

Incomplete Contracts and the Role of Small Firms

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Let me begin by saying that it's a great pleasure to be able to take part in honoring Sandy and Oliver, and I'm grateful to the organizers for including me in this conference. What I thought I would try to do is give a sense of where and how my own thinking has been most influenced by Sandy and Oliver's work. At the risk of being overly concrete, I will focus on one specific empirical observation that has long struck me as a first-order fact that is difficult to come to grips with, unless one appeals to the insights that are at the heart of the Grossman-Hart-Moore (GHM; Grossman and Hart 1986; Hart and Moore 1990) paradigm.

My one observation is this: if you look across a range of industries—from the most innovative to the lowest-tech—you often see a striking coexistence of firms of wildly different sizes, from mom-and-pop firms to global giants. Banking is one example: the largest U.S. banks have assets on the order of \$2 trillion. And at the same time, there are roughly 2,000 banks with assets under \$100 million. Homebuilding is another case in point: on the one hand, approximately 40 percent of the people who work in the construction business work for small local builders; these are firms with 20 or fewer employees. On the other hand, there are big publicly traded homebuilding companies like Toll Brothers, which was producing something like 8,000 to 10,000 homes a year in the period before the financial crisis.

There are many other industries one could point to, from restaurants, to florists, to retail stores. One reason for emphasizing banking and homebuilding is that these are industries where one might a priori think that financial market frictions would tend to create strong economies of scale, and hence would tend to lead to markets dominated by large firms. In banking, Diamond (1984) points to large-scale diversification as being one of the keys to making delegated

monitoring work. Similarly, in homebuilding, a small builder who is highly leveraged and who has much of his net worth tied up in a few properties is extremely vulnerable to local house price downturns, something that would appear to be a serious competitive disadvantage. Consider the following quote from Toll Brothers' 2010 annual report:

We have always competed primarily with small and mid-sized private builders. After five years of a depressed housing market, most private builders have been severely weakened and many have gone out of business. Even the best ones are suffering from limited access to capital. . . . We believe our strong balance sheet and access to capital will continue to give us an advantage and distinguish us from the tens of thousands of other builders in our industry.

So the basic question to be asked is this: what is it that allows very large and very small firms to coexist in these sorts of industries? More specifically, if one takes seriously the idea that financial constraints are important, and that they can create significant economies of scale for the largest firms, what is the diseconomy on the other side of the equation that balances things out? Alternatively, what is the key advantage of decentralization relative to integration?

To oversimplify, let me contrast two views. The first, which I will label the "entrepreneurship" view, is that little firms are nothing more than big-firm wannabes. In other words, they are little simply because while they might hope to get big someday, they are not there yet—either because of financial constraints, or time to build, or lack of accumulated skill and know-how. In this view, the size distribution at any point in time is in part the product of historical shocks, and the biggest firms are the ones that have had a series of positive draws of, for example, profitability, and productivity.

The alternative view might be called "small is beautiful." In this view, the size distribution of firms in an industry represents a steady-state equilibrium, one in which there are some advantages to being small which offset whatever scale economies come from easier access to finance and other factors. Some support for the idea that small is beautiful comes from recent work by Hurst and Pugsley (2011). Using survey data from the Panel Study of Entrepreneurial Dynamics, they document that the majority of small business owners do not aspire to grow significantly; rather their *ex ante* plan is to stay small, with only a handful of employees. Moreover, when asked about why they started the business in the first place, the leading motives cited were ones that on the surface seemed non-pecuniary, with the dominant answers being "be own boss" and "enjoy the work, have passion for it."

One might stop there, and say that we have a theory of small firms based on the observation that people enjoy being their own boss and derive some nonmonetary benefit from doing so. Of course, this leaves the nonmonetary benefit—which is effectively a black box—to carry a lot of explanatory weight in some industries, because again, there is a presumption that it has to offset considerable economies of scale.

Here is where I find the GHM paradigm to be extraordinarily helpful—in thinking about what exactly the “costs of a boss” are and how they manifest themselves in ways that ultimately may have significant pecuniary, as well as non-pecuniary implications. Simply put, the key insight of the theory is that authority and initiative are complements. When small business owners talk about the passion they have for their work, implicit in that is the premise that a loss of autonomy and decision rights might dull their incentives, and reduce their creativity: why would you work as hard on developing your brilliant ideas if there is a risk your boss may second-guess you and prevent you from implementing them? If there’s one thing that we as academics ought to be able to relate to, it’s just this point. The GHM framework is ideally suited for analyzing this set of issues.

Moreover, the theory can do more than just rationalize the existence of small firms. It can make specific predictions for where and when these cost-of-a-boss effects are likely to be most pronounced, and hence to have the most significant influence on firm size. In some of my own work (Stein 2002), I have built on GHM and on Aghion and Tirole (1997), and tried to flesh out the proposition that giving people autonomy is particularly important in industries or in settings where it matters a lot to be able to gather soft information. My notion of soft information follows Hayek (1945, 524): “the sort of knowledge with which I have been concerned is knowledge of the kind which by nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form.”

There is no reason to believe that having a boss reduces all kinds of effort; to the contrary, it might actually induce agents to work very hard at doing things that allow them to lobby their bosses for more resources. In terms of information production, this sort of lobbying would correspond to the production of hard information: that which, in Hayek’s words, can be credibly conveyed to a central authority. By contrast, the production of soft information—which is by its nature more subjective and less transmittable—is likely to suffer when agents do not have the authority to act on the basis of the information they have produced. So in cases where soft-information production is particularly valuable, we ought to be more likely to observe either smaller firms or more decentralization within larger firms.

In the banking industry, one area where soft-information production is likely to be especially important—and hence where small banks may have a valuable role to play—is in lending to small firms, whose prospects are often difficult to evaluate based on hard information like formal accounting data. Consistent with the theory, Berger et al. (2005) document that small banks use a different lending technology than large banks when it comes to making small business loans, relying more on geographic proximity and interpersonal contact, and less on accounting records; moreover this personalized lending technology appears to be more effective in relaxing credit constraints for their borrowers. Going further, Liberti and Mian (2009) find that even within the same bank, loan applications that have to be passed further up the hierarchy for approval rely less on the soft, subjective assessments of individual credit officers and more on hard, objective data. This latter finding is striking support for the hypothesis that decentralized authority helps encourage the production of soft information.

Closely related is the work by Chen et al. (2004) on the mutual fund industry. They find that small mutual funds tend to outperform large mutual funds on average, and that this outperformance tends to come from their better ability to evaluate the stocks of the smallest, most geographically proximate firms—that is, those firms where it would seem plausible that local, on-the-ground information, as opposed to statistical analysis, would be most useful.

What about my other leading example, homebuilding? Here I know of less in the way of empirical research on the role of soft information. But one tentative hypothesis would be that in this industry, soft information has to do with, say, the local and sometimes very personal nature of the zoning and permitting process—what steps one needs to take to acquire an undeveloped parcel of land and get it approved and developed to the point that it is ready for construction to begin. If so, the prediction of the theory would be that small builders are at a comparative advantage in areas where new lots are scarce and idiosyncratic in their development requirements, whereas large builders are at a comparative advantage where there are larger tracts of available land, or where the development process is more homogeneous.

Finally, let me touch on a theoretical nuance that is right up the alley of the GHM paradigm. I have been emphasizing the proposition that when soft information is valuable, it becomes more important to give autonomy and decision rights to local, on-the-ground managers. But why does this require the firm in question to be small? Why can't the same decentralization of decision rights be credibly implemented inside a larger firm, thereby capturing the benefits of both soft information as well as whatever economies of scale go along with firm size? Two points are worth noting. First, to the extent that one of the reasons for being a big firm is access to capital, top management of such a firm cannot credibly alienate its right to reallocate capital across divisions. In such a setting, *complete*

decentralization of decision rights is likely to be impossible. If a line manager within one unit of the firm has a project that she would like to pursue, she cannot be assured that senior management will not reallocate capital away from her unit and toward another part of the firm, thereby shelving her project. This implies that if one wants to maximize the incentives of on-the-ground managers, there is likely to be some role for firm size as the ultimate credible decentralization mechanism.

Second, however, *partial* decentralization of decision rights within a larger firm may well be feasible, in which case the theory speaks to the effects of different organizational structures on local incentives. For example, Berger et al. (2005) find that small banks that are housed inside large bank holding companies appear to behave more like stand-alone small banks, in that they are more successful in fostering customer relationships based on soft information. Thus the partial decentralization associated with a holding company structure seems to be complementary to soft-information acquisition, consistent with the theory. Similarly, Chen et al. (2004) find that in the mutual fund industry, small funds located inside large fund families nevertheless behave like small funds—they do better at picking small geographically proximate stocks.

To conclude: one of the central contributions of the GHM paradigm is that it has provided us with a clearer understanding of the root sources of diseconomies of scale, and hence of the virtues of small firms. I have argued that one specific application of the theory is in the area of soft-information production, with the key idea being that a lack of control rights particularly discourages the acquisition and use of soft, on-the-ground information. This interpretation of GHM leads to what one might call a “Hayekian” view of the role of small firms: they may not be so much entrepreneurial enterprises on their way to being much bigger firms, or even major engines of job creation, but they may nevertheless play a crucial role in marshaling the myriad forms of soft information that are dispersed throughout the economy.

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