Response to FCA Discussion Paper 17/2

Review of the Effectiveness of Primary Markets: The UK Primary Markets Landscape

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Introduction

Thank you for considering this submission. I am a Professor of Finance at LBS, formerly a tenured professor at Wharton, who specialises in corporate governance, investment/growth/innovation, and shareholder structure. I have published on these topics in all the top finance journals, plus the *Harvard Business Review*, *Wall Street Journal*, *World Economic Forum*, and *CityAM*. I am Managing Editor of the *Review of Finance*, the #1 finance journal in Europe.

Unusually for an academic, I am heavily involved in policy and real-world practice. I serve on the Steering Group of The Purposeful Company, which proposes policy reforms to encourage businesses to pursue long-term purpose rather than short-term profit. I testified orally in the House of Commons Select Committee Corporate Governance Inquiry, serve on Royal London Asset Management's Responsible Investment Advisory Committee, and frequently give talks to leading companies, investors, and professional associations.

Approach

The following thoughts are grounded in rigorous academic research, which uses large scale datasets and, in many cases, demonstrates causation rather than correlation. Often, views on "patient capital" and "dual-class shares" are based on intuitive arguments or a couple of anecdotal examples (e.g. Facebook having dual-class shares and being successful), but they may not be representative, in particular since only the extreme cases tend to be reported.

Certainly, evidence should not be used dogmatically – we should be guided by evidence, not blindly follow it. Moreover, it is important to be critical of the evidence. There is a huge range in quality of academic evidence, and most papers are wrong, or at best misleading. At the *Review of Finance*, I reject 97% of papers; lower-ranked journals have substantially laxer standards. It is almost always possible to find "evidence" that supports what one would like to show, often ignoring the quality of the journal in which it was published, or whether it has even been published. The peer review process at the very top academic journals is critical to ensure the integrity of evidence. Many papers remain unpublished after

several years because they have constantly failed peer review due to major mistakes. Almost all papers I cite here are either published in the very top journals, or "revise-and-resubmits"[1] in them.

Executive Summary

1. Maintain the Distinction Between Premium and Standard Listings. For example, there is rigorous evidence that dual-class shares, far from protecting entrepreneurial vision, entrench management - manifesting in excessive pay, poor investment decisions, bad acquisitions, and lower firm value. They should thus be viewed separately from single-class shares, to highlight that investors need to scrutinise such firms' governance particularly closely, and that investors without the resources or expertise to do so may be advised not to invest in such firms.

2. There is a critical distinction between "investors with a long-term focus" and "long-term investors". Investors with a long-term focus should sell a stock in the short-term, if they learn that it is boosting earnings by cutting investment. We should foster *conditional loyalty* – investors who stay with a firm that pursues long-run growth (regardless of short-term earnings) but exit the firm if it abandons long-run growth for short-term earnings – not *unconditional loyalty* that leads to managerial entrenchment.

3. The term "patient capital" is a misnomer. An investor who "impatiently" sells her shares does not deprive the firm of capital, since she sells on the secondary market to another investor who buys. All equity capital is patient capital - the firm is guaranteed the capital regardless of whether the investor subsequently sells it on the secondary market.

4. Thus, liquidity and short-term trading do not drive short-term investment. Instead, two other characteristics of the capital market do:

   a. Fragmented shareholders / the ownerless corporation. Small shareholders have insufficient skin-in-the-game to analyse a firm's long-run intangible assets and instead base their decisions on freely-available short-term earnings.

   b. Quarterly earnings disclosure. Moreover, regulators may need to go further than simply allowing firms not to report quarterly (which has had little uptake so far), but prohibit quarterly reporting to avoid a race to the bottom.

For brevity, I will focus on the questions in the Discussion Paper for which I have the greatest expertise.

[1] In top academic journals, 90-95% of papers get rejected. Only 5-10% get a "revise-and-resubmit" decision, which means that the Editor is giving the authors a chance to address his and the peer reviewers' concerns. Upon a "revise-and-resubmit", the probability of acceptance rises from 5-10% to 65-70%.

1. Question 3.1: Do you have any comments on the underlying rationale for standard listing?

1.1 I strongly support the rationale for a separate category of listing (standard listing) for issuers that do not meet the superior corporate governance standards of a premium listing. I will use dual-class share structures as an example, since they are covered on p10 of the Discussion Paper as well as the Government's Green Paper on Industrial Strategy. But the general principle of having a separate category applies to other premium listing requirements.

1.2 The removal of a separate listing category would allow issuers currently failing to meet the corporate governance standards of a premium listing to be treated equally with those that do (or be prohibited from listing altogether). This is inadvisable, because these corporate governance standards must be taken seriously. Evidence shows that failure to meet them can lead to very negative consequences

1.3 I strongly advise against treating dual-class companies equally with single-class companies, because the evidence is that dual-class shares are associated with significantly lower firm valuations.

1.3.i Gompers, Ishii, and Metrick's (2010) find that "firm value is increasing in insiders' cash-flow rights and decreasing in insider voting rights". The statistical significance becomes smaller, but the economic significance remains as strong, when using instrumental variables to address the endogeneity of the decision to have a dual-class structure.

1.3.ii These results are consistent with cross-country evidence that, when voting rights exceed cash flow rights, firm value is significantly lower. Lins (2003) studies 1,000 firms in 18 emerging markets and finds that firm value is lower when voting rights exceed cash-flow rights. Claessens et al. (2002) study 1,300 firms in eight East Asian countries and find that firm value decreases when the voting rights exceed the cash-flow rights.

1.3.iii These academic findings are backed up by practitioner studies. A 2012 study by the Investor Responsibility Research Centre ("IRRC") showed that controlled companies with multiple share classes exhibited lower long-run stock returns, higher stock price volatility, and a higher likelihood of accounting-related material weaknesses and related-party transactions than non-controlled companies. A 2016 study by the IRRC found that, in controlled companies, there is less gender and ethnic diversity in the boardroom, directors have longer average tenures with less board refreshment, and there are more and larger related-party transactions. CEO pay at controlled companies with multiple share classes is $7.2 million higher than at single-class controlled companies, and $3.3 million higher than in non-controlled firms.

1.4 These results suggest that, far from protecting a firm's entrepreneurial vision and allowing it to invest for the long-term, dual-class shares entrench management and allow it to pursue its own interests. Indeed, Masulis, Wang, and Xie (2009) find that dual-class shares are associated with:

1.4.i A lower valuation of corporate cash holdings. Cash held on the balance sheet is valued less by the market, consistent with entrenched management using free cash to pay themselves excessively or consume perks. It is inconsistent with dual-class shares allowing managers to undertake valuable long-term investments.

1.4.ii Higher CEO pay. This is consistent with evidence that institutional investor monitoring reduces CEO pay, and ties it more to performance (Hartzell and Starks (2003)).

1.4.iii Worse acquisitions, consistent with dual-class shares allowing managers to build empires. Specifically, acquisitions are associated with lower returns and more likely to exhibit *negative* returns. Moreover, firms are less likely to withdraw from acquisitions that the market perceives as value-destroying, again a sign of insulation from external discipline.

1.4.iv A lower valuation of capital expenditure – i.e. capital expenditures contribute less to firm value. This is consistent with entrenchment leading to empire-building or indisciplined investment rather than valuable long-term investment.

1.5 Moreover, the principle behind dual-class shares sits very uneasily with the Government's mission to give voice to the voiceless and make Britain a "country that works for everyone". Dual-class shares entrench the elite by making management *less* accountable, which is why management can end up paying themselves excessively and making bad acquisitions. Retail shareholders who put their hard-earned money into companies are denied votes. Pension funds who invest for the long-term interest of their beneficiaries are denied votes. Dual-class shares send the message that the issuer wants the public's money, just not their opinions – not dissimilar to the famous quote "taxation without representation is tyranny". The Discussion Paper (e.g. paragraph 2.36) commentators rightly highlight the problems of the ownerless corporation and shareholder disengagement; dual-class shares will severely hinder shareholders from engaging, worsening the problem of disengagement and the ownerless corporation. Indeed, engaged shareholders with a long track record of stewardship, such as Hermes, have been lobbying against dual-class shares for decades. A February 2017 report by the International Corporate Governance Network contains the findings of a recent survey "which shows that a strong majority of our Members disapprove of differential ownership structures."

1.6 Proponents argue that dual-class shares protect entrepreneurial vision, and that successful companies such as Google, Facebook, and LinkedIn have them. However, it is a huge unsupported leap to claim that dual-class shares caused their success. Very many other factors were behind their success – non-governance-related (the companies' first-mover advantage) and governance-related (the executives having substantial shares in their firm). If anything, causality is likely to be the other way – given investors' scepticism on dual-class shares, it is only the companies with very strong prospects that will be able to get away with dual-class shares upon IPO. In other words, expected good future performance allows dual-class shares to be adopted, rather than dual-class shares leading to good future performance.

1.6.i Moreover, the above cases are anecdotal examples. It is almost always possible to find anecdotes to support a particular viewpoint. The large-scale evidence presented above demonstrates the negative effects of dual-class shares in general. There are many high-profile anecdotes of substantial failures associated with dual-class shares. For example, dual-class shares allowed Hollinger CEO Conrad Black to run the company like a dictator, exacting huge management fees, consulting payments, and personal dividends, and filling the board with his friends – all leading to underperformance. Vic De Zen of Royal Group Technologies diverted large sums of money for personal benefit, and Frank Stronach of Magna and Jim Shaw of Shaw Communications substantially overpaid themselves despite huge losses. Such cases substantially destroy the public's trust in business.

1.6.ii More generally, the idea that entrepreneurial vision should be left unchecked is also not clear. As a high-profile example of unchecked "vision" (although not dual-class shares), Jerry Yang of Yahoo rejected a takeover bid from Microsoft in February 2008 at a 62% premium, because he stubbornly refused to cede control, and has since substantially underperformed. Even the best entrepreneurs benefit from external opinions; indeed, this is why we promote board diversity, rather than allowing CEOs to fill the board with their friends if they were the founders.

1.7 The evidence against dual-class shares is also consistent with the broader evidence on other devices – such as golden parachutes, poison pills, and staggered boards – claimed to protect a firm's entrepreneurial vision, but actually ending up entrenching management. The most-cited governance paper of the millennium, Gompers, Ishii, and Metrick (2003) finds that companies with the most entrenchment devices underperformed those with the least by 8.5%/year in the 1990s. Giroud and Mueller (2011) find that this continues to hold with more recent data in non-competitive industries, where management has more latitude to destroy value. Masulis, Wang, and Xie (2007), echoing their paper on dual-class shares, find that companies with more entrenchment devices engage in worse M&A.

1.8 The above large-scale evidence suggests that dual-class structures are undesirable for most firms. However, it may be the case that they are beneficial in certain firms. The current regulations still allow such firms to adopt dual-class structures and be listed. The standard listing simply highlights that investors need to scrutinise such firms' governance particularly closely, and that investors without the resources or expertise to do so may be advised not to invest in such firms.

2. Question 4.5: What are the characteristics of the capital market structures that drive short-term behaviours?

2.1 At the outset, it is necessary to distinguish between two terms that are frequently used interchangeably, but are critically different and must not be confused.

2.1.i "Patient capital" / "long-term investors". These terms are typically used to refer to investors with long holding periods, who are "committed" to the company for many years and will not sell them.

2.1.ii "Investors with a long-term focus", which is the term correctly used in paragraph 4.3 of the Discussion Paper. Critically, having a long-term focus may not entail holding for the long-term.

2.2 The common argument against short-term investors (i.e. investors who do not hold for the long-term) is the following. They sell shares in a firm that has delivered poor short-term earnings. This pressures managers to increase short-term earnings (to avoid their shares being sold), by cutting investment.

2.3 However, this argument critically confuses two quite separate concepts. What matters is whether shareholders *trade on short-term or long-term information*, not whether shareholders *hold for the short-term or long-term*. In particular, short-term trading can based on long-term information; selling in the short-term does not mean taking a short-term perspective (Edmans (2009)).

2.3.i If a firm has inflated its earnings by cutting investment, a shareholder who gathers long-term information (and knows that long-term value is low due to the disinvestment) will sell her shares. The threat of such short-term selling is *beneficial* as it deters the firm from inflating earnings to begin with – known as "governance through exit". Conversely, if a firm has low earnings because it has invested, a shareholder with long-term information will not sell.

2.3.ii What we want is *conditional* loyalty – a shareholder who stays with a firm, even if short-term earnings are low, as long as the firm is pursuing long-run value. We do not want *unconditional* loyalty – a shareholder who stays with a firm, regardless of whether it is destroying long-run value, as with Volkswagen's shareholders. Uber's customers recently deleted their accounts to discipline management[2]; similarly, shareholders who sell their shares in a non-purposeful company are exerting discipline rather than being short-termist. We should promote shareholders *with a long-term focus*, not *long-term* shareholders.

2.4 How can we ensure shareholders trade on long-term information? By encouraging them to take large stakes. Gathering information on a firm's long-run investment and treatment of workers, suppliers, customers, and the environment is costly. Small shareholders have little "skin in the game" and so will not bother to bear this cost; instead, they will base their trading decisions on short-term earnings, as this

[2] I am not taking a stand as to whether Uber's actions merited such discipline; merely emphasising that customers had the disciplinary device of "exit" available to them and that customer discipline is typically seen as desirable.

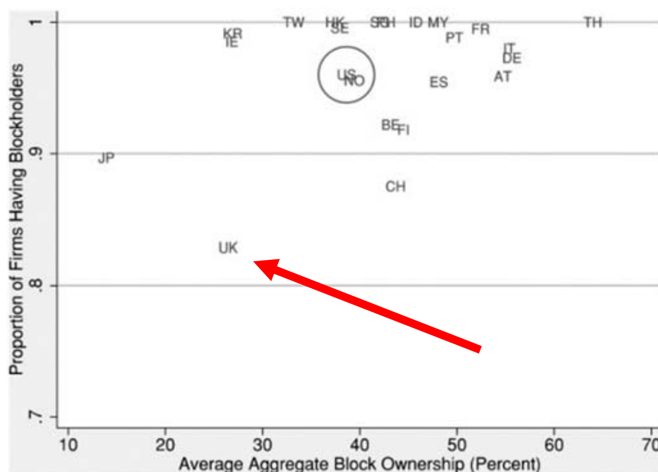
information is freely available – "the market sells first and asks questions later." In contrast, blockholders' large stakes give them the incentives to ask questions first and analyse long-term value (Edmans (2009)). If a firm has delivered low earnings due to investment, blockholders will not sell (and may buy more). <u>Informed blockholders insulate managers from the need to cater to short-term pressures, and free them to focus on long-term purpose</u>.

2.4.i Warren Buffett's strategy is to take large stakes in companies and allow them to build their brand for the long-term. Since management knows that Buffett will be basing his evaluations on long-term information, due to his large stake, they are free to build their brand rather than focusing on short-term profit. But, <u>Buffett is conditionally, not unconditionally, loyal. If the firm has not built its brand after several years, he sells his stock</u>. In sum, stake size, not holding period, is key.

2.5 Holding periods are thus not the driver of short-termism. Instead, the drivers are investor fragmentation and quarterly reporting. Moreover, research suggests that liquidity helps, rather than hurts short-termism. I now discuss these three issues.

The Ownerless Corporation

2.6 The UK has a fragmented shareholder structure. The following chart from Holderness (2009) shows that the UK is a global outlier in having few blockholders (defined here as a 5% shareholder):



2.7 Note that, in addition to trading on information (governance though exit), blockholders can help long-term behaviour through governance through voice: direct engagement within a firm. A blockholder's large stakes give him both the *incentives* to engage with a firm (since he has skin-in-the-game) and the *power* to do so (due to voting rights). Engagement can involve not only disciplining management (e.g.

curbing short-termism), but also advising management (e.g. on long-term investment strategies). There is significant evidence on the benefits of engagement for shareholder and stakeholder value.[3]

2.8 Potential ways to encourage blockholding are as follows, which are taken from The Purposeful Company's Policy Report (Chapter 4: Blockholding)[4]. Note that, before considering any such policies, it is critical to ensure that their adoption does not disadvantage minority shareholders (in particular retail shareholders). The discussion of the merits of blockholders does not all imply that retail shareholders have no value, merely that skin-in-the-game gives more incentives and clout:

2.8.i Disclosure Relaxation. At present, investors have to disclose when they have acquired a 3% stake. This makes it costly for an investor to build (say) a 5% stake. After he has acquired 3%, he must disclose her stake. This pushes up the stock price and makes it more expensive for him to buy the remaining 2%. As a result, shareholdings typically cluster at 2.9%. 46% of FTSE 100 companies have at least one investor with a 2.9% stake.

- The UK's disclosure requirements are abnormally stringent compared to the US and EU, where the lowest disclosure threshold is 5%.
- In the UK, directors are required to call a general meeting only if requested by the holders of 5% of shares. This engagement threshold is inconsistent with the 3% disclosure threshold and means that, 3%, in some firms, no single shareholder has the power to call for meetings.
- The US introduced a more relaxed disclosure requirement (Schedule 13G) for investors that do not seek to take control, and so there is less concern with minority shareholder expropriation. Yet, such blockholders can still monitor, and so should be encouraged. The UK should consider a relaxed disclosure requirement for such blockholders. Edmans, Fang, and Zur (2013) show that 13G blockholders significantly improve operating performance.

2.8.ii Structured Access. Investors have substantial concerns about receiving intangible information in company meetings, even though such information may aid engagement and monitoring. Clarifying what information they can and cannot receive without violating insider trading laws would improve engagement and monitoring for the benefit of minority shareholders (and society) also. This must be done in a way that does not disadvantage minority shareholders.

2.8.iii Collective Engagement. Active engagement often involves collaboration between shareholders. Many institutional investors are wary about collaborating as it may (unintentionally) lead to information sharing and thus being classified as an insider. The Investor Forum has significantly facilitated collaboration for intensive and wide-ranging engagements, but there is no similar

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[3] Becht, Franks, Mayer, and Rossi (2009), Carleton, Nelson, and Weisbach (1998), Dimson, Karakas, and Li (2015), Brav, Jiang, Partnoy, and Thomas (2008), Brav, Jiang, and Kim (2015), Brav, Jiang, Ma, and Tian (2016).
[4] http://biginnovationcentre.com/media/uploads/pdf/TPC_Policy%20Report.pdf

framework for routine or specific engagements. It would be useful to both clarify and, if necessary, weaken any restriction on collaboration.

- An example of a weakening of restrictions is the SEC's relaxation of proxy rules in 1992[5], allowing shareholders to communicate freely. This led to institutional ownership improving innovation (Aghion, Van Reenen, and Zingales (2013)).

2.8.iv Voting With Borrowed Stock. Some commentators have expressed concerns that the stock lending market allows arbitrageurs to borrow votes and sway decisions (e.g. M&A outcomes), even if they have a small actual stake in the firm. However, Christoffersen et al. (2007) show that stock lending can lead to votes going to informed investors, and may potentially address the "low turnout" issue. One potential way to prohibit "bad" stock lending but not "good" stock lending is to allow borrowed stock to be voted only if it is borrowed by blockholders, who have skin-in-the-game and are likely to be informed.

Liquidity

2.9 Related to the concerns with short-term shareholders are calls to restrict the liquidity of the stock market, for example through transaction taxes, a higher capital gains tax on short-term holdings, or "loyalty shares", which give shareholders additional dividends or voting rights if they hold their shares for a minimum period. Over and above the arguments earlier in this section, there are numerous problems with such proposals:

2.9.i It deters new shareholders forming a large stake. Shareholders can only sell if other shareholders buy. While an obvious point, this seems to be virtually ignored in the criticism of selling. Indeed, Holderness and Sheehan (1988) and Barclay and Holderness (1991) find that trades of large blocks between investors lead to a significant increase in firm value, consistent with the block being reallocated to a more effective monitor. To encourage block formation, we need to facilitate selling for two reasons. First, if existing investors face disincentives to sell, there are fewer shares for new blockholders to buy. Second, if potential new investors know that they will be locked up for several years, they will be less willing to buy a large block in the first place.

2.9.ii Once the investor has formed her block, she is less willing to bear the costs of gathering long-term information if she knows that she will be unlikely to sell due to trading restrictions

[5] This relaxation exempted shareholder communications such as public statements of their voting intentions and/or voting rationale (including public speeches, press releases, newspaper advertisements, and internet communications) from the definition of a proxy solicitation

(Edmans (2009)). Instead, investors will simply accept a firm's high earnings and not bother to find out if they are instead driven by short-term manipulation.

2.9.iii It encourages only *holding* for the long-term, rather than *engagement* or *monitoring*. Investors can now outperform the benchmark by simply holding their stake to collect the loyalty dividend.

2.9.iv Once an investor has reformed a company, you would like her to take her capital and reform another company. Lock-ups would deter this. There is no gain in the investor staying after the reform, just as turnaround specialists' contract should not outlast the project.

2.9.v If an investor has to wait several years before receiving full voting rights, she will be unable to engage. Thus, such proposals will simply entrench management.

2.9.vi What matters is an investor's (conditional) holding period going forwards rather than in the past. That an investor has held shares for many years in the past does not imply that she will continue to do so in the future. Indeed, with a higher capital gains tax for short holding periods, an investor who has held shares for many years will be more likely to sell.

2.10 The criticism of liquidity first appeared in the early 1990s when commentators advocated the Japanese model of long-term illiquid stakes. The underperformance of Japan over the intervening 25 years suggests that this model is not the panacea previously thought. While this underperformance may be for many reasons other than liquidity, there is evidence on the direct effect of liquidity on firm value. This evidence is causal. Simply correlating liquidity with firm value is not proof that liquidity improves firm value, as it may be that higher firm value increases liquidity or a third variable causes both. These studies use the decimalization of the major U.S. stock exchanges in 2002 as an exogenous shock to liquidity. Before, prices were quoted in 1/16ths of a dollar; after, they were quoted in 1/100ths of a dollar. For example, if a stock used to cost $8 1/16 (= $8.0625) to buy and $8 to sell, post-decimalization it might cost $8.01 to buy and $8 to sell, significantly reducing the cost of trading.

2.10.i Fang, Noe, and Tice (2009) found that decimalization had a positive causal effect on firm value.

2.10.ii Bharath, Jayaraman, and Nagar (2013) found that this positive effect was particularly strong in firms with large blockholders and in firms where the manager's wealth was particularly sensitive to the stock price (i.e. the manager was particularly sensitive to governance through exit)

2.10.iii Edmans, Fang, and Zur (2013) found that decimalization had a positive causal effect on block formation, and that governance through exit improves firm value.

2.11 Activist hedge funds are often seen as the epitome of short-term investors. Popular myth is that they cut investment, fire employees, and break contracts to boost the short-term stock price, and cash out before the long-term value destruction comes to light. However, a decade of research strongly contradicts this:

2.11.i Brav, Jiang, Partnoy, and Thomas (2008) found that hedge fund activism raises firm value by 7%, with no long-term reversal. Furthermore, operating performance and CEO turnover both rise.

2.11.ii The increase in operating performance runs contrasts common belief that hedge funds only create value through financial engineering (e.g. piling on debt). Even so, it may be undesirable if it results from over-working employees. Brav, Jiang, and Kim (2015) investigated its source. It finds operational performance rises because of an increase in plant-level productivity, which in turn stems from higher labor productivity. Interestingly, the rise in labour productivity arises despite working hours not rising and wages not falling. Productivity also improves in plants sold by hedge funds - thus, such disposals are not asset stripping, but reallocating assets to buyers who can make better use of them.

2.11.iii Brav, Jiag, Ma, and Tian (2016) study innovation. They found that hedge funds do indeed cut R&D. But, despite the reduction in innovation input, innovation output actually improves, in terms of future patents and patent citations (a measure of quality). Thus, hedge funds improve innovation efficiency - they get more with less. Similar to the plant results, these gains come from efficient reallocation decisions. The inventors who leave become more productive at their new firms, and new inventors are hired in their place. The patents they sell receive higher citations under their new owners, and the firm focuses on patents closer to its core competencies.

2.11.iv The long-term benefits from hedge funds, even though they have a relatively short average holding period (20 months), should not be surprising. Management consultants can make substantial long-term changes in just a few months.

2.12 Often commentators discuss "Patient Capital" implying that impatient investors deprive firms of capital by selling their shares. This makes no sense. Investors sell their shares on the secondary market and have no effect on a firm's capital. <u>All equity capital is patient capital - the firm is guaranteed the capital regardless of whether the investor subsequently sells it on the secondary market</u>.

2.12.i This contrasts with virtually every other stakeholder. Banks can withdraw lines of credit, employees can quit, customers can stop buying, suppliers can stop supplying. All of these actions have direct implications on the firm, as they deprive the firm of credit, labour, customs, or supplies – whereas <u>selling shares on the secondary market does not deprive the firm of capital</u>. Stakeholders should absolutely have the right to terminate their relationship with the firm, despite the negative impact – and so shareholders should have the right to do so, particularly since the negative impact is lower.

2.13 It is indeed true that selling shares has an indirect effect on the firm by reducing the stock price. If the CEO's has short-term bonuses linked to the short-term stock price, he will be concerned with such sales.

However, this problem is averted by giving the CEO equity with long holding periods. If the CEO cannot sell equity for 5-7 years, he will be less concerned with short-term falls in the stock price.

2.13.i I have written about the arguments for redesigning pay away from short-term bonuses to long-term equity elsewhere, so will not repeat the arguments here. The main references are my FT Op-Ed at http://bit.ly/ftceopay, and my blog post "Simplicity, Transparency, and Sustainability: A New Model for CEO Pay" (http://alexedmans.com/scrap-ceo-bonuses-and-award-shares-to-all-employees) which expands on my FT Op-Ed with a simple diagram and frequently-asked questions.

2.13.ii Moreover, loyalty shares *exacerbate* the stock price decline upon selling. As discussed in paragraph 2.10.1, they reduce liquidity by making it less attractive for new shareholders to buy, thus increasing the negative price impact of any sale.

Quarterly Reporting

2.14 I fully agree with the suggestion in paragraph 4.18 for listed companies to stop voluntary quarterly reporting. Firms may reduce long-term investment if they fear that it will lead to low quarterly earnings. Note that a weak earnings announcement immediately reduces the stock price without any shareholder selling – the mere announcement causes the price to fall.

2.15 This suggestion is reinforced by empirical research:

2.15.i Kraft, Vashishtha, and Venkatachalam (2017) study changes in the mandatory reporting frequency in the US. The Securities and Exchange Commission required annual reporting of financial statements in 1934, moved to semi-annual reporting in 1955, and finally to quarterly reporting in 1970. The authors compare firms affected by the law changes (i.e. who had to increase their reporting frequency to comply) with those unaffected, because they were already voluntarily reporting at the new required frequency before the law change. A mandatory increase in reporting frequency leads to a reduction in fixed investment by 1.5-1.7% of total assets, 15-21% of the average level of investment. This reduction persists for at least five years.

2.15.ii Ernstberger, Link, Stich, and Vogler (2016) found that the change from semi-annual to quarterly reporting under the 2004 EU Transparency Directive led to firms reducing investment, which improved operating performance in the short term but lowered it in the long term.

2.15.iii Cheng, Subrahmanyam, and Zhang (2007) document that firms that issue quarterly earnings guidance invest less in R&D.

2.16 Moreover, Edmans, Heinle, and Huang (2016) suggest that regulators might need to go even further than simply removing the requirement for firms to report quarterly (as in the UK's 2014 amendment to

the Disclosure and Transparency Rules). They may need to ban quarterly reporting altogether, because of a "Prisoner's Dilemma" problem (also known as a "race to the bottom"). If all firms did not report quarterly, then all firms would be freer to invest for the long-term. But, any firm who ends up delivering good quarterly earnings (e.g. despite investing for the long-term, its investments pay off earlier than expected) will defect and report quarterly earnings anyway. Knowing that any firm with good quarterly earnings would want to report it, the market infers that any firm that does not report quarterly earnings must have poor earnings. "No news" is not no news, but bad news. Effectively, earnings still end up being reported – since low earnings are "reported" by the firm's decision not to disclose them.

2.16.i This may be why so few firms have taken advantage of the option not to report quarterly earnings. If a firm decides not to report quarterly earnings, the market may infer that it is doing so because near-term earnings prospects are low. However, if regulators prevent all firms from reporting quarterly earnings, then there is no such negative inference.

2.16.ii An analogy is that, in some leading business schools, the student body agrees that no student is allowed to disclose grades to potential recruiters, otherwise students will take the easiest classes. If there was no such ban, any student with good grades would voluntarily reveal it, and any student who chose not to reveal his grade (due to pursuing difficult classes) would be inferred as having poor grades. Thus, a blanket ban is needed.

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