU public-firm aggregate annual cash and short-term investment to aggregate annual total assets (Compustat field *at*).

firms’ balance sheets has remained stable, between 9 to 10%. In the most recent decade, in particular, cash was 9.4% of total assets in 2010 and 9.3% of total assets in 2019. There is no evidence that EU public firms have been depleting their cash reserves, either in absolute magnitudes or as a percentage of total assets.

These data indicate that public firms in aggregate had considerable cash reserves during 1992-2019; these reserves did not dry up as a result of shareholder payouts but rather increased despite them. Thus, it seems unlikely that investment intensity in public firms was restrained because firms lacked cash. A more likely explanation is that there were not enough investment opportunities to

absorb all of the cash left after firms engaged in share repurchases and dividends.

5 Conclusion

In the EU, rising levels of shareholder payouts are cited as evidence of “short-termism” and “quarterly capitalism” and as an impediment to long-term investment and innovation. We show that after taking into account large equity issuances by EU public firms, net shareholder payouts by public firms have been relatively modest, leaving firms ample resources for investment. Over the last three decades, investment levels and investment intensity have increased, and R&D levels and intensity are now at record highs. Meanwhile cash balances have increased, providing ample dry powder for any additional investment that is warranted.

We also noted that any given EU public firm that needs cash for new investment can always issue even more equity to public investors. And just as we showed that smaller EU public firms are net importers of equity capital, so are young private firms. Thus, net shareholder payouts by larger EU public companies are not “wasted” from an economic perspective: investors receiving these payouts can be expected to seek higher returns by re-investing the cash in faster-growing smaller firms, enabling these firms to invest and hire workers. In short, there is no evidence that the volume of share repurchases and dividends by EU public firms is sending a distress signal about EU corporate governance.

Table A1: Description of Variables

Variable	Description
Repurchases	Similar to Boudoukh et al. (2007) , we define repurchases as the purchase of common and preferred shares (Compustat item <i>prstk</i>) plus purchase of treasury shares (Compustat item <i>purts</i>) less any decrease in the value of preferred stock (Compustat item <i>pstkrv</i>).
Dividends	We compute total dividends for firm <i>i</i> in month <i>t</i> from the Compustat Global Security Daily file by multiplying gross dividends per share (Compustat field <i>div</i>) with shares outstanding (Compustat field <i>cshoc</i>) and summing over the firm's observations each month.
Net Equity Issuances	We estimate net equity issuances as the change in shares between two months multiplied by the average price of the current month: $[(cshoc_t \times ajexdi_t) - (cshoc_{t-1} \times ajexdi_{t-1})] \times [mean(prccd_t / ajexdi_t)]$
Equity Issuances	We estimate total equity issuances by summing net equity issuances and repurchases.
Net Income	Fiscal year-end net income (Compustat item <i>ni</i>).
Shareholder Payouts	Shareholder payouts are the sum of repurchases and dividends.
Net Shareholder Payouts	Net shareholder payouts are estimated by the sum of dividends less net equity issuances.

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