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MY GOAL IN THESE COMMENTS is to set the stage for Azar and Vives (2020) by briefly discussing the common ownership literature in the context of the literature on financial structure and product market competition. The interaction between product market competition, financial structure, and governance is a classic issue in corporate finance. Financial structure issues include the choice between debt and equity, while research on governance asks when and how managers maximize the value of the firm on behalf of capital owners.

Two fundamental ideas underlie the literature. The first idea is a version of the first welfare theorem: when markets are competitive, maximizing firm value leads to a Pareto-efficient outcome. The other idea is based on the insights of Modigliani and Miller (1958) and Coase (1960): under efficient bargaining, maximizing shareholder value is equivalent to maximizing total firm value. These two ideas lead logically to the proposition that governance should focus on aligning the incentives of managers with those of shareholders. When markets are competitive, such a governance structure is beneficial not only to shareholders, but also to society at large.

When product or financial markets are neither efficient nor competitive, however, the result does not hold. There are conflicts of interests between shareholders and debt holders that can lead to debt overhang and risk shifting (Myers (1977)). Financial frictions interact with product market competition and can lead to predation (Bolton and Scharfstein (1990)). Leverage influences the way firms behave in the product market (Chevalier (1995), Phillips (1995)).

A Simple Model of Imperfect Governance. Consider the following simple model. A firm invests in scale k and production is linear in scale: $y = k$. Firm-level demand is downward sloping and I use the inverse demand curve $p(y)$. The cost of scale is r and we ignore labor for simplicity. Profits are given by $\pi(k) = p(k)k - rk$. Let k^s denote the profit maximizing scale, the one favored by shareholders (s). It solves the usual markup equation

$$p(k^s) = \frac{\sigma(k^s)}{\sigma(k^s) - 1} r,$$

where the demand elasticity is defined as $\frac{1}{\sigma(k^s)} \equiv \frac{-p'(k^s)k^s}{p(k^s)}$. The socially optimum scale k^*, by contrast, equates price and marginal cost $p(k^*) = r$. Market power thus implies that scale (investment) is inefficiently low: $k^s < k^*$.

Suppose now that governance is imperfect. Shareholders receive the firm's profits but managers have a preference for scale. Assume that managers solve $k^m = \arg\max_k \pi(k) +$

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αk, where α reflects the preference of the manager and the fact that governance is imperfect. This program is equivalent to $k^m = \arg\max_k p(k)k - (r-\alpha)k$. The preference for scale is equivalent to a downward bias in the perceived cost of funds. The solution is thus

$$p\left(k^m\right) = \frac{\sigma\left(k^m\right)}{\sigma\left(k^m\right) - 1}(r - \alpha).$$

The preference of the manager leans against the full exploitation of monopoly power. This does not happen because the manager cares about consumers, but rather because the manager enjoys running a large firm.

What can we say about welfare? If α is small, we know that an increase in α must increase welfare since $\alpha = 0$ corresponds to the classic shareholder solution where the firm takes full advantage of its monopoly power. We can define α^* as the managerial bias that restores the perfect competition outcome $\alpha^* \equiv \frac{r}{\sigma(k^*)}$. We have the result that improvements in governance decrease welfare for all $\alpha \in [0, \alpha^*]$. When α exceeds α^*, the bias becomes too strong and welfare and governance are positively related. Another way of stating the result is that shareholders prefer $\alpha = 0$ while society prefers $\alpha = \alpha^*$. They agree on governance reforms when α is to the right of α^* and disagree when α is to the left of α^*.

An important point is that none of this matters when product markets are highly competitive. Formally, it is easy to see that when $\sigma(k^*) \to \infty$, $k^s \to k^*$ and $\alpha^* \to 0$. When product markets are not perfectly competitive, however, maximizing shareholder value is not generally efficient. This is, of course, a special model that ignores some of the virtues of good governance. In a more realistic model, we would introduce a productivity parameter z such that output is $y = zk$ and we would argue that good governance can increase managerial effort, which then increases z. But the main point would not change.

This class of models makes several simple predictions. A change in governance that increases the enforcement of shareholder value leads to an increase in payouts (dividends and buybacks) and a decrease in investment. Figure 1 shows the rise in payouts. Gutiérrez and Philippon (2017) documented the weakness of investment. Gutiérrez and Philippon (2018) showed that these two trends are driven by firms with large and increasing shares of institutional investors. These investors have a preference for payouts and the means to put pressures on managers. Gutiérrez and Philippon (2018) also showed that governance

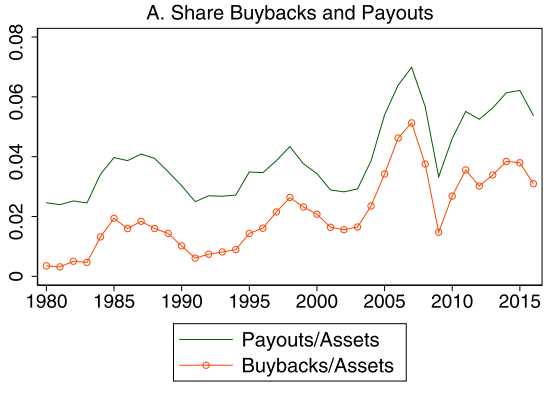

FIGURE 1.—Payouts. Notes: Figure shows the aggregate ratio of payouts and buybacks to assets. Firm financials from Compustat; includes only U.S.-incorporated firms.

affects firm investment primarily in noncompetitive industries, which is what the theory predicts. They concluded that lack of competition and changes in firm governance have contributed to the increase in payouts as well as the weakness of corporate investment in recent years.

Common Ownership and Financial Structure. In the simple model just discussed, the only governance variables that matter are the ones pertaining to the particular firm being studied. The assumption is that the firm is influenced by its own shareholders, but the nature or identity of the shareholders of other firms in its industry do not matter. This is the point of departure of the literature on common ownership. The work of Azar, Schmalz, and Tecu (2018) on the U.S. airline industry has revived the debate about the consequences of common ownership. Several empirical papers point to significant negative effects of common ownership, such as higher concentration and higher prices.

There is a sense in which the common ownership literature connects to the rich literature on capital structure and competition. The key point is that the decisions of individual firms are related to those of industry peers. When debt financing matters for incentives and competition is strategic, the capital structure and product market choices of a firm should always depend on the capital structure of other firms (Phillips and Mackay (2005)).

Why is the common ownership approach controversial then, even though the strategic debt approach is not? It is presumably because debt is a hard claim and there is no doubt that it has a first-order impact on managerial choices. Managers who want to avoid bankruptcy have to raise cash flows. When a firm is in distress and control shifts to debt holders, the governance of the firm is directly affected. Phillips (1995) showed that increased debt forces managers to pay out more and to cut investment. In concentrated industries, this leads to an increase in prices. Note that the right concept of payouts in this case is the sum of dividends, share repurchases, and interest payments.

By contrast, equity is usually perceived as a soft claim and passive indexers typically do not get directly involved in managerial decisions. Nonetheless, managers and directors have a fiduciary duty towards shareholders which provides protection against self-dealing or other bad faith conduct. Shareholders can sue managers who knowingly take actions that hurt shareholders. Index fund managers are not fully passive. They are required to vote on proposals and directors' elections. Finally, shareholders can also vote with their feet if they disapprove of managerial decisions. One can therefore assume that managers have incentives to maximize shareholder value even when ownership is relatively passive.

These arguments do not directly apply to common ownership incentives because the fiduciary duties of managers do not include being soft with competitors. There are, however, indirect ways in which common ownership incentives can be given to managers. Anton, Ederer, Gine, and Schmalz (2016), for instance, argued that common owners can choose lower performance pay sensitivity in order to limit incentives for aggressive competition in the goods market. The empirical research on common ownership is active and ongoing. Some papers find small or no effects of common ownership and some find positive effects on the growth of startups (Lewellen and Lowry (2020), Eldar, Grennan, and Waldock (2020)). More empirical work will be needed before we have a clear sense of the empirical implications.

General Equilibrium Oligopoly and Ownership Structure. Azar and Vives (2020) study the theoretical consequences of common ownership. They start from the assumption that firms maximize the share-weighted averages of shareholders' utilities and they tackle the resulting theoretical issues. When markets are competitive, all shareholders agree that

firms should simply maximize profits at the prevailing prices. When firms have market power, however, there is no simple objective function that would satisfy all shareholders in all circumstances. Azar and Vives (2020) show that the objective function of the manager of firm j is to maximize $\pi_j + \lambda \Pi_{-j}$, where Π_{-j} are the profits of other firms and λ captures the impact of common ownership. If we include the managerial preferences used earlier, the objective function would become $\pi_j + \alpha k_j + \lambda \Pi_{-j}$. This highlights a subtle empirical issue. An overall increase in institutional ownership can lead simultaneously to a decrease in α (better monitoring) and an increase in λ (common ownership). It is not always easy to disentangle the effects in the data. Consider a duopoly. One could potentially compare the case when each firm has a large investor holding 20% of the shares to the case where both firms have two large investors each holding 10% of the shares. The first case would have no common ownership while the second case would have $\lambda > 0$. One issue, however, is that it is not clear that monitoring (and thus α) would be the same in the two cases.

Azar and Vives (2020) also show that, when there are J firms competing under common ownership, the modified HHI is given by $H = \frac{1+\lambda(J-1)}{J}$. When $\lambda = 0$, we have the usual HHI with J symmetric firms. When $\lambda > 0$, the modified HHI is higher than the standard one. Azar and Vives (2020) consider a model with workers and owners. Owners do not work but they earn the profits of the firms. As a group, they therefore benefit from lowering real wages. In the model, common ownership effectively allows capital owners to coordinate against workers. As usual, the markdown depends on the labor supply elasticity. This is easy to see if we assume constant returns $y = zl$ (where z is productivity and l is labor) and perfect coordination ($\lambda = 1$). In that case, the competitive outcome is $w = z$. Suppose labor supply is $l = z^\eta$ (assuming no wealth effect for simplicity). A monopsony, or a coordinated oligopoly, would maximize $zl - wl$ and this would lead to $w = \frac{\eta}{\eta+1} z$, or $\frac{z-w}{w} = \frac{1}{\eta}$ as in formula (3.5.1) in the paper. Azar and Vives (2020) distinguish within-industry ownership and across-industries ownership. They find that the latter can mitigate the incentives of the former as a high price in a sector hurts firms with complementary activities. This result is reminiscent of the classic result in IO that vertical integration can solve the double-marginalization problem.

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