To the editors:

In a recent issue of *Capitalism and Society*, Giovanni Dosi, Alfonso Gambardella, Marco Grazzi, and Luigi Orsenigo (2008) take up some interesting and important questions surrounding the evolution of industry structure in the last few decades. Have we seen a revolutionary reorganization affecting the boundaries of firms, and maybe even the passing away of the large vertically integrated corporation described by Alfred Chandler (1977)? What has been the effect of modern information and communication technology (ICT) on industry structure? As both this article and William Lazonick’s (2008) accompanying discussion begin by invoking my 2003 paper “The Vanishing Hand,” it seemed appropriate that I offer a few comments.

My 2003 paper and subsequent efforts (Langlois 2004, 2007) did not make the claim that Chandler’s visible hand has been fading away. Rather, I took this phenomenon as a widely agreed-upon starting point. The last few decades have witnessed a widespread “deverticalization” of production in the United States and other advanced economies. My objective was to explain the phenomenon, which I attempted to do not by rejecting Alfred Chandler’s original account of the rise of the large vertically integrated corporation in the late nineteenth century but rather by showing how Chandler’s account might be fitted into a larger framework that could admit of forces both for vertical integration and for disintegration. (I will say a bit more presently about the nature of this explanation.)

Armed with a statistical analysis of firm-size distributions, Dosi et al. challenge the very existence of the phenomenon I sought to explain. As the article’s abstract puts it, “we do not observe any abrupt fading away of the Chandlerian multidivisional corporation in favour of smaller less-integrated firms.” In his discussion, Lazonick puts the matter this way.

The Dosi et al. paper takes issue with the Langloisian point of view. The authors adduce statistical evidence on changes in the size-distribution of firms and industrial concentration in the advanced economies over the past few decades that contradicts the notion that there has been a significant movement toward market coordination of the advanced economies. They argue that, if anything, organizational complexity has become greater in the ICT age, requiring industrial enterprises to engage in more, not less, organizational interactions, as distinct from market interactions. Indeed, they raise the possibility that organizational complexity, and hence the challenges for the visible hand of managerial coordination, may be greater across vertically specialized firms in the New Economy than it was within the vertically integrated firms of the Old Economy. (Lazonick 2008, p. 1.)

Thus there seem to be two issues: (1) what is the nature of the empirical evidence against the phenomenon of deverticalization? And (2) does the New Economy (however we understand that) imply less — or more — “organization” within the process of production? I will take these points in order.
Since the empirical argument of Dosi et al. is offered in quantitative terms, let me also frame my response quantitatively: the amount of empirical evidence Dosi et al. actually bring to bear on the question of recent changes in the vertical structure of production is precisely equal to zero.

Begin by noticing the words Dosi et al. use: they are concerned with the “fading away of the Chandlerian multidivisional corporation in favour of smaller less-integrated firms.” First of all, it is not primarily the multidivisional corporation that raises issues of vertical integration. As Chandler discussed in Strategy and Structure (1962) and later in a somewhat different way in Scale and Scope (1990), the M-form is about diversification not vertical integration. Chandler raised the issue of vertical integration in The Visible Hand (1977), in the context of the multi-unit (functionally organized) firm. The more important confusion, however, inheres in the phrase “smaller less-integrated firms.” It is one thing to be specialized; it is quite another thing to be small. The popular romanticism of the New Economy is most certainly that ICT technology has brought forth both specialization and smallness. But this is not my view, nor has it been the view of the long-standing Smithian tradition on which I draw (Stigler 1951; Young 1928). In this latter account, indeed, stages of production often become organizationally specialized precisely in order to take advantage of the greater size that specialization permits. So one can logically have an increase in specialization without any change in the size distribution of firms. The distribution could even shift in favor of larger firms. The various stages of computer production once comprehended within the boundaries of IBM in its heyday are nowadays undertaken by a number of more specialized firms. But these firms — Intel, Microsoft, Dell — are extremely large firms by any measure.

To put it another way, the question of the size of the firm in the sense of price theory — that is, size as measured by output, value added, or number of employees — is entirely orthogonal to the question of the size of the firm in the sense of Coase (1937) — the number of transactions, activities, or stages of production within the firm’s boundaries. As fully all the empirics in Dosi et al. is about firm size in the sense of price theory, that evidence has no bearing whatever on the question of deverticalization. Other authors have looked beyond size distribution to actual proxies for vertical structure — and have found evidence of deverticalization (Baldwin, Beckstead and Caves 2002; Feenstra 1998).2

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1 Section 3 of Dosi et al. promises to shed light on the question of vertical boundaries. But that section turns out to be a sketch for a theoretical model and contains no empirical evidence of any kind.

2 Moreover, using actual data on ICT investments, Brynjolfsson et al. (1994) find that ICT technology does indeed tend to reduce firm size. But, again, that was not my issue in “The Vanishing Hand.” In footnote 21 on page 30, Dosi et al. also accuse me of arguing that ICT technology is what leads to vertical disintegration. In fact, I try hard to distinguish my argument from that position. What I actually say is that ICT “may well be part of the story. But the hypothesis I offer here is a bit more subtle, or at least a bit more complicated, and arguably more general. In my view, the phenomenon of the vanishing hand is a further continuation of the Smithian process of the division of labor on which Chandler’s managerial revolution was a way station. Thus
Let me now turn to the second, and perhaps more interesting, point. In his discussion, Lazonick maintains that the statistical evidence of Dosi et al. stands against the claim “that there has been a significant movement toward market coordination of the advanced economies.” As we saw, the statistical model in Dosi et al. speaks not at all to this issue. More important, however, is the way Lazonick spins the discussion. He actually agrees with me that there is evidence of considerable evidence of deverticalization, and that the New Economy is not organized along the lines of the Chandlerian multi-unit enterprise. But, he argues in effect, this is not a return to “the market,” since there is a lot of “organization” going on in the New Economy, maybe even “more organization” than in the Old. Grasping the inevitable physiological conceit, Dosi et al. make a similar point: “one could legitimately argue that the management of supply chains is a more organisationally complex activity than straightforward vertical integration. In this perspective, the Visible Hand is not disappearing. Perhaps the grip of its fist is relaxing. But its strength is not weakened: its grip is perhaps smoother but firmer” (p. 35).

Here again, I think the problem is one of conceptual imprecision. It is perfectly common, and often unobjectionable, to contrast a market and an organization, that is, to contrast the institution called a market and the institution called an organization (such as, notably, a firm). But the opposite of “organization” in the abstract sense is not “market” but disorganization. More helpfully, the opposite of conscious organization is unplanned or spontaneous coordination. In this sense the market-organization spectrum (and similar spectra one could imagine) are arguably orthogonal to the planned-spontaneous spectrum. One could well wonder, as I have (Langlois 1995), whether large organizations do not in fact grow far more as the unplanned consequence of many individual decisions than as the result of the conscious planning of any individual or small group of individuals. And it is certainly the case that, as Alfred Marshall understood, both firms and markets “are structures for promoting the growth of knowledge, and both require conscious organization” (Loasby 1990, p. 120).

As Gary Fields (2004) has noted, there is considerable similarity between the intricate system of logistics that Gustavus Swift set up using an archetypical Chandlerian multi-unit enterprise in the nineteenth century and the one that Michael Dell set up in the late twentieth. Both systems are highly organized. But the point is that Dell could achieve this level of organization through markets, that is, by contractual arrangements with legally separate entities.³ Charles Sabel and his collaborators have begun looking

³ Here is what I actually say in “The Vanishing Hand” (p. 373): “In many respects, the structure of this new model looks more like that of the antebellum era than like that of the era of managerial capitalism. Production takes place in numerous distinct firms, whose outputs are coordinated through market exchange
into the nature of the relationships that characterize the New Economy (Gilson, Sabel and Scott 2008; Jennejohn 2007; Sabel and Zeitlin 2004). And what they find is not common ownership or hierarchy but rather a “form of contracting [that] supports iterative collaboration between firms by interweaving explicit and implicit terms that respond to the uncertainty inherent in the innovation process” (Gilson, Sabel and Scott 2008, p. 3). The New Economy may be highly organized. But it is fundamentally contractual, in a way that large Chandlerian multi-unit enterprises are not. These latter, properly understood, are indeed fading away in a world of extensive, capable, diversified markets.

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broadly understood. It is in this sense that the visible hand of management is disappearing. Unlike the antebellum structure, however, the new economy is a high-throughput system, with flows of work even more closely coordinated than in a classic Chandlerian hierarchy.”
References.


