Global integration ≠ global concentration

Pankaj Ghemawat and Fariborz Ghadar

There is a widespread belief that increases in the cross-border integration of markets are associated with increases in global concentration along various dimensions. This article reviews the available evidence and presents new data, indicating that increasing global integration has not been accompanied by general increases in four types of global concentration measures: industry seller concentration, cross-industry superconcentration, national/regional hegemony, and geographic concentration. The article also uses the automobile industry to illustrate a bias toward believing concentration is increasing even when it is not and to discuss possible reasons.

1. Introduction

The cross-border integration of markets has increased significantly in the decades since World War II (see Ghemawat, 2003). Many people conclude that this kind of increased global integration—imprecisely captured in the notion of globalization—goes hand in hand with increased global concentration.

Stated more precisely, the increasing cross-border integration of markets is generally believed to be accompanied by increases in the concentration of economic activity along one or more dimensions: a few companies accounting for larger shares of individual industries (or even the global economy), a few countries dominating the world in several possible ways, the concentration of production in the few places where it can be done most cheaply, and so on. This is a strong belief in the sense that it is one of the few shared by supporters and opponents of globalization. Based on perceptions of increasing seller concentration, for example, energetic capitalists deduce that to thrive or even survive, a company must be one of the few in the “global core” of its industry. The antiglobalization brigade, meanwhile, deplores globalization for this very reason (among others).

This general agreement is made all the more remarkable by the general absence of empirical support for it. As our title puts it, global integration does not equal global concentration. Part of the evidence for our assertion comes from a wide array of published studies of concentration dynamics that we focus on assembling in one place and, in some cases, updating. Additionally, we present some novel evidence, particularly in regard to global seller concentration at the industry level, which is discussed especially extensively because of the paucity of prior evidence. This article begins with and is
mostly devoted to this descriptive task. Its last two sections, however, focus on the prescriptive implications of the patterns observed.

More specifically, the first four sections that follow sketch out some of the relevant theory, review some of the received evidence, and present some new analyses of four types of global concentration measures:

(i) industry seller concentration;
(ii) cross-industry superconcentration;
(iii) national/regional hegemony; and
(iv) industry geographic concentration.

Note that the first two types of measures focus on global concentration at the company level and the second two on global concentration at the country/geographic level. The discussion of these measures in the next four sections offers a rough summary of what we think we know, identifies gaps in our knowledge, and suggests potential avenues for additional analysis. The industry-level data that are presented generally span at least several distinct industries, and thereby offer some scope for inter-industry variation. Systematic measures are supplemented with case analyses of companies in a range of industries, with a particular focus on automobiles.

The presentation and discussion of evidence on the four kinds of concentration measures are followed by two wrap-up sections. The first section uses the global automobile industry as its principal example to illustrate biased beliefs about increasing global concentration and to discuss the possible reasons for them. The second discusses the broadened possibilities afforded by not having to see international strategy as necessarily about getting big fast.

2. Global integration ≠ global seller concentration

This section uses data on a sample of industries commonly considered global or globalizing to show that there is scant evidence of a general trend toward the concentration of production in industries at the hands of a global core of competitors. In fact, postwar increases in cross-border integration have been accompanied by general declines in seller concentration. Before turning to what the evidence actually indicates, let us first review some of the background to the belief in increasing global seller concentration and its possible economic logic.

2.1 Background

More than 100 years ago, Karl Marx wrote that “one capitalist always kills many . . . [leading to] a constantly diminishing number of the magnates of capital, who usurp and monopolize all advantages” (Marx and Engels, 1967). In the 1970s, Bruce Henderson, the founder of the Boston Consulting Group, promoted his Rule of Three: “A stable competitive market never has more than three significant competitors” (Henderson,
1979). In the early 1980s, Jack Welch began insisting that General Electric be either number one or number two in its various businesses—which would seem to suggest that the magic number is at most two rather than three. Finally, in the late 1990s, New York-based Mercer Management Consulting went to the winner-take-all extreme by popularizing the “plight of the silver medallist”: if you are not number one, you are nowhere (Wysocki, 1999).

Such beliefs in increasing seller concentration seem to be held more broadly as well, by managers and managers-to-be. Consider the results of asking several groups of executives and one of MBA students: If globalization/cross-border integration were increasing rapidly in a particular industry, would you expect global industry concentration—the share of the largest five competitors—to be (pick one):

(i) decreasing;
(ii) steady;
(iii) increasing; or
(iv) increasing rapidly?¹

Across seven groups of respondents, with an average of more than 80 respondents per group, 77%–88% responded with “increasing” or “increasing rapidly,” whereas 7%–16% responded with “decreasing.”² Faculty in the management department at a well-known business school also tilted the same way, but by a less lopsided margin.

2.2 Economic logic

The previous section suggested a widespread belief that increased global integration leads to increased concentration of industries in the hands of a global core of competitors. Is there any economic logic behind such a belief?

The consequences of increased cross-border integration of markets for market structure are clarified by models in international and industrial economics. Let us begin with the standard workhorse of international economics, the theory of comparative advantage, as laid out by English economist David Ricardo at the beginning of the nineteenth century. Ricardo offered a famous example with two countries (England and Portugal), two tradable products [cloth and port (wine)], and one factor of production (labor) that was redeployable across the two products (Ricardo, 1817). Ricardo showed that as long as Portugal was the comparatively better location, in terms of relative labor productivity, for making port and England for cloth, both countries could do better by specializing their production along these lines and trading with each other. Furthermore, these gains from trade did not hinge on Portugal’s having an absolute labor productivity advantage in port or England in cloth. In fact,

¹In early surveys, respondents were also allowed the choice of “decreasing rapidly,” which none elected; in later surveys, this was dropped from the set of possible responses.

²We thank the anonymous referee for inspiring us to collect these data.
even if one country were more competitive (i.e., had higher absolute labor productivity) across the board, trade would still make sense for both countries.

The theory of comparative advantage obviously implies some tendency toward the geographic concentration of production. But it has no definite implications for concentration at the *firm* level because the basic mechanism of comparative advantage does not depend on the economies of scale. Revisit Ricardo’s example: even though port production is concentrated in Portugal, the heavily export-oriented Portuguese port industry remains fragmented, with 30,000 small firms and about 70 shippers. Based on such examples, it has even been argued that countries serving as home bases for global competitors—in particular industries—will tend to exhibit relatively fragmented structures, rather than concentrated industry organization (Porter, 1990).

What happens when we superimpose firm-level economies of scale on country-level considerations of comparative advantage? The line of research that is best developed in this regard focuses on what happens when each firm in an industry produces one product variety. The production of each variety involves a fixed cost as well as marginal costs—this is where the economies of scale show up—and under the assumption of “monopolistic competition,” individual firms ignore the effects of their pricing decisions on their rivals’. While this last assumption is stringent, the models of this sort have attracted considerable attention, partly because they help explain two-way intra-industry trade flows between pairs of rich countries that greatly exceed the levels one might expect to result from comparative advantage (see Davis and Weinstein, 2001).

What is of particular interest to us is the general prediction from the models of monopolistic competition that when previously separate countries integrate economically, the effective increase in market size implies an increase in the number of distinct varieties/firms available in each country market. A numerical example from Krugman and Obstfeld’s textbook (1997) on international economics illustrates the flavor of such results. Before integration, country A supports six symmetric producers and country B, which is 78% larger, supports eight symmetric producers. After integration, there are 10 symmetric producers that serve both countries, expanding the number of product varieties available to the citizens of each. Although four producers have exited as a result of integration, each market is less concentrated after integration than before.

Even stronger scale economies can overturn such results by disconnecting the number of viable firms from the size of the market. In particular, consider John Sutton’s (1998) work on what happens when the fixed costs that constitute the “table stakes” for market participation are determined by competitors’ strategies rather than set exogenously—that is, when fixed outlays by firms to build up their capabilities lead to an upward shift over time in the capability threshold required to be viable. Thus, the opportunities to improve color film as it started to replace black-and-white film in the 1960s triggered an R&D race, with industry leader Kodak setting the pace, and turned the industry into one in which Kodak and Fuji competed at the technical edge, with only a few other survivors limping along.
But again, high R&D-to-sales ratios simply indicate that an escalation dynamic with concentrating effects may be at work in a given industry; they do not clinch the point of globalization equaling concentration. Thus, Sutton notes that the flowmeter industry, for example, remains quite fragmented despite very high R&D-to-sales ratios. The reasons grow out of the diverse types of flowmeters, each associated with a different form of technology (electromagnetic, ultrasonic, etc.) as well as differences in user groups’ valuations of these types, depending on the application (oil pipelines, general chemical plant, etc.). The evolution of this kind of industry is characterized by a proliferation of new product types as new technological trajectories are explored. The result is that the global market can support a large number of players, and relatively small firms can achieve viability by specializing in a single product type.

Sutton also points out that globalization—in the sense of reduced barriers to cross-border competition—can induce concentration through two basic mechanisms: (i) an intensification of price competition, which squeezes price–cost margins for all firms, and (ii) a consequent narrowing of the capability window in which firms operate, as the minimum ratio of benefits delivered to costs incurred that is required to be viable rises. Leading firms are likely to respond by increasing the resources devoted to upgrading capabilities, leading to a further upward shift in the window, while laggards may elect to drop out. But whether the race is run broadly or narrowly—whether there is consolidation or not—depends on linkages between the technological trajectories, both on the demand side (product substitutability in the eyes of buyers) and on the supply side (the presence of scope economies in capability building, which allow advances in capability along one trajectory to efficiently enhance capability along another).

To summarize: the theories of comparative advantage and of monopolistically competitive internationalization do not, by themselves, suggest that increased cross-border integration of markets should be accompanied by increases in global seller concentration at the firm level. On the other hand, very strong economies of scale, as exemplified by the escalation game in color film, can support such a prediction. But the broader importance of this possibility can only be assessed empirically, by looking at a broader set of industries.

2.3 Empirical evidence

Systematic cross-industry data on changes in global seller concentration are not available. We have attempted to overcome that deficit by splicing together data from different sources on different industries. Exhibit 1 summarizes data from a variety of sources on the share of total global production—typically in volume terms rather than value terms—accounted for by the top five producers in a variety of industries/sectors. The

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3 Generally, similar results were obtained by looking, where possible, at CN levels, with N varying between 1 and 10 as opposed to being set at 5.
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Data span periods of a decade or longer, up to the recent period, and account for all mergers and acquisitions consummated by the end of the reporting period. In most cases, they have also been adjusted for significant stakes held by the top five producers in other large producers.

What do we see? The data do not show much of a tendency at all toward increasing top five concentration (C5); the median and (unweighted) mean stay steady over the periods covered—actually, they can be said to register slight declines. There is also some evidence of regression toward the mean: in particular, the three industries with the highest beginning C5s ended up experiencing the biggest absolute declines. Of the three that experienced the biggest absolute increases, two are expected: carbonated soft drinks (because of the potential for escalating advertising outlays) and light bulbs (because of relatively high advertising and R&D intensities). But the increase in global seller concentration in cement, a highly capital-intensive commodity for which markets are usually considered to be

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<tr>
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<td>Beginning</td>
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<tr>
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<tr>
<td>Computer hardware*</td>
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<td>59</td>
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<tr>
<td>Long-distance telephony*</td>
<td>64</td>
<td>44</td>
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<tr>
<td>Entertainment*</td>
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<td>71</td>
</tr>
<tr>
<td>Copper</td>
<td>59</td>
<td>54</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>57</td>
<td>52</td>
</tr>
<tr>
<td>Light bulbs*</td>
<td>55</td>
<td>68</td>
</tr>
<tr>
<td>Carbonated Soft Drinks</td>
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<td>70</td>
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<tr>
<td>Aerospace/defense*</td>
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<tr>
<td>Automobiles</td>
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<td>53</td>
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<tr>
<td>Aluminum Smelting</td>
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<td>34</td>
</tr>
<tr>
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<td>37</td>
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<tr>
<td>Cargo Airlines</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>Semiconductors*</td>
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<td>40</td>
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</tr>
<tr>
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<tr>
<td>Paper and Board</td>
<td>10</td>
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*Concentration calculated on revenues instead of volumes

Exhibit 1 Ten-year changes in global industry seller concentration
local, is surprising.\textsuperscript{4} Averaging across beginning and ending C5s, industries with higher potential for product differentiation do seem to exhibit greater global seller concentration than commodity industries, which cluster toward the bottom of the list on this measure (with the exception of copper and iron ore, where the concentration of natural resources may take a hand).

The bulk of the data in Exhibit 1 is drawn from author Ghadar’s project at the Center for Global Business Studies at Penn State. The industries/sectors in that effort were selected to mesh with those whose concentration was examined earlier by the Harvard Multinational Enterprise Project under the direction of Raymond Vernon.\textsuperscript{5} Splicing the newer and the older time series involves restating the measure of supplier concentration to the Herfindahl index (HHI), in terms of which Vernon (1977) summarized his results. Briefly stated, the HHI is the sum of squares of the market shares of the companies in the industry, with a high HHI indicating dominance by a few and a low HHI indicating a market that is spread across many. If \( N \) companies split 100\% of a market evenly, then the HHI equals \( 1/N \).\textsuperscript{6}

When seller concentration is recast in Herfindahl terms, the data in Exhibit 2a–d suggest that in many of the industries that Vernon originally looked at, global concentration (i.e., the HHI calculated with global market shares) recorded postwar highs in the 1950s but then declined rapidly. Thus, in automobiles, there was a steady decline in concentration after 1955 as the US share of total demand fell and because the declines in General Motors’ (GM) global share were spread across an increasing number of competitors, particularly from Japan. This growth in the number of players and the increase of the total market size has resulted in the deconcentration of the automobile industry. While recent mergers such as the DaimlerChrysler deal have

\textsuperscript{4}For an exploration of the apparently anomalous increase in global seller concentration in cement, see Ghemawat and Thomas (2005).

\textsuperscript{5}Vernon’s data excluded production in communist countries and other countries with state monopolies.

\textsuperscript{6}The calculations here, some of which were reported on in more detail in Ghemawat and Ghadar (2000), used a modified HHI calculated from the market shares of the top 10 firms in each industry (although the market shares themselves are based on the combined size of all firms rather than just the top 10 firms). This is because (i) market-share data from all firms (especially smaller firms) in an industry are not always available and (ii) after the top 10 players are taken into consideration, the remaining players (number 11, number 12, and so on) typically have such small market shares that their effect on the overall HHI is minimal. HHI for the period of 1950–1975 were taken directly from the Harvard Multinational Enterprise Project. Indices after 1975 were calculated at the Center for Global Business Studies at Penn State University. Subject to the availability of data, the calculations were performed at five-year intervals; although for recent years marked by substantial mergers and acquisition activity, we did attempt to obtain more frequent data points. Our calculations employed sales volume rather than revenue data to the extent possible. Thus for petroleum, we used barrels per day, for minerals metric tons of production, for automobiles number of cars sold, and so on. This is particularly important in controlling for large shifts in exchange rates over the period studied. For joint ventures, we allocated the output to each partner according to its ownership percentage.
increased the concentration slightly, the increase has been modest compared with the changes since 1950. [In fact, global seller concentration peaked in the mid-1920s when, at one point, Ford’s Model T alone accounted for one-half of the world’s entire automobile fleet (Scheele N., COO Ford Motor Company, private communication, May 15, 2003).]

In the case of the oil production industry, the global HHI declined steeply between 1950 and 1980, with an uptick in the late 1980s and has remained level since then. The megamergers announced and consummated in recent years (Exxon-Mobil, BP-Amoco-Arco, Total-Fina-Elf, and Chevron-Texaco) have not had a significant impact on global market concentration in the oil production industry, at least in relation to the magnitude of the drop-off since 1950. And in many other industries as well—of which aluminum and paper and board are just two more examples—seller concentration levels are far lower today than they were fifty years ago.

This is true despite the fact that our calculation of HHIs at the global level throughout imparts an upward bias to our computed changes in concentration in the case of industries that have been globalizing over the period of measurement (instead of being global from the outset). This is most clearly illustrated by the numerical example of monopolistically competitive, intra-industry trade cited in the previous section. If we were to calculate the HHIs at the global level, the data would suggest an
increase rather than a decrease in concentration as a result of globalization, from 0.073 to 0.10. Yet, at the country level, the preintegration HHIs equaled 0.167 (1/6) in country A and 0.125 (1/8) in country B—and declined to a common level of 0.10 (1/10) after integration.

But such false positives for increases in effective concentration—which we do not attempt to correct for—only add more punch to our principal finding: our sample of global/globalizing industries has mostly been marked by cumulatively large decreases in global seller concentration in the postwar period, although recent years have seen some relatively modest increases. The hypothesis of galloping global seller concentration is certainly not supported.

3. Global integration ≠ global superconcentration

“Superconcentration”, as we use the term, means company concentration at a higher (cross-industry) level of aggregation: in other words, the share of all economic activity accounted for the largest $N$ companies. Superconcentration raises concerns about the economic, political, and social power that might be wielded by huge companies.

Such concerns have a long pedigree. In the United States, for example, they can be traced back to the populist movement of the nineteenth century—and perhaps even to Jeffersonian conceptions of the public interest. They can exert great force: concerns about superconcentration during the Progressive Era led to the passage of antitrust laws and the breakup of the US trusts, dramatically affecting industry evolution.

Today, foes of globalization assert that it has led to dangerous levels of superconcentration. A favorite rhetorical device involves contrasting companies-by-sales with countries-by-GNPs/GDPs and using the resulting high ranks of the largest companies to argue, in effect, that large companies have a lot of bargaining power vis-à-vis most countries. (An alternative is to announce that of the world’s 100 largest economies, more than half are not countries, but companies.) And finally, it is often asserted that the largest companies’ share of global economic activity is increasing rapidly.

To explore this question, it would be extremely useful to have data on value-added. Unfortunately, these are often available only for the manufacturing sector—even for an economy as large and advanced as the United States (White, 2002). Cross-country data are even harder to come by. So, with a caveat that the issue of value-added will be revisited, the discussion here focuses on the authoritative list, issued by the UN Center on Transnational Corporations, of the largest 100 transnational corporations by sales (and the largest 200 in some years). The UNCTAD series, spanning nearly thirty years, is summarized in Exhibit 3.

It is worth noting that there has been rank inflation over time as the number of countries in the world has reached a postimperial high; this would tend to pull countries down in the rankings even if nothing else changed.
Based on the exhibit, superconcentration—top company sales divided by world GNP—rose steadily through the mid-1980s and then declined some of the way back. This is not the most alarming picture imaginable. Remember, too, that we are working here with sales rather than with value-added. If one believes that value chains are being sliced up and that outsourcing is becoming more prevalent—in other words, that the value-added-to-sales ratio is declining for the largest companies—a measure of superconcentration based on sales will overstate increases or understate decreases relative to a value-added measure.

4. Global integration ≠ country hegemony

Our discussion thus far has focused on company-level measures of concentration. Let us now take a different perspective: the country/locational one.

Two very different assertions about country/locational concentration in the context of globalization have attracted attention: (i) the assertion that the increased cross-border integration of markets will lead to hegemony by a country (or a small core of countries) and the marginalization of all the rest (the periphery) and (ii) the assertion that globalization has been accompanied by increases in geographic concentration. These are dealt with, respectively, in this section and in the next.

Belief in country hegemony through globalization is most often framed as “Globalization = Americanization.” While we cannot fully address the broad question of whether the United States—as the sole surviving superpower—has too much power, we can and should address the question of whether US companies (or companies from anywhere else, for that matter) are either disproportionately or increasingly successful in international competition.

One aggregate way of assessing this proposition is to reclassify the data on the “top 100 transnationals by sales” (presented in the previous section) by country/region of origin, because virtually all transnationals still have a clearly definable home base. Given exchange-rate realignments and other changes over the period considered, the results summarized in Exhibit 4 have to be interpreted with some care. They do not, however, depict current or emerging US hegemony or that of any other country.
An alternate and less aggregated way of assessing the hegemony proposition is to take the analysis of leading firms down to the industry level. This comes closer to capturing the public-policy concern—articulated as such in many countries—about sustaining an adequate number of national (or, more recently, regional) champions in specific industries/sectors. The data reported by Lawrence Franko constitute a valuable, publicly available data set in this regard. Franko (1991) identified the 12 largest competitors in terms of sales in 14 industries—defined along the lines of the categories used by *Fortune* magazine but screened for importance—in 1980, 1990, and 2000. His results are summarized in Exhibit 5. Once again, the picture is far from one of a hegemonic or ascendant United States. Instead, US companies lost considerable amounts of market share, on average, in the 1980s, which they regained partially or almost not at all (depending on the average measure used) in the 1990s. Just as it was erroneous to herald Japanese gains through the 1980s as harbingers of Japanese hegemony, it is erroneous to assert US hegemony in the 1990s—the data simply do not support the premise.

Of course, these data have their limitations: they focus on sales (and ignore profitability), are confined to manufacturing, and—because of the emphasis on industries that can be looked at over twenty years—are biased away from newer industries. As a rough way of remedying these problems, one can look at the market values of the equity of companies listed on stock exchanges in different countries/regions, as shown in Exhibit 6. Note, in particular, that while the US share of world equity market value has increased by 20 percentage points in the last fifteen years, it would have to increase by nearly as much again to reach the share level of 1973.

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8This analysis could also effectively be undertaken with the data used to generate Exhibit 1, but some of those data are not in the public domain; in addition, Franko’s work provides a different and, in some—but not all—respects, a better mix of industries.
Some readers may remain convinced of current or incipient US business hegemony. They may point, for example, to US prowess at global mass marketing and high technology. In fact, there is some evidence that the US multinationals do especially well in these areas: for example, the BusinessWeek/Interbrand Survey released in August 2003 concluded that US companies controlled 62 of the 100 most valuable brands in the world, including the top five. Franko’s data indicate that in 2000, the sectors that the United States dominated to progressively greater extents were pharmaceuticals, computers, aerospace, and, most lopsidedly, software (in which US firms accounted for an estimated 90% of sales in 2000 according to Franko but which was not included in Exhibit 5 because of the lack of data for 1980) (Franko, 2002).

But the power of tests along these lines is weakened by multinationals’ general tendency to cluster in advertising and R&D-intensive sectors. Furthermore, evidence of this sort often proves susceptible to rebuttal. Thus, the BusinessWeek/Interbrand Survey, with its message of US brands holding up well despite anti-Americanism around

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<tr>
<td>Aerospace</td>
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Exhibit 5 Country/regional shares of top 12 sales by industry
Global integration ≠ global concentration

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the world (Khermouch, 2003), was released on the heels of a study by Roper that indicated a loss of popularity by most big US brands versus gains for most European and Asian brands (Lowry Miller, 2003).

Assertions about US business hegemony seem, for all these reasons, to be dubious. But that still leaves open the possibility of collective hegemony exercised by the United States, Europe, and Japan. Exhibits 4 and 5 indicate that progress by countries in the periphery has been slow—relative to those in the core—and not always monotonic. So is the picture one in which globalization benefits only a small number of countries in the core, while leading to the marginalization of all the ones in the periphery? Given the growth now being registered by China (and, to a lesser extent, India), the answer again seems to be “no.” In fact, while aggregate indices offer an ambiguous picture, the concentration of international trade and investment flows declined over the last two decades among relatively open economies, whereas the opposite was true of relatively closed economies (Low et al., 1998).

This is at least somewhat reassuring. It suggests that continued marginalization is more likely to be a consequence of domestic policies in relatively closed countries than an ineradicable feature of globalization. And more broadly, the basis for inferring business hegemony seems slender.

5. Global integration ≠ geographic concentration

National hegemony represents an extreme form of country/locational concentration. But even if we conclude, for the reasons stated above, that hegemony is not an issue, country/locational concentration continues to be of interest—particularly as a window on the
"one best place" intuition formalized by the Heckscher-Ohlin theorem of international trade. Simply put, this theorem states that as barriers between regions drop, a region will specialize in the industry that uses relatively intensively its relatively abundant factor.

How much has geographic concentration increased in recent decades? Given the emphasis here on broad cross-country coverage, one must work just with manufacturing data to (partially) answer this question. Knetter and Slaughter (1999) have calculated a Herfindahl-like geographic concentration index based on United Nations Industrial Data Organization (UNIDO, 1995) data on the output (again, value-added would have been preferable) of 28 three-digit manufacturing industries between 1970 and 1992, with results that are reproduced in Exhibit 7.

Their calculations indicate that the geographic concentration of production, averaged across the industries in the UNIDO panel, declined significantly during the 1970s and drifted downward throughout the 1980s. Updating their analysis with a somewhat different data set (that has different coverage and does not go as far back) suggests that the measures of geographic concentration mostly stagnated through most of the 1990s—at least through 1997, after which the coverage in the data set used (countries accounting for 64% of world GDP in 1997) drops off drastically. Overall, therefore, the data indicate greater geographic dispersion, rather than concentration of production, in most categories of manufactured products since 1970.

Note: Each year plots the simple average of the Herfindahls of country shares of world production in 28 3-digit manufacturing industries.

Source: Knetter and Slaughter (1999) based on UNIDO (1995); extended by Ghemawat

Exhibit 7 Geographic concentration: average for 38 manufacturing industries since 1970.
Other studies, undertaken with narrower geographic coverage but possibly finer-grained industry definitions, seem to find decreases more often than increases, but there are differences in this regard, for several reasons. First, the measures of geographic concentration are very sensitive to the spatial scales employed, so that a conclusion of geographic dispersion at the global level may not tell us very much about what is happening at the regional level, and so on. Second, results also seem quite sensitive to the level up to which industries are aggregated: broad levels of aggregation are often undesirably broad but are also often the only ones for which cross-country data are available. In other words, there is a trade-off between breadth and depth. Third, ambiguity about precisely how to measure agglomeration can persist, even if issues related to spatial scales and level of aggregation can be resolved.

This point is nicely illustrated by Aiginger and Davies (2004) with the help of a global production matrix in which the columns refer to countries and the rows to industries. They note that a pure specialization-based measure is obtained by reading down each column, whereas a pure concentration-based measure is obtained by reading along each row—and that while one might expect the two to move in tandem, that is not the only possibility. In fact, when Aiginger and Davies look at the European Union between 1985 and 1998 (a period roughly centered on the Single Market Program date of 1992), they find that specialization increased over this period, but—as a result of faster growth by the smaller member states—geographic concentration actually decreased. Clearly, geographic concentration can pick up things other than specialization—sometimes, as in this example of the European Union, to overriding effect.

To proceed beyond such observations about complexity in the data, it is useful to begin by noting that while the prediction of increased geographic concentration in the presence of globalization has more of a theoretical basis than the neo-Marxist–Leninist beliefs cited above in the context of superconcentration and country hegemony, this is not the only possible prediction about what will happen with increased international trade and investment as well as with other plausible dynamics such as growth.

To begin on the demand side, the literature on monopolistic competition cited in Section 2 effectively points in the direction of decreased geographic concentration by suggesting that as fixed costs fall or demand grows, more varieties are likely to be produced locally. Dispersion can also arise as a result of following customers to new geographies—one of the major reasons why Madison Avenue, which continues to be emblematic of advertising, has ceded share in the US market for decades now. The shift in US economic activity (and even international economic activity) toward services may point in the same direction, given that many service operations must still be located where the services are provided to customers.

On the supply side, dispersion may be motivated by the avoidance of local resource depletion, congestion, or even holdup (e.g., when Japanese automakers entering the United States decided to locate away from the traditional industry centered around Detroit). And in terms of the popular categories of knowledge/information/technology,
the supposed convergence of national innovation capacities could lead to more dispersion, rather than less. Thus, the rejection of product life-cycle theory by its original proponent, the late Raymond Vernon—principally on the grounds that it no longer makes much sense to talk of “lead countries”—would seem to suggest less geographic concentration in the production of early-stage/high-tech products (Vernon, 1966, 1979). More broadly, the diversity inherent in dispersion can unlock a range of benefits in terms of risk reduction, learning, and so on. And finally, from the perspective of a firm, globalization typically involves more, rather than less, geographic dispersion of the activities that it performs. A simple emphasis on the centripetal forces that lead to agglomeration economies is unlikely, by itself, to offer much help to firms contending with centrifugal forces.

Despite all these arguments about why geographic concentration may not be the wave of the future, currently successful geographic clusters exert a powerful hold over the imagination. So instead of continuing to argue in general terms, let us place in perspective a geography that has attracted particular attention in this regard: Silicon Valley.

In the eyes of many, Silicon Valley is the home of the IT industry. But the industry’s center of gravity has shifted over time; when mainframe computers dominated, the industry clustered around New York; Boston took over with minicomputing; and personal computing was born in Florida and Houston (although it did come of age in the Valley). More recently, industry mass has been migrating to other locales that have managed to grow industry leaders such as Redmond, Washington (Microsoft), Austin, Texas (Dell), and Walldorf, Germany (SAP)—although the Valley has continued to have hits as well, for example, Google (Special Report, 2003). A different kind of threat is posed today by migration offshore—to countries such as Russia, China, and India in particular. Within India, ironically, congestion in the one location that everyone outside India has heard of, Bangalore, is leading the largest software service firms to focus on expanding in other cities that you will probably hear more about, such as Chennai. All in all, this brief history fails to substantiate the “one best place” notion—and this in a broad sector in which geographic concentration is, at multiple spatial scales, well above average. Instead, it seems better to think of the world as one in which countries exist in multidimensional space, at varying distances—cultural, administrative/institutional/political, and economic as well as geographic—from each other, with “many best places” in many industries as a result. Some of the strategic implications of taking this broader view will be elaborated in Section 7. But first, Section 6 will consider why beliefs that global integration equals global concentration are so widespread—as well as what to do to counteract them.

6. Biases to beat

The previous four sections debunked beliefs about increasing cross-border integration of markets being accompanied by increases in four different measures of global
concentration. Because such beliefs seem to be broadly held, it is useful to try to specify—or even speculate about—the systematic biases that underlie them. Understanding such biases is the first step in inoculating practitioners—and academics—against them. And, as elaborated in the next section, such inoculation is the first step on the road to thinking much more broadly about increasing global integration and strategy.

This section will therefore discuss four (overlapping) correlates of an expressed faith that global concentration is going up: deficient data, belief in borderlessness, egocentricity, and mixed motives. The discussion will focus on global seller concentration in the automobile industry so as to permit a more textured discussion of beliefs and bias than an inter-industry perspective would.

To begin with some background data, the automobile industry is very large: it accounts for about 10% of the GDP in developed countries. It is not, however, very profitable, as of the early 2000s, barely one-half of the world’s 17 largest automakers (and only two of the top five) covered their costs of capital. As a result of persistent pressures on profitability, the industry’s share of stock market capitalization had fallen to 1.6% in Europe and 0.6% in the United States by 2002, down from 3.6% and 4%, respectively, two decades earlier. For a solution to their profitability problems, a number of major automakers locked on to a vision that apparently first occurred to Giovanni Agnelli, the long-time chairman of Fiat, in the 1980s: that in a globalizing car industry, there would be room for no more than six major players worldwide—and that industry profitability would improve as a result of increased concentration. The DaimlerChrysler megamerger, for instance, was motivated by this vision.

Has the vision of increasing concentration been fulfilled? The data we rely on to answer this question are based on unit volume rather than on financial revenues, which is important given the long time frame adopted and the large shifts in exchange rates experienced over it (especially the revaluation of the Japanese yen). The data account for mergers, acquisitions, and even joint ventures—each partner is allotted a share of the output according to its ownership percentage. Thus, the data pick up on the effects of GM’s attempts to consolidate by forming a string of international alliances as well as mergers such as DaimlerChrysler. Our preferred concentration measure, partly for purposes of comparability with the data reported for 1950–1970 by Raymond Vernon and his associates, is a modified HHI, calculated by squaring the unit market shares of the top 10 producers in a given year and summing them (although the shares themselves are based on the size of the total market rather than on the combined size of the top 10 firms). However, over shorter time frames, we also report C5: the sum of the units sold by the top five producers divided by the total number of units sold.

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9The sources of data relied on were the Motor Vehicles Manufacturing Association, AutoIntell at www.autointell.com, the Autozine at www.autozine.org/Manufacturer/Manufacturer2.htm, and the Standard and Poor’s website.
The actual direction of change of global seller concentration in the automobile industry depends on the time frame used as well as on the choice of concentration measure. If one treats 2000 as the ending year and focuses on the Herfindahls, automobile industry concentration decreased since 1970, stayed steady since 1975, increased since 1980, decreased since 1985, and increased since 1990. These reversals suggest modest changes, as was indeed the case, between 1970 and 2000, the HHI stayed within 1% point of its ending value of 7.1% (equivalent to the level that would be generated by 14 equally sized producers). Furthermore, the post-1970 changes, whether positive or negative, pale in comparison with the pre-1970 declines in concentration, from an HHI of 20.2% in 1955 (slightly higher than the level that would be generated by five equally sized producers) to >30% in the 1920s. Note that the same broad story of big declines through 1970, followed by net stagnation since then (the period for which we actually have detailed data), also appears to apply to the C5 measure. So the automobile industry does not seem to be the most promising venue for proclaiming large increases in global seller concentration.

6.1 Deficient data

Why, despite the availability of such evidence to the contrary, might major automakers believe that global seller concentration is actually increasing rapidly in their industry? The most obvious answer is that at least some major automakers have failed to measure—or failed to focus on the measures of—concentration in their industry.

We think that there is something to this idea, especially over the long time frame required for perspective on changes during the last decade or two. The long-term perspective is particularly important in the automobile industry because it is growing slowly at a global level and because key commitments within it—for example, development of a new product family or a significant expansion of manufacturing capacity—take a long time to execute, implying that global market shares do not change very quickly at all, except as a result of large-scale mergers (or breakups). This leads directly to our first recommendation for managers: search out the evidence. Instead of taking assertions of increasing concentration at face value, one should look for data that would indicate whether such increases are actually occurring. Sometimes, there will be trouble finding any data, pro or con—obviously, not a good sign.

Data deficiencies are not neutral in their effects. In the absence of hard data on market shares, familiarity and other information-availability biases can contaminate inferences. Thus, the disappearance of British Leyland, which ranked among the

\[10\] Concentration based on the C5 measure was roughly the same in 2000 as in 1970, significantly higher than in 1980, slightly higher than in 1985, and significantly higher than in 1990. To be more specific, Exhibit 1 indicates that C5 increased from 51% to 53% between 1985 and 2000—a period over which the HHI actually decreased from 8% to 7%. The C5 index experienced less pressure than the Herfindahl partly because the transfer of share from the largest player, GM, to others in the top five (particularly Toyota and Volkswagen) would not have reduced C5 but would have reduced the HHI.
world’s 10 largest automakers through the 1970s, is still vivid to many, especially in Europe; by contrast, the website of the International Organization of Motor Vehicle Manufacturers has yet to list any Chinese manufacturers among the 33 for which it provides production data—even though China is expected to become the second largest market for automobiles in less than five years. Focusing on the deaths of large competitors while forgetting about the birth of new ones can safely be predicted to lead to unwarranted inferences of increasing concentration.

We also think, however, that there is more to the matter than the simple lack of (focus on) data. Consider the case of DaimlerChrysler—one automaker that did look at a concentration measure of sorts over a long time frame. Exhibit 8 reproduces some material from public presentations by company executives.

It is useful to begin by emphasizing that although the negative slope (since 1940) of the curve in Exhibit 8 might seem to parallel the evolution of the HHI in Exhibit 2a, it actually points in the opposite direction. The reason is that in Exhibit 8, the measure on the vertical axis is an inverse measure of concentration; the fact that its value moves down over time therefore suggests increasing concentration in the postwar period.

So Exhibits 2a and 8 paint very different pictures of seller concentration over their half century of overlap. Which way of looking at the data is better? A vast body of work in industrial economics—the field that has looked in the most depth at the causes and consequences of industry concentration—suggests that the measures of concentration should make some attempt to capture the size distribution of firms—as

Source: DaimlerChrysler.

Exhibit 8 Industry concentration analysis at DaimlerChrysler.
both C5 and the HHI traced out in Exhibit 2a attempt—instead of simply counting the number of firms. Or to pick a historical example from the automobile industry that managers within it may find more convincing, while Exhibit 8 indicates that there were about 200 independent automobile manufacturers in the mid-1920s, it fails to recognize that one of them, Ford, accounted for one-half of the total global output then—a critical fact that neither C5 nor the HHI would neglect. More recently, a comparison of the mass-market segment (where Chrysler traditionally focused) and the luxury segment (where Daimler–Benz traditionally focused) should have reinforced this focus on concentration ratios for DaimlerChrysler, at least. At first blush, the luxury segment appears to present a paradox by (i) being more profitable and (ii) supporting relatively more nameplates than the mass-market segment. Bringing the size distribution of competitors into the picture is what resolves the apparent paradox: concentration ratios are in fact higher in the luxury segment, especially when account is taken of the greater differentiation among luxury subsegments than among mass-market subsegments.

6.2 Belief in borderlessness

Data deficiencies are a very specific reason for a misplaced belief in increasing seller concentration. A broader set of possible reasons relate to how companies frame data about domestic versus foreign markets, which can lead to an overemphasis on volume and growth in the discussions of globalization and—through the attribution of similar intent to one’s rivals, and adding up—infers of increasing seller concentration.

Consider, in this vein, the predictions of a borderless world offered, most recently, by Thomas Friedman’s (2005) *The World is Flat*—although these actually date back to Ted Levitt’s (1983) article in the *Harvard Business Review*, “The globalization of markets,” one of the sections of which was titled “The Earth is Flat.” Suppose that the CEO of, say, General Motors (GM) bought the argument of a borderless world and prepared to act on it. Note that GM still sells only slightly more than 1 car per 1000 habitants per year outside North America versus more than 11 cars per 1000 within North America. If GM truly believed in a borderless world, it would plausibly attempt to raise its penetration in other regions to levels closer to those at home. And if enough other firms strove to do the same, general concentration levels might be predicted to increase. More broadly, domestic saturation (the usual stage at which firms move abroad) and belief in a borderless world, taken together, will lead to the perception of “Blue Oceans”11 of opportunity internationally, presumably frequently followed by perceptible flows of international red ink. In other words, a borderless frame applied to the usual differences in penetration levels at home and abroad is likely to induce global growth fever.

This type of example also implies that industries in which concentration is increasing may be worth splitting up into those in which it has (so far) proved profitable for

11On blue oceans, see Kim and Mauborgne (2005).
the consolidators versus those in which it has not. Even when global seller concentration increases are observed, the consolidation strategies that underpin them may be mistaken (e.g., in the home appliance industry, where global seller concentration has increased from minuscule levels, but the two industry leaders, Whirlpool and Electrolux, have clearly lost money).

The obvious remedies for this problem are to remind oneself in as many ways as possible that the world is not flat. Remember in specific terms the deep differences between domestic and foreign markets. Recognize differences among nonhome markets as well, rather than treating them as an undifferentiated mass. Recall that value has components other than volume or growth. And above all, keep telling yourself that you live in a semiglobalized world, in which neither the barriers at national borders nor the bridges across them can be ignored—on which more is in the next section.

6.3 Egocentricity

Even when more or less pertinent data are available to challenge beliefs about increasing global concentration at the industry level—or the supposed firm-level strategic implication of getting big fast—firms often seem not to update their prior beliefs to the appropriate extent. While cognitive frames may be part of the reason why disconfirming data might be underweighted in ways that encourage unwise consolidation initiatives, other possible reasons are related to the egocentric biases that are well known in psychology.

One bias of this sort is the illusion of control or, to be more specific, the illusion of being able to control outcomes to a greater extent than is objectively feasible. Such a bias tends to discount feedback about whether a mental model of an industry’s evolution, or of how to compete within it, actually appears to be proving correct or not. Thus, simulations of concentrated, capacity-driven industries facing growth in demand consistently exhibit a bias toward overexpansion and other unreasonable behavior/undesirable outcomes that researchers attribute to misperceptions of feedback, broadly defined.

[Note, by the way, that overcapacity is a major problem in the automobile industry: global capacity utilization is only slightly above 70%, i.e., well short of the 80% level at which an “average” player is generally supposed to earn a reasonable return and is expected to decline further over the next few years (see, for instance, Girsky, 2005).]

A second, related explanation of the bias toward overexpansion—linked more to the selection of a strategy of getting big fast than to intuitions about increasing industry concentration—has to do with the progrowth boosterism that often results from individual biases and the organizational routines that reinforce them. At the individual level, human beings tend to be overly confident about their abilities. In surveys, for instance, 93% of US college students rate themselves as above-average drivers. Within business, overconfidence biases may be especially prominent among successful executives, and there is evidence that this is reflected in their investment choices—so it is not far fetched to assume that unwarranted self-regard can create an upward bias
in growth targets. At the organizational level, overexpansion may be reinforced (or at least offered cover) by a shared belief that bigger is better, routinized focus on “stretch goals,” a failure to recognize the reality that growth rates tend to drop as organizations age, an urge to mimic the expansion of competitors, and, frankly, confusion as to whether market share is a symptom of success or a valid strategic goal in and of itself (Ghemawat, 2004a).\textsuperscript{12}

An apparent example of such egocentric biases at work is provided by Ford, another major automaker with a strong belief in increasing industry concentration. Over the last ten years, Ford has embarked on two global initiatives in autos—in the mid-1990s and at the turn of the century—to reclaim the title of the world’s largest automaker from GM, which GM wrested away in the 1920s as a result of Ford’s excessive commitment to the Model T. The actual outcome? Toyota, which Ford seems to have paid much less attention to, recently dislodged it from the number two spot and is the company on course to take over the number one spot from GM in a few years. With the help of hindsight, one suspects that Ford was overconfident. The point is not to pick on Ford but to illustrate how costly egocentricity of this sort can be.

Some obvious analytical fixes can also be recommended. Pay attention to the process averages (e.g., how often initiatives such as mergers succeed) and to careful assessments of relative position instead of simply assuming personal or organizational capabilities to be (sufficiently) above average. Get inside the minds of competitors to predict what they are thinking and will do. Add things up across competitors, with growth targets that significantly exceed overall growth predictions raising very bright red flags, and so on. But in addition to such analytical fixes, there is an important organizational component to overturning misconceptions about concentration or growth boosterism: an organization must, at some fundamental level, be receptive to the bad news that it might have gotten industry concentration dynamics or the strategic implications for itself wrong, if data or analysis suggesting as much are to have any impact.

\subsection{6.4 Mixed motives}

The discussion above hints at a final set of reasons for biases regarding global concentration: incentives and other motives that may have an influence on strategy selection that is independent of the consideration of value creation for the organization. To clarify, instead of believing that global integration implies global concentration, key organizational actors may just act as if they do, and use that common misconception to justify actions that they have other, often personal, motives for favoring.

It is easy to think of a number of motives for favoring the line that “industry concentration is increasing so we must get big fast”: profiting from incentive system biased toward top-line growth; tasting the joys of empire-building; reducing personal

\textsuperscript{12}For further discussion of some of these points, see Ghemawat (2004a).
risk by doing what “everybody else” is doing; preserving personal precommitments to cross-border consolidation (e.g., acquisitions and manifestoes) that it would be awkward or otherwise difficult to reverse; or relying on the advice of parties who have their own vested interests in growth (e.g., investment bankers).

Once again, it is hard to say for sure whether motivational biases lie behind particular cross-border consolidation moves or strategies, but one can certainly identify occasions on which the signs seem to point in that direction. Reconsider, for example, the more recent of the two major global initiatives at Ford that were cited above: the one overseen by Jacques Nasser. Nasser was Ford’s CEO from 1999 to 2001, when he was forced out and replaced by William Clay Ford. In the first year or so of Nasser’s reign, Ford was the most profitable car company in the world and enjoyed a soaring stock market valuation. This success sparked a plan to overtake GM that reflected Nasser’s belief—apparently reinforced by the DaimlerChrysler merger in 1998—that the automobile industry would consolidate into five or six major players worldwide. But it also happened to fit neatly with Nasser’s own compensation scheme. In 1999, for example, he received compensation of $13 million, including a $6.8 million cash bonus. That bonus was 34% larger than that in the previous year, according to Ford, because of Nasser’s “expanded role as head of a restructured global company.”13 One could say that global expansion was effectively in Nasser’s job description.

Our recommendations for managers: Be clear about incentives and other motivational factors—including your own—to account for mixed motives. Otherwise, you will end up being fooled by others—or fooling yourself. And from an organizational rather than individual perspective, think hard about better governance as a safety net.

7. Beyond dinosaur economics

Data on concentration levels and changes are important because they challenge not only widespread beliefs about the dynamics of seller concentration but also the strategic inference commonly derived from them: get big fast because as your industry concentrates, you will either eat or be eaten. For a specific example, reconsider the DaimlerChrysler megamerger. The two merging parties apparently framed the major competitive problem in the automobile industry as one of surmounting escalating size thresholds: a structural setting in which it is relatively plausible that mergers between mid-sized firms might yield proprietary advantages that enhance relative profitability or the likelihood of survival.

But the data presented in the preceding section actually pointed to a rather different structural diagnosis: of too much fragmentation and, relatedly, overcapacity in the automobile industry as a result of too much entry and too little exit. A merger of two

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mid-sized firms makes much less strategic sense in such a setting, because merging and taking out a competitor under conditions of overcapacity can be thought of as paying for the supply of a collective good (capacity reduction) to the industry as a whole; proprietary advantages from merger seem, by contrast, elusive. So correctly framing the structural setting would have raised additional questions about and perhaps even undone what was the largest industrial merger in history up to that point.

More generally, invoking increasing global seller concentration as an incentive to pursue a global consolidation strategy is problematic for at least three reasons. First, as in the auto example, global seller concentration may not be increasing rapidly in a particular industry and may even be stuck at levels that call global consolidation strategies into question. Second, and this was the topic of the preceding section, even if global seller concentration is increasing, bias rather than basic economics might be a significant driver, raising doubts about the wisdom of attempting to be one of the consolidators. Third, even if neither of the caveats about increasing concentration under the first two points applies, assuming the role of a consolidator probably cannot make sense for every player, so this is, quite literally, an idea that is valid only up to a point. (If, despite such considerations, a general consolidation frenzy does break out, it is typically better to be a seller than a buyer.)

A broader way of thinking about these three points as well as this whole article is that they all take aim at what has probably become the central obsession in global strategy: the advantages of being or becoming very large, or what one might call “dinosaur economics.” This article has focused on explaining why a simple faith in dinosaur economics is likely to prove ill-founded. But there is yet another crucial problem with dinosaur economics that entangles even reasoned debates about its empirical validity. Framing “[t]o consolidate or not to consolidate” as the key question in global strategy greases the way for grooved thinking by casting the process of global engagement in purely scalar terms. What is crowded out—and called for, as a result—is the consideration of other, more creative ways of adding value through cross-border operation in a world in which markets are becoming more integrated, but borders still erect big barriers (i.e., a “semiglobalized” world in which the level of cross-border integration is increasing but is still far from complete—see Ghemawat, 2003, for a review of the evidence).

While this call cannot fully be followed up on here, one way of thinking about these nonscalar global strategy options—based on author Ghemawat’s forthcoming book (Ghemawat, 2007)—will be mentioned, more as an example that puts some flesh on the abstraction of alternatives to dinosaur economics than as the way forward. Note that a

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14 As one of its points of contact with reality, the DaimlerChrysler megamerger appeared not to pursue proprietary advantages particularly strenuously: the two parties started with distinctly nonoverlapping product lines, were studiously vague about coordination plans—and about Mercedes’ disdain for Chrysler—in preparing for the merger, and, in postmerger integration, focused on back-end consolidation of activities accounting for just 7% of sales revenue.
A natural way of identifying such alternatives is to focus on the cross-country differences on which purely scalar conceptions of global expansion so often run aground. From this perspective, one can distinguish three (overlapping) categories of global strategy options that take the differences among countries more seriously than dinosaur economics, as illustrated in Exhibit 9 and briefly discussed below.15

**Exhibit 9** Adaptation, aggregation, and arbitrage strategies for dealing with international differences.

Adaptation strategies cope with cross-country differences by making partial local changes to a basic template. These have been discussed most extensively in the international business literature, in terms of the tension between local responsiveness and global integration. Recent work has emphasized that to be adequate, adaptation must often go beyond simply tweaking product features or decentralizing some marketing decisions, and it has highlighted additional levers for adapting—focus, modularization, platforming, organizational hybridization, and multiculturalism, for example—as well as innovation.

Aggregation strategies can be seen as an approach to the integration-responsiveness trade-off, which, by grouping countries, functions, and so on, tries harder to overcome differences and achieve greater cross-border economies of scale than country-by-country adaptation would allow. While there are many possible bases of aggregation (and combinations thereof), the ones that seem to have occasioned the most excitement

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15Note that dodo strategies that involve complete localization of operations in different countries are ruled out here because they fail the added-value test: creating more value by combining and coordinating activities across geographies than standalone operations in different geographies could.
recently include regional strategies, front–back organizations, and global account management.

Arbitrage strategies attempt to take advantage of some aspect of the differences between countries—that is, to achieve absolute economies, instead of giving in to differences (adaptation) or trying harder to overcome them to achieve additional economies of scale (aggregation). While such strategies are often invisible in the international business strategy literature, or pigeonholed into offshoring in search of cheaper labor, the economic bases of arbitrage strategies are much broader—especially in view of the residual barriers to cross-border market integration—and such strategies can also trade on noneconomic differences (cultural, administrative, and even geographic).

8. Conclusions

The preceding sections have provided an array of evidence to counter the belief that increasing global integration is accompanied by large increases in company/country concentration, particularly global seller concentration at the industry level. This broad finding of structural stability—or even fragmentation, especially if one takes the long view—and its counterintuitive character appears as if it may also apply to concentration along other dimensions such as product variety. Both proglobalizers (e.g., Ted Levitt) and antiglobalizers (e.g., Naomi Klein) have proclaimed that globalization is reducing product variety. But once again, there turns out to be no strong supporting evidence. Instead, what one tends to find when one looks closely—for example, at the automobile industry—are counterexamples. Thus, in autos, even DaimlerChrysler’s data suggesting a decline in the number of “big independent manufacturers” indicate that there were as many if not more brands in 2001 as in 1980, there has been a proliferation of models and variants, and according to Ford’s outgoing COO, Nick Scheele, there were 184 “product actions,” in 2002, up from 52 in 1992 (Ghemawat, 2004b).16 So although global seller concentration in autos at the company level did inch up between 1980 and the early 2000s, global product concentration appears to have decreased significantly over that period—and certainly since the heyday of the Model T in the mid-1920s.

The ideas that a few core producers, a few powerful countries, or a few large varieties will inevitably win out in global competition all embody what the preceding section referred to as dinosaur economics: an obsession with economies derived from being or becoming very large. From a company perspective, given the generally contrary evidence, it would be irresponsible not to test for evidence of the importance of such economies in the industry of particular interest, instead of taking them for granted. If, as will often turn out to be the case, concentration is not increasing or is increasing despite

16The preprint version of this article contained a separate section discussing whether increased cross-border integration was reducing product variety and is available upon request from the authors. For a conceptual discussion of the reasons why increased integration may actually lead to increases rather than decreases in product variety, see Ghemawat (2004b).
not maximizing the value for the firms driving it, that should enhance a company’s interest in looking beyond dinosaur economics, with the adaptation, aggregation, and arbitrage (AAA) strategies described toward the end of the preceding section providing one possible way of representing some of the alternatives. Actually, a company should probably also think through alternatives to consolidation, even if it concludes that concentration is increasing and may have some economic logic. The reasons can best be explained by putting dinosaur economics in historical perspective.

Dinosaur economics is not new to strategy. Its heyday in business strategy, in particular, seems to have come more than thirty years earlier, with the Boston Consulting Group’s development and the popularization of the logic of aggressive expansion strategies, based on its belief in the ubiquity of experience curve and the related sense that industries become more concentrated as they mature. Business strategists have moved on since then: while still recognizing that scale can be important, they now question the validity of market share as a strategic goal in and of itself and acknowledge the multiple possible paths along which industries might evolve and, often, multiple ways of competing successfully within the same industry.

The objective in the present context should be to move on as well, and in a similar direction: going beyond the grooved thinking inherent in purely scalar conceptions of global strategy (“to consolidate or not to consolidate”) to more creative consideration of different ways of adding value by crossing borders. This will be liberating from the global strategist’s perspective, because dinosaur economics does tend to straitjacket strategic choice.

Last but perhaps even foremost, the evidence presented in this article has some implications for the broader debate about whether globalization is good or bad. To the extent that concerns about a rising tide of global concentration are what spark opposition from antiglobalizers—and there is evidence that they are important in this regard—realizing that there is no general tide of this sort should provide some reassurance. Increased global integration does not inevitably imply the triumph of the bigger—or blander.

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Global integration ≠ global concentration


