

Explaining corporate short-termism: self-reinforcing processes and biases among investors, the media and corporate managers

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Based on the related literature in economics, organizational sociology and the sociology of finance, this article constructs a novel conceptual explanation for corporate short-termism, that is, the tendency of corporate managers to sacrifice long-term investments to improve short-term earnings (STEs). We theorize about how such corporate short-termism emerges, at least partly, from systemic, self-reinforcing processes across various communities of actors including investors, the media and managers themselves. In doing so, we refute the common notion that corporate short-termism is caused by an inherent preference of investors or other actors to focus on STEs. Consequently, the systemic perspective offered by this article questions some conventional assumptions about the roots of corporate short-termism and emphasizes the influence of coordination mechanisms and behavioural biases in giving rise to self-reinforcing loops.

Keywords: corporate finance, firm strategy, markets, media, corporate short-termism

JEL classification: G02 behavioral finance: underlying principles, G30 corporate finance and governance, general, D84 expectations, speculations

1. Introduction

Corporate managers are occasionally forced to focus on short-term goals and activities even when these activities, if repeated, could be detrimental to long-term corporate performance. Although many forms of ‘short-termism’ may exist,¹ perhaps the most striking manifestation is the tendency of corporate managers to sacrifice

¹Starting with the partly inevitable managerial myopia that is due to the inherent difficulty of detecting weak signals of the longer term future, let alone predicting it.

long-term investments to improve short-term earnings (STEs). This specific form of short-termism has been the subject of growing concern for economists, sociologists and management researchers alike (e.g. Hayes and Abernathy, 1980; Stein, 1989; Porter, 1992; Laverty, 1996; Marginson and McAulay, 2008; Mizik, 2010; Jackson and Petraki, 2011; Tellis, 2013).

Notably, it has been argued and assumed that the *stock market* is a major cause of this phenomenon. Indeed, stock market investors allegedly oriented to the short-term are assumed to pressure corporate managers to prioritize STEs with their short-term stock trading behaviour (Jacobs, 1991; Laverty, 2004; Bhojraj and Libby, 2005; Brav et al., 2005). In these accounts, the causal coupling of the following three arguments has provided the explanatory logic: (i) an increasing number of ‘transient’ investors rapidly trade company stocks in order to profit from short-term trends in stock prices, *which is assumed to cause* (ii) these investors to focus on short-term corporate earnings when making investment decisions. This *in turn is assumed to cause* (iii) pressure on corporate managers to focus on STEs as well.

However, we argue in this article that a simple causal coupling of the aforementioned factors (i–iii) is not entirely valid. In particular, it provides an inadequate view of the systemic causes of the phenomenon of corporate short-termism, which may involve feedback loops and self-reinforcing processes rather than one-way causal effects. Consequently, we aim to develop an alternative explanation for the phenomenon of short-termism, insofar the phenomenon is due to the stock market. This alternative explanation takes into account systemic cause and feedback loops, and is causally more coherent than the one-way assumptions often present in extant research.

In brief, we posit that the lack of coherence in the aforementioned causal coupling of arguments (i–iii) stems from two facts. First, it is entirely possible that an investor trades company stock to make short-term gains but does *not* rely on information about the STEs of companies in doing so. This is apparent if we consider a case whereby an investor buys stock today because she—judging from her information about all the long-term prospects of the firm—believes that the stock is undervalued today but expects the valuation to be corrected before long, say in 6 months (see Froot et al. 1992a, b; Gümbel, 2005; Rappaport, 2005). If when 6 months have elapsed the investor then sells the stock at the higher valuation, she has in fact *not* relied on information about the firm’s STEs, yet she *has* engaged in short-term trading. Secondly, and equally important, the causal coupling of (iii) the pressure felt by corporate managers to focus on STEs with (ii) the possible focus of investors on corporate STEs does not take into account the possibility of perceptual biases among corporate managers. For instance, managers may perceive that investors inherently focus on STEs to a much greater extent than they actually do.

Thus, in this review and theory development article, we provide an alternative explanation for the phenomenon of short-termism. First, based on a review of a

wide selection of related literature in economics, the sociology of finance and organizational sociology, we theorize that speculative investors can have an emerging focus on STEs as a key information variable even if there is nothing in the STE variable *per se* that makes it of inevitable interest to investors—not even to those with a short-term trading horizon. In particular, we propose that the emergent focus on STEs can be due to emergent self-reinforcing coordination processes among speculative investors rather than to the nature of the STEs variable *per se*, or the inherent preferences of investors towards it. Secondly, we explicate a mechanism that suggests that along with the self-reinforcing processes that may emergently generate a *de facto* focus on the STE variable among investors, corporate managers may additionally overestimate the degree to which investors prefer STEs. In sum, we argue that the inclination of managers to orient corporate strategies towards maximization of STEs will at least partly be a result of self-reinforcing processes in a system of multiple communities of market actors rather than of an inherent preference of investors to focus on STEs or to pressure managers to do so. We also theorize regarding how convergence towards STEs is augmented by the activities of the media, which create additional feedback loops for the system, thus further reinforcing short-termism. Hence, our framework sheds light on the multiple perceptual and behavioural biases of various actors that may give rise to corporate short-termism. In doing so, the framework extends some recent perspectives on short-termism that have noted the possibly self-reinforcing nature of the phenomenon (e.g. Jackson and Petraki, 2011).

2. Earlier literature on the causes of short-termism

Broadly following earlier definitions (see Marginson and McAulay, 2008), we define corporate short-termism as the inclination of corporate managers to orient corporate strategies towards maximization of STEs at the cost of long-term objectives.² By STEs, we refer to the firm's realized accounting earnings during the current year and forecast earnings for approximately the following 2 years (Tonello, 2006; cf. Jackson and Petraki, 2011). Nowadays, both the realized current earnings and forecast near-term earnings (i.e. 'earnings guidance') are generally released by corporate managers in connection with corporate interim reports and vigorously studied by investors and investment analysts. At the same time, however, STEs are an information variable or metric that obviously does not fully reflect all the long-term cash flows of the company over its entire, relevant future (say, 10 years).³

²An interchangeable term for corporate short-termism is 'managerial myopia,' which Samuel (2000, p. 494), for instance, defines as managerial behaviour focused on 'improving earnings in the short term at the expense of long-term growth.'

³To distinguish the STE information variable from the *trading horizon* of the short-term investors (see Introduction), note that the short-term time period for which investors typically try to predict

As for the causes of short-termism, earlier literature is divided roughly into two streams: (i) explanations that do not involve the stock market (but instead focus on, e.g. managerial job markets or cultural issues) and (ii) those that explain short-termism mainly by what happens in the stock market.⁴ While we recognize that sources not related to stock markets may also reinforce short-termism, we concentrate in this article on the (ii) stock market explanation.

Indeed, the (ii) latter stream of the literature (e.g. Bhojraj and Libby, 2005; Ferreira et al., 2014; Jensen, 1986; Hansen and Hill, 1991; Jacobs, 1991; Porter, 1992; Samuel, 2000; Laverty, 2004) speculates that the causes for corporate short-termism lie fundamentally in the stock market. The word ‘speculates’ illustrates the status of this literature well. Namely, while some authors argue that corporate short-termism occurs because of increased short-term trading by stock market investors (Johnson and Kaplan, 1987; Jacobs, 1991; Porter, 1992; Bushee, 2004), others see little reason to believe that investors have an increased tendency to pursue short-term gains (Jensen, 1986; Hansen and Hill, 1991; Laverty, 1996; Marginson and McAulay, 2008). For example, while there are empirical studies that find a negative association between short-term investor ownership of firms and their long-term investments in R&D and innovations (e.g. Graves, 1988; Samuel, 2000; see also Hall, 1993; Cohen et al., 2013; Ferreira et al., 2014), there are also studies that report positive associations between the two (e.g. Baysinger et al., 1991; Hansen and Hill, 1991; David et al., 2001; Aghion et al., 2013).

This article does not provide new empirical evidence for such an association. Instead, we ask whether corporate short-termism can, in theory, occur merely because of the (increased) tendency of the stock market to pursue short-term gains through stock trading. This causal, linear link has been taken for granted in most extant research. And yet, as stated in the introduction, we must not confuse the investment or trading *horizon* of investors with the *information variables or metrics* used by them. In particular, a short-term trading horizon does not automatically require an investor to rely on corporate STEs as an information variable.

Consequently, we need to seek alternative explanatory mechanisms that may (causally) lead from investor behaviour to the managerial focus on STEs. Our alternative explanation—focusing on the systemic, self-reinforcing emergence of

corporate STEs (e.g. 2 years in the future) may still be much less shorter than the trading horizon of some short-term traders. Namely, for some short-term traders (especially ‘high-frequency’ traders), the trading horizon may even be less than a day, perhaps only minutes or seconds.

⁴The sources non-related to the stock market include, for example, managers’ motivation to quickly build reputation in the job market (e.g. Narayanan, 1985) as well as the short-termism inherent in certain popular management techniques (e.g. Hayes and Abernathy, 1980) or in certain national (Stulz, 1996) or organizational cultures (cf. Laverty, 2004; Marginson and McAulay, 2008). For a review, see, e.g. Jackson and Petraki (2011).

short-termism—begins with speculative investors and is based on a theory of ‘investigative herding’ (Froot *et al.*, 1992a, b; Graham, 1999; Brunnermeier, 2001). In the following section, we first review this theory’s notion that speculative investors may come to focus on an information variable X in a self-reinforcing coordination process. We posit this as the (1) *core self-reinforcing process* that underlines the phenomenon of corporate short-termism—by putting forward the further idea that STEs may act as a variable X of this kind. Then we outline a set of (2) *augmenting processes* involving for example media actors, which may further support the process through which the focus shifts to a particular variable X (here STEs). Figure 1 illustrates the full set of propositions that we develop about the self-reinforcing processes.

3. The core of the self-reinforcing process: investigative herding by speculative investors

3.1 *Investigative herding towards the variable X*

Drawing from the selected research in financial economics, and combined with the literature of the sociology of finance and political science that raise similar arguments, this section outlines our premises about speculative investors. To start with, we assume that there is a sub-community of speculative investors in the stock market. By definition, speculative investors make investment decisions *not* so much on the basis of what they believe to be the fundamental value of a firm as determined by its future cash flows over the long term but on the basis of a speculator’s anticipation of relatively short-term trends in the firm’s stock price. The existence of a speculative population of short-term traders of this kind has long been acknowledged in economics (e.g. Keynes, 1936; Biais and Bossaerts, 1998), albeit not usually discussed in mainstream studies (which tend to assume that most investors in ‘efficient markets’ value firms on the basis of fundamental future cash flow information). At any rate, in practitioner terms such speculative investors are likely to be found especially among investment funds and hedge funds that are ‘transient’ institutional investors as well as among private individuals who are ‘day traders’ or ‘noise traders’ (Bushee, 2001, 2004). All such investors are characterized by the high turnover of their investment portfolios in the short term.

With respect to speculative investors, our premises are based especially on Froot *et al.*’s (1992a, b) theory concerning a behavioural pattern of speculative investors, which has also been labelled ‘investigative herding’ (e.g. Graham, 1999; Brunnermeier, 2001; Bhattacharya *et al.*, 2008). The investigative herding view assumes that a speculative investor’s payoffs from a stock position (e.g. a stock purchase) taken today depend on other investors taking that same action in the future. For instance, an investor who buys a stock today needs a flock of buyers for the stock later, to sell the stock at a profit. Clearly, the payoffs from an agent’s action increase

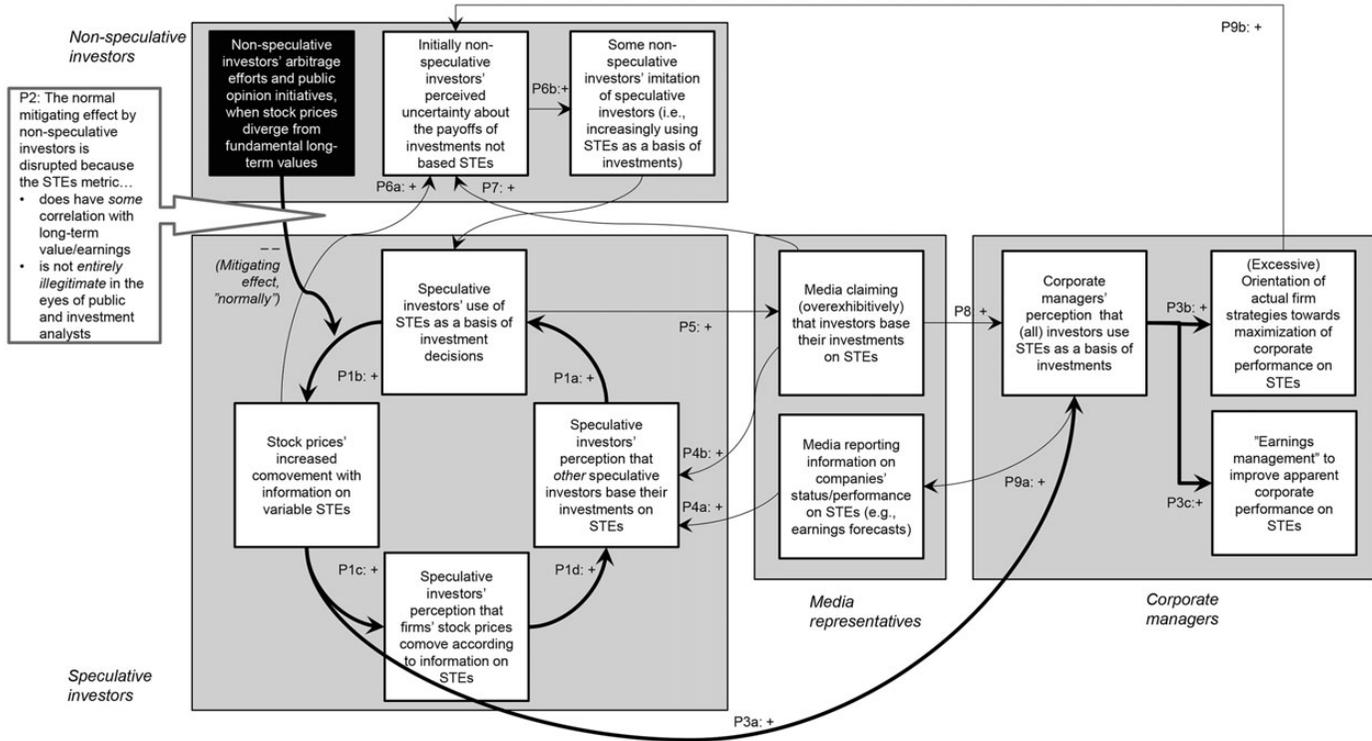


Figure 1. Self-reinforcing processes of corporate short-termism.

Notes: The bolded arrows indicate the core self-reinforcing processes suggested to underlie corporate short-termism. The thin arrows indicate augmenting processes suggested to reinforce the core processes. The boxes of white background color indicate components of the self-reinforcing processes. The box with black background color indicates factors that normally mitigate the self-reinforcing processes (from happening), but which the STE variable can circumvent (due to the reasons indicated in the arrowed box on the far left).

as a function of other agents adopting the same action later (Devenow and Welch, 1996), thereby manifesting considerable payoff externalities (Froot *et al.*, 1992a, b; Hirshleifer and Teoh, 2003). In turn, here payoff externalities mean that speculative traders will actually have a motive to *coordinate*, or align, their actions with those of others (e.g. Froot *et al.*, 1992a, b; Hirshleifer and Teoh, 2003). But in what way? The present view is based on the notion of investigative herding in a specific sense (Froot *et al.*, 1992a, b; Bhattacharya *et al.*, 2008), which suggests that speculative investors tend to converge towards basing their investments on one and the same *information variable* (or variables). Namely, if speculative investors are to profit from an investment they make today by selling it in the near future for a higher price, they must believe that their information about the firm's status on a certain variable is not yet reflected in the firm's stock price but will be reflected in the near future once other investors obtain the *same* information. Hence, the speculators are motivated to coordinate—or agree on—an information variable on which they will all base their actions (Hellwig and Veldkamp, 2009). In fact, such herding around a single variable becomes a state of equilibrium (Froot *et al.*, 1992a, b).

Importantly, what these preliminary studies also demonstrate is that the information variable on which the speculators coordinate may be a variable that bears little (or no) relation to the fundamental long-term value of the stocks. Political scientists studying coordination problems (e.g. Chwe, 2001) contend that this kind of coordination creates its own sphere of internal rationality, where it is 'rational' to behave in specific ways as it has become 'common knowledge' that others also do so. Notably, such coordination does not even 'require complete commonality of interest; all that is necessary is that each person's motivation to participate increases (or at least does not decrease) the more others participate' (Chwe, 2001, p. 15). Such common knowledge (i.e. what everyone believes that everyone believes ...)—or, an actor's (third-order) belief of what most other actors believe (Ridgeway and Correll, 2006)—may also differ significantly from the actor's private (first-order) beliefs or valuations of the true value of things (Swidler, 2003; Adut, 2005, 2009).

Thus, once the speculators have come to agree that when a firm's status with respect to variable *X* goes up (or down), its stock is worth buying (or selling), they can concentrate on investigating and forecasting information about changes in the firm's status regarding that variable. In effect, those investors who have correct information on the variable or are able to forecast such information (and earlier than others) will earn profits (Froot *et al.*, 1992a, b; Hirshleifer and Teoh 2003; Hirshleifer and Teoh, 2009, p. 21).⁵

⁵The challenge for specific investors is, of course, that they cannot definitively know, when obtaining a piece of information relevant to the variable in question, whether other investors have already acted on that piece of information (Hirshleifer *et al.*, 1994).

But how exactly will or can speculators agree to investigate a certain variable? In general, they could coordinate their actions merely by communicating a simple message such as ‘let’s all participate’ (Chwe, 2001, p. 12) at their professional gatherings, for example. Nevertheless, the work on investigative herding posits that another basic mechanism for coordination in the stock market context is based on the inferences made by speculators from stock price movements *per se* (Hirshleifer and Teoh, 2009). Specifically, the more speculative investors perceive that stock prices co-move with the revelation of information about firms’ changes in status with respect to a specific variable X , the more likely they are to infer that others will base their investments on that variable, and the more they will investigate and base their own investments on that variable (due to the coordination motive). Again, this significantly reinforces the actual co-movement between stock prices and incoming information on that specific variable.

The result is essentially a self-reinforcing process, consistent with Allen *et al.*’s (2006) simulation model, whereby incoming information on a variable increasingly ‘enters into [every speculator’s] demand function’ (p. 721) and makes prices co-move accordingly. In terms of organizational sociology and the sociology of finance (Zuckerman, 1999; Beunza and Garud, 2007), the variable in question can therefore become a ‘key metric’ for speculative investors and a common ‘frame of interpretation’—a frame which is used to interpret new incoming information and make investment decisions. At the same time, its emergence reflects the self-fulfilling social ‘sunspot’ effect; if enough people believe that (a sunspot) X affects prices, then X will affect prices (Abolafia and Kilduff, 1988).

In summary, the above discussion warrants the following propositions as our initial premises:

Proposition 1a: A given speculative investor’s perception that other investors use information about a variable X (pertaining to firms) as a basis for investment decisions will have a positive effect on the use of that variable by that investor as a basis for his investment decisions.

Proposition 1b: The use of information about a variable X by speculative investors as a basis for investment decisions will have a positive effect on the co-movement of stock prices and information about that variable.

Proposition 1c: Co-movement of stock prices and information about a variable X will have a positive effect on the perception of speculative investors that the stock prices of firms co-move together with information about that variable.

Proposition 1d: The perception of a speculative investor that firms’ stock prices co-move together with information about a variable X will have a positive effect

on his perception that other speculative investors are using that variable as a basis for their investments.

3.2 STEs as the variable X

While the literature on investigative herding posits that speculative investors are likely to converge, to a certain degree, on basing their investments on the same information variable X , it does little to predict which or what kind of variables are likely to emerge as the object of such convergence. Nevertheless, the theory and related simulations do show that the information variable around which the speculators coordinate may be a variable that does not fully reflect the fundamental long-term value of stocks (Froot *et al.*, 1992a, b). This is the primary reason why we argue that corporate STEs (over 0–2 years) can in fact become a variable X of convergence, even if they obviously do not reflect the full fundamental value of the stock (all cash flows to investors over 10 or so years).

A commonplace notion about today's stock markets provides significant support for this argument; in recent years firms whose short-term, quarterly earnings have grown steadily have also tended to enjoy a steady rise in stock prices and vice versa (Fuller and Jensen, 2002). Further evidence is provided by the finding that in recent years positive (negative) surprises in the STEs of firms have moved their stock prices significantly upwards (downwards) (e.g. Skinner and Sloan, 2002; Brown and Caylor, 2005; Rees, 2005).

In the terms of Beunza and Garud (2007), then, the STE variable has most probably gained ground as a 'key metric' among speculative investors, and hence become a central part of their generic 'calculative frame' in analysing various company stocks. This means that the STEs metric has become an increasingly important target metric against which (all) incoming information is interpreted and investment decisions made. It has also become a metric of 'commensuration' (Espeland and Stevens, 1998) that facilitates the comparison of firms. It should be noted, however, that while STEs have become a key metric for stock investment in general, this does not mean that they have become the *sole* metric or the *only* calculative frame (or commensurate metric) driving the stock investments of speculative investors. This is because coordination 'does not require complete commonality of interest' (Chwe, 2001). Instead, we merely posit that STEs have increasingly become *one* key metric for speculative investors [i.e. they may simultaneously follow other key metrics, too (e.g. market share or the number of users in the case of social media companies)].

3.3 Factors that would normally mitigate the self-reinforcing process

Despite intuition and evidence on behalf of STEs as a variable of convergence for the self-reinforcing process described above, the boundary conditions or mitigating

factors of the process require further attention. Otherwise, the proposed self-reinforcing process would imply that stock prices and investor decisions might become perfectly correlated with STEs and STEs alone. Also, without taking the mitigating factors into account, it would be difficult to see why it would not be likely for some totally unrelated variable (such as the length of a CEO's hair) to become the object of self-reinforcing convergence as STEs.

Factors that under normal conditions would mitigate the self-reinforcing process among speculative investors, or prevent it from happening, relate to two mechanisms identified by Zuckerman (2012): (a) arbitrage by non-speculative investors and (b) the public perception of the valuation metrics. Arbitrage (a) by non-speculative investors refers to investment opportunities pursued by investors who tend to care only about the fundamental long-term cash flow value of the investment targets. Commonly-cited examples of such investors are, for instance, Buffett and his teacher Graham (e.g. Graham, 1973; Buffett, 1984). If a variable X , which is totally unrelated to fundamental long-term cash flow value, is reflected too strongly in stock prices, such investors will act as a mitigating force; they will become especially interested in buying stocks of firms that are *low* in X and whose stock price is therefore low compared with the long-term fundamental cash flows of the firm (Zuckerman, 2012). This arbitrage is likely to push the price of those stocks (back) upwards. Moreover, those investors might even buy entire companies off the stock market at the low price.⁶ Thus, the self-reinforcing process occurring among speculative investors and eliciting co-movement in stock prices would be mitigated due to the reverse price pressure created by the arbitrage investors.

Moreover, (b) the public perception of the valuation metrics would in normal conditions also act as a mitigating force on the self-reinforcing process. To the extent that stock prices start to co-move together with information variables totally unrelated to the fundamental value of stocks, opportunities will arise for 'valuation entrepreneurs' (Zuckerman, 2012) who use public opinion and short-selling of overly valued stocks as arguments for the use of more reasonable metrics. As Zuckerman (2012, p. 241) puts it: 'skeptics may try to counteract the speculative fever by suggesting that the theory is silly and/or that the historical record provides reason to doubt it'. Also, because they do not wish to appear silly in public, speculators would be unlikely to use information metrics that are totally unrelated to fundamental stock values (e.g. CEO's hair length). The same is true for professional investment analysts who help investors to use, investigate and forecast the focal information variable(s) (Zuckerman, 1999; Rao et al.,

⁶In turn, such investors would be passive regarding stocks that are *high* in X and whose stock price is therefore excessive compared with the long-term fundamental value of the firm, or they might sell shares they have held in such stocks for the sudden opportunity for arbitrage created by an inflated price.

2001; Zhu and Westphal, 2011). In fact, it would be especially difficult for investment analysts, whose professional work centres around publishing reports about corporate financial prospects, to admit focusing on variables that are totally unrelated to long-term financial value. These aspects would further mitigate the self-reinforcing process, because to be effective, it requires unashamed *public* coordination by speculators (and analysts) on the metric, and focused investigation of it.

How, then, can STEs become a metric of self-reinforcing convergence, if the mitigating forces dampen the process in normal conditions? The answer lies in the fact that (a) there is at least *some* link or correlation between STEs and a firm's fundamental long-term value so that even *non*-speculative investors (including arbitrageurs) are likely to regard the metric with some degree of seriousness and the fact that (b) STEs are not an *entirely* illegitimate metric in the public's perception, so that speculative investors or investment analysts are not ashamed to admit relying on them. Thus, even if our theory suggests that there is little in the STE variable *per se* that would cause it to become the focal metric in the proposed coordination loops, the fact that it has *some* (albeit far from strong) connection with the fundamental long-term value of company stocks increases the probability that it will become the object of this convergence. For the same reasons, purely sunspot-like variables which bear no connection whatsoever to the firm's long-term fundamental value (cf. Frankel and Froot, 1990) are less likely to converge into key metrics or to remain key metrics for long should such convergence temporarily occurs (cf. Zuckerman, 2012). We therefore propose the following:

Proposition 2: The normal mitigating effect that *non*-speculative investors and public legitimacy have in impeding convergence by speculative investors on a random variable X is disrupted because STEs have *some* correlation with long-term fundamental stock values and are therefore not an entirely illegitimate metric in the public perception.

4. The link between speculative investors and the short-termism of corporate managers

To link the self-reinforcing convergence of speculative investors on STEs with the emergence of an increasing focus on STEs among corporate managers, we adopt a basic notion of contemporary economics and management research, which posits that investors have a major impact on the strategy-making of corporate managers. This apparently stems from at least the following commonplace facts (e.g. Ferreira *et al.*, 2014; Stein, 1989; Froot *et al.*, 1992a, b; Rao and Sivakumar, 1999; Zuckerman, 2000; Benner, 2007; Devers *et al.*, 2007; Mizik, 2010; Jackson and Petraki, 2011):

- The personal compensation paid to managers is based to a considerable extent on the current stock market valuation of their firms and managers who want

to improve the value of their compensation packages, i.e. the firm's current stock price.

- Since hostile takeovers and managerial dismissals are rather common, managers seek to avoid low current stock valuations and respond to investors' explicit demands in order to prevent them.

For the above reasons, Zuckerman (2000, p. 592) argues that corporate managers perceive control as 'a form of pressure to structure their firms in ways that investors deem legitimate'.

While we take as given the notion that investors' investment criteria guide corporate the strategies of managers, we emphasize that it is not the criteria of investors *per se* that guide managers but their criteria as *perceived* by managers. This logic flows from the established management literature, which points out that the actions and strategies of firms in responding to their environments (Child, 1972; Starbuck, 1976; Hambrick and Mason, 1984; Yasai-Ardekani, 1986) and/or certain stakeholders' demands (Moussavi and Evans, 1993; Bundy et al., 2013) are not responses to the objective characteristics of those environments or stakeholder demands, but rather depend on the perceptions of corporate managers. A corollary to this notion is that the perceptions and strategies of managers based on those perceptions may also be biased (e.g. Starbuck, 1982; Finkelstein and Hambrick, 1996); managers may make biased assessments of external actors' preferences and motivations (Kiesler and Sproull, 1982; Wagner and Gooding, 1997).

Accordingly, we posit that the perceptions leading corporate managers to increasingly orient their corporate strategies towards STEs can be both (i) accurate assessments of investor preferences—in keeping with investors' *de facto* convergence on STEs—and (ii) misperceptions or overestimations of investor preferences when the convergence of (speculative) investors on STEs is still incomplete. The former is something that corporate managers can perceive by noting increasing co-movements between stock prices and forecast and publicized information concerning the variable. The latter occurs because managers cannot accurately know the exact extent to which investors have started to prefer STEs at any given point of time; this can lead them to overestimate this extent on the basis of even minor co-movement between stock prices and STEs. At any rate, inasmuch as these perceptions guide strategy-making by corporate managers, they are likely to increasingly orient firm strategies towards maximization of corporate performance on the STE variable. We therefore propose the following:

Proposition 3a: Co-movement between stock prices and an information variable X (corporate STEs) will have a positive effect on the perception of corporate managers that investors are using that variable as a basis for their investment decisions.

Proposition 3b: The perception of corporate managers that investors are using a variable X (corporate STEs) as a basis for their investment decisions will have a positive effect on the (excessive) orientation of corporate strategies towards maximization of corporate performance on that variable.

Another effect of the focus on STEs is likely to be that discussed in the ‘earnings management’ literature (e.g. [Matsumoto, 2002](#); [Bhojraj and Libby, 2005](#)). Namely, in addition to actually orienting corporate strategies increasingly towards maximization of STEs (Proposition 3b), managers can also seek to appeal to investors by using creative ‘accounting’ to make their STEs look better or steadily growing, and to fulfil the forecasts of investment analysts concerning them, sometimes even in unethical or illegal ways ([Fuller and Jensen, 2002](#)). We therefore also propose the following:

Proposition 3c: The perception of corporate managers that investors are using a variable X (corporate STEs) as a basis for their investment decisions will have a positive effect on their use of creative earnings management.

5. Augmenting processes between media, investors and managers

In the following, we complement the above propositions by reviewing a set of ‘augmenting processes’ that may further reinforce both the convergence of speculative investors on the use of STEs as a central investment criterion and the consequent orientation of corporate managers towards STE maximization. Although these augmenting processes are not an entirely necessary condition of short-termism, they are likely to reinforce the phenomenon. These processes involve (a) the media, which can further reinforce both convergence on the part of speculative investors on STEs and the orientation of corporate managers thereon and (b) the fact that some initially *non*-speculative investors may also become motivated to base their investment decisions on STEs.

5.1 Augmenting processes between speculative investors and media

The general role of media in influencing stock market investors by acting as a market information intermediary has been widely recognized in research (e.g. [Dyck and Zingales, 2002](#); [Pollock and Rindova, 2003](#); [Tetlock, 2007](#); [Barber and Odean, 2008](#); [Pollock et al., 2008](#); [Hirshleifer and Teoh, 2009](#)). The specific role played by the media in the present context is likely to be that of a ‘coordination device’ facilitating the convergence of speculative investors on STEs.

[Morris and Shin \(2002, p. 1521\)](#) point out the ‘ability of public signals’—such as those available through news media—to serve as a ‘coordination device’ for speculative investors. Likewise, [Abolafia and Kilduff \(1988\)](#) show that the media can

contribute to shaping the reality of speculative investors and can convey beliefs and interpretations that become self-fulfilling. [Beunza and Garud \(2007\)](#) also note that certain interpretations of key valuation metrics are often proliferated by the media.

In particular, the media may therefore reinforce a self-fulfilling prophecy (a) by both reporting on STEs and (b) by explicitly claiming that investors use that variable as the principal basis for their investment decisions. First, (a) insofar as a given speculative investor believes that *other* investors in general will follow the media and recognize its implicit role as a potential coordination device, the investor can predict that a certain variable widely reported by the media is a type of ‘public signal’ that other investors will be motivated to use as a basis for their investment decisions. This motivates the focal investor to utilize the same variable.

Secondly, (b) besides reporting about firm performance on an information variable such as STEs, the media can *explicitly claim* that investors use that variable as a major basis for their investment decisions. Insofar as a given speculative investor presumes on the basis of such media reports that the information variable in question is or will be increasingly used by other investors, the investor is again better off adopting the information variable herself, too. Indeed, explicit claims by the media that investors use STEs as the basis for their investment decisions have been clearly increasing since the 1980s (see, e.g. [Drucker, 1986](#); [Lohr, 1992](#); [Porter, 1992](#); [Collingwood, 2001](#); [Berenson, 2004](#); [Lambert, 2011](#)). Note that even though these media reports have often expressed serious concern about the potentially detrimental consequences of the excessive focus on STEs, the media have nonetheless widely reported that very focus on STEs by investors. Thus:

Proposition 4a: Media reports that convey information about current and forecast corporate performance on a variable X (corporate STEs) will have a positive effect on the perception of a speculative investor that other speculative investors are using that variable as a basis for their investment decisions.

Proposition 4b: Media reports that explicitly claim that investors base their investments on an information variable X (corporate STEs) will have a positive effect on the perception of a speculative investor that other speculative investors are using that variable as a basis for their investment decisions.

With regard to the latter proposition, it is noteworthy that media claims need not represent any ‘objective truth’ about actual use of the variable or its prevalence among investors at the time of reporting. Media representatives may also tend to over-exhibit the extent to which investors base their investment decisions on a variable such as STEs. Indeed, media researchers such as [Ansolabehere et al. \(2005, p. 216\)](#) point out that ‘the set of news stories on a given topic do not reflect the actual frequency of a phenomenon’ but focus on cases in the ‘upper tail’ of a

distribution. Journalists engage in such over-exhibition for example because extreme cases are more tantalizing hooks for stories than average cases and because drawing attention to unsatisfactory states of affairs, which are best illustrated and dramatized by extreme cases, is part of their job (Hilgartner and Bosk, 1988; Ansolabehere *et al.*, 2005; Baron, 2006).

The idea that investors might base their investments mainly on a single information variable such as STEs is without doubt likely to be considered both a tantalizing story and an unsatisfactory state of affairs. It can therefore be expected that media reports may intentionally over-exhibit the use of the variable by investors by implying that *all* investors use STEs as their *main* information variable—even if the evidence would rather signal that *some* investors use STEs as *one* information variable among others (cf. Stein, 1989; Abarbanell and Bernard, 2000). To summarize the above discussion, we propose the following:

Proposition 5: The use by speculative investors of an information variable X (corporate STEs) as a basis for their investment decisions will have a positive effect on (over-exhibitive) media reports claiming that all investors base their investments on that information variable.

5.2 Augmenting processes between speculative investors, media and non-speculative investors

Besides the augmenting influence of the media, another augmenting process concerns investors who are initially *non*-speculative. Non-speculative investors (e.g. some pension funds, banks, insurance companies, Buffett-style buy-and-hold investors) invest in stocks to hold them with a long horizon, say several years, or trade them with relatively short horizons (perhaps weeks or months) but base their trading decisions on analyses of fundamental long-term stock values (e.g. some individual activist investors and certain hedge funds).

Despite their initially non-speculative nature, we argue that some of these investors will feel pressure to engage in speculation as the number of speculative investors converging on an information variable such as STEs grows. Namely, initially non-speculative investors face increasing *policy uncertainty* regarding expected payoffs from their original investment strategy. Policy uncertainty (Henisz and Delios, 2001) is the uncertainty which cannot be reduced by acquiring more information. In the present case, the more stock prices co-move together with a variable X , the more uncertain are the payoffs from such an investment strategy based on variables *other* than X .

In turn, increased uncertainty about the technical feasibility of a strategy will generally motivate actors to avoid it (Cyert and March, 1963) and lead to motivation for social imitation of the ostensibly widespread strategies of other actors (Di-maggio and Powell, 1983; Hennisz and Delios, 2001). This has been demonstrated in

the financial market context for instance by the tendency of investment analysts to imitate their peers in the face of uncertainty (Rao et al., 2001). Thus, when confronted with facing increased policy uncertainty about their original strategy, some of the originally non-speculative investors may imitate and adopt the increasingly widespread investment strategy of speculative investors, based on the same information variable X used by them. This is especially true since long-term cash flow prospects are inherently uncertain and difficult to analyse, whereas STEs are much more easily quantifiable (Kochhar and David, 1996). We therefore propose the following:

Proposition 6a: Co-movement between stock prices and an information variable X (corporate STEs) will increase the non-speculative investors' perceived uncertainty regarding the payoffs from investment strategies *not* based on that variable.

Proposition 6b: Non-speculative investors' perceived uncertainty regarding payoffs from investment strategies *not* based on an information variable X (corporate STEs) increases their motivation to imitate the investment strategy of speculative investors, based on X .

Moreover, the media community's actions are also likely to further reinforce this perceived uncertainty, as they vocally report the increasing prevalence of speculative investors and their focus on STEs. Indeed, as pointed out by public opinion and mass media research (Noelle-Neumann, 1991; Bicchieri and Fukui, 1999; Kuran and Sunstein, 1999), certain opinions or behaviours on the part of a 'vociferous minority' can—through the media—increase the uncertainty felt by a 'silent majority' about their original opinions or behaviours and drive the latter increasingly towards the position of the vociferous minority. In the context of financial markets, Zhu and Westphal (2011) pointed out a similar phenomenon—or what they call 'pluralistic ignorance' among investment analysts: individual analysts increasingly endorse a popular policy despite their private reservations about it. Thus, we also propose:

Proposition 7: Media reports claiming that investors base their investment decisions on an information variable X (corporate STEs) will increase the uncertainty perceived by non-speculative investors regarding payoffs from investment strategies *not* based on that variable.

5.3 Augmenting processes between corporate managers, investors and media

Vocal media reporting about the increasing reliance of investors on a variable such as STEs is also likely to reinforce overestimation by corporate managers of investor preference for that variable. At best, or worst, this overestimation can create an

illusion among managers that all investors base their investments exclusively on corporate STEs—even if that variable was used by only a small (vocal) minority of investors. This results in an availability error (Damasio, 1994; Kuran and Sunstein, 1999) on the part of managers. Here, the wide availability of reports inflates the importance of the issue and as creates an ‘illusionary causation,’ whereby events that are salient and capture attention are regarded as causal even if they in fact are not (Kiesler and Sproull, 1982). Thus:

Proposition 8: Media reports claiming that investors base their investments on an information variable X (corporate STEs) will have a positive effect on the perception (overestimation) by corporate managers that investors are using that variable as a basis for investment decisions.

Finally, corporate managers themselves are likely to be a source of another set of augmenting feedback loops, vis-à-vis the media and investors. These feedback loops complete the systemic picture of the self-reinforcing dynamics that elicit corporate short-termism.

One feedback loop emerges because corporate managers increasingly believe that investors are basing their investment decisions on STEs; hence managers are also likely to cater to investors by communicating more and more information about the status of their firm with regard to that variable. To maximize access to this information for a wide audience of investors, press releases and mass media are used to a large extent. In the case of STEs, such communication by firms has indeed been increasing systematically since the 1980s (e.g. Bamber and Cheon, 1998).

Another feedback loop in our framework arises from the fact that as corporate strategies become increasingly oriented towards maximization of STEs, non-speculative investors may come to perceive further uncertainty regarding the payoffs from their original investment strategies that are *not* based on the variable. As those investors note that corporate managers are increasingly maximizing corporate performance regarding STEs, they will increasingly doubt whether any investment strategy based on long-term corporate prospects can be successful. An analogous logic has been recently proposed by Aghion and Stein (2008), who argue that if investors infer that managers are pursuing cost-cutting strategies (instead of growth strategies), the valuation criteria of investors will also tend to put increasing weight on cost-cutting.

Proposition 9a: The perception of corporate managers that investors are using a variable X (corporate STEs) as a basis of their investment decisions will have a positive effect on the proliferation by managers of media reports that inform about their firms’ performance on that variable.

Proposition 9b: Orientation by managers of corporate strategies towards a variable X (corporate STEs) will have a positive effect on the uncertainty perceived by non-speculative investors regarding payoffs from investments *not* based on that variable.

6. Discussion

6.1 Contributions to research

Earlier literature on the stock market explanations for corporate short-termism has suffered from an illogic: the assumption that there is a linear, one-way causal link between the pursuit by investors of short-term trading gains and their focus on STEs. Since it can be shown that such a link does not inherently exist, our conceptual research set out to provide a systemic, multi-way explanation for the mechanism through which investors—and eventually corporate managers—have come to rely increasingly on the STE metric. Our core argument is that while there is little in the STE variable *per se* that would elucidate the increasing focus of investors or managers on it, a set of self-reinforcing processes within and between communities of investors, the media and corporate managers may well provide an explanation. Hence, to highlight that the focus on STEs is partly due to such a set of self-reinforcing processes, we expressly framed our propositions with a ‘variable X ’, while suggesting—and reviewing evidence from recent decades—that STEs can be (or have been) substituted for X .

The possibility that the phenomenon of short-termism observed in recent years may be a product of self-reinforcing processes within and across the above-mentioned communities has been largely ignored by earlier research. A rare exception from previous literature, which tentatively notes the possibility of such self-reinforcing processes, was provided by Jackson and Petraki (2011). They note at a general level that ‘short-termism is caused by a self-reinforcing and dynamic calibration (shortening) of time horizons produced through the interactions between shareholders and managers, and amplified by the roles played by gatekeepers in mediating these relationships’ (p. 199). Specifically, they also note the interdependence of the time horizon perceptions of investors and managers (e.g. the manager perceptions are shaped by investor perceptions, which are in turn shaped by manager perceptions) and also point out a sort of equilibrium wherein both investors and managers have calibrated their focus on the short term (and thus eliminated agency conflicts between each other).

Beyond this general view by Jackson and Petraki (2011), the contribution of our framework is to delve deeper into *why and how* this kind of equilibrium is likely to emerge by explicating the self-reinforcing component processes and related perceptual biases underlying the equilibrium or ‘trap’ of short-termism. As core self-

reinforcing processes eliciting corporate short-termism, we introduced the notion of investigative herding by speculative investors towards STEs, but also the probable overestimation by corporate managers of investor preference for STEs. We also outlined further augmenting processes such as over-exhibitive reporting by the media about investor focus on STEs; the imitative adoption of the STE focus by some investors that were originally non-speculative (due to increased uncertainty about their original investment strategies) and the potential feedback loop back to investors from corporate managers' focus on STEs.

In addition to the literature on the causes of short-termism, our framework adds to the broader literature on the social dynamics of financial markets. Most notably, [Beunza and Garud \(2007\)](#) and [Zuckerman \(1999, 2000\)](#) have earlier shown how the interpretation 'frames' shared by investors or investment analysts can play a central role in stock market valuation of firms and thereby influence strategies. In the present case, the STE variable can be seen as a key commensurable metric related to such a frame. While earlier work concentrates mostly on the *effects* of the frames on stock valuation, our theorization concentrates on the *determinants* that influence how an information variable can emerge as a key frame or metric and on its effects outside the immediate stock market community (i.e. among the media and corporate managers). In identifying and highlighting the potential self-reinforcing-ness of this emergence, our theorization brings to the centre a mechanism which extant studies have sometimes noted as a possible mechanism for explaining stock market bubbles (e.g. [Abolafia and Kilduff, 1988](#); [Beunza and Garud, 2007](#)), but which no prior literature has, to our knowledge, identified as a mechanism for explaining corporate short-termism. In a similar vein, our framework adds to related literature in accounting, regarding the process how certain accounting metrics may become the object of 'commensuration' ([Espeland and Stevens, 2008](#)), therefore making firms more readily comparable and, as an outcome, pressuring all firms to be accountable and auditable in terms of these same metrics ([Miller and Power, 2013](#)).

Specifically, we suggest that the emerging focus on STEs in the investment community is a syndrome of the self-reinforcing process triggered by investigative herding of speculative investors (cf. [Froot et al., 1992a, b](#); [Allen et al., 2006](#)). Our theorization is an outgrowth of this literature, since we examine the processes of investigative herding regarding the specific information variable of STEs—an information variable which has not previously been explicitly theorized in terms of investigative herding. The same applies to wider sociology (e.g. [Ridgeway and Correll, 2006](#)) and political science literature (e.g. [Chwe, 2001](#)) on coordination motives: while there are many examples of the coordination motives of decision-makers in various market and social contexts, to our knowledge the present article is the first one to use a coordination perspective in explaining the emergence of corporate short-termism.

What is more, we also extend the literature on investigative herding by highlighting the potentially influential role of vocal media reports on the actions of the investment community. While studies on the social dynamics of financial markets (e.g. Abolafia and Kilduff, 1988; Pollock and Rindova, 2003; Johnson et al., 2005; Tetlock, 2007; Zhu and Westphal, 2011) have suggested that the media play an important role in stock market dynamics, the influence of an actual media *bias* (due to media reports' over-exhibitive nature) has not been widely outlined before in eliciting herding by market actors.

Consistent with Benner's (2007) notion, we also outlined how the subjective valuation models of investors may eventually have important effects on corporate managers and thereby on firm strategies. A further suggestion of our perspective is that corporate managers may hold misperceptions of the criteria on which the investors presumably base their investments decisions—in the present case, overestimating reliance by investors on STE information. This suggestion is consistent with the biasing role of 'mere exposure' or 'availability,' as suggested by research on cognitive biases in market contexts (e.g. Tversky and Kahneman, 1982; Damasio, 1994; Conlisk, 1996; see also Kuran and Sunstein, 1999; Pollock et al., 2008).

Our theorization regarding how exposure of managers to media reports shapes strategy is also a somewhat new proposition in the literature on the role of media in the adoption of management practices by corporate managers (e.g. Abrahamson and Fairchild, 1999; Mazza and Alvarez, 2000). In this sense, our theory is also in line with Hilgartner and Bosk's (1988) view of the rise and fall of social problems, whereby social problems are seen to emerge as a result of feedback processes not only within communities or arenas, but also across various public arenas—eventually contaminating the whole field (see also Selsky et al., 2007). Finally, we also add to the accounts of the 'financialization' or 'economization' of contemporary society, wherein the financial market forces operating 'outside' and 'inside' non-financial corporations are becoming increasingly arbitrary (Krippner, 2005, p. 202).

6.2 Limitations and avenues for future research

Several avenues for future research emerge from our theorizing. As the present article presents a research review and conceptually develops a set of testable propositions, empirical testing of the propositions could be a priority for further research. A combination of empirical data collection and an analytical simulation approach would probably be effective for testing the propositions, given the analytically complicated self-reinforcing processes suggested.

One limitation relates to the potentially misleading impression our framework might convey to readers about the exclusiveness of the STE focus in contemporary investor and managerial behaviour. Indeed, it should be noted that while our

propositions claim that investors as well as corporate managers have come to focus increasingly on STEs in their behaviour, they *do not* claim that corporate STEs (or any other variable) have become the *only* variable on which investors or managers rely. Thus, even if STEs were a variable or metric focused on (or ‘overweighted’) by an ever-larger proportion of actors (Bushee, 2001; Benner, 2007), the increasing focus on this one variable does not prevent the actors from using other variables as well. Moreover, another limitation is that our theorization deals first and foremost with the phenomena taking place in the financial markets of countries such as the USA and the UK. Although the Anglo-Saxon model and ideologies have been increasingly adopted elsewhere, the applicability of our arguments to different countries and market systems is not straightforward and would necessitate further analysis and research.

Finally, assuming that an excessive focus on STEs may have detrimental corporate and societal consequences, a (public) policy perspective raises the question of whether the self-reinforcing processes can be stopped or reversed once they have started. This is also a question for further research, although some answers can be outlined here. In particular, we view the role of the media as potentially critical. It may be that the self-reinforcing processes will not stop until the media reverse their reporting. For years, the media have providing lamenting reports about the reliance of investor and manager communities on STEs; but such reporting is, paradoxically, likely to have augmented the self-reinforcing convergence on that variable. Should the media vocally report that investors have begun to prefer a variable that is at odds with STEs—such as patents and innovations—they might trigger a new self-reinforcing cycle that would mitigate the present one. Finally, information intermediaries other than media—such as investment analysts (cf. Zuckerman, 1999; Rao *et al.*, 2001)—should also be studied in more detail in further research, in particular their tendency to produce equally vocal reports as the media, and hence their ability to shape the processes in question.

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