2

The Globally Engaged Stand Tall: Firms, Workers, Communities

New research has revealed a remarkable and underappreciated pattern among real-life Americans. Globally engaged Americans seem economically healthier—more productive, more dynamic, more stable, and materially better off—than other Americans. This finding holds for a surprising variety of entities:

- firms, yes, of course, but also workers and communities;
- firms, workers, and communities involved in exports, yes, of course, but also those involved in importing, investing abroad, and cross-border technology exchange; and
- established high-tech firms, experienced professional workers, dynamic university cities, yes, of course, but also small, standard-tech businesses, unionized blue-collar workers, and heartland villages.

In fact, globally engaged American firms, workers, and communities seem economically healthier than their more insular counterparts even when they are comparable in size, location, education, experience, and industry home. Americans that, except for their choice of whether to be globally engaged, are comparable to each other do differ in their economic performance: the globally engaged stand taller.

The fact that most of the microdata research summarized in this chapter looks at *comparable* firms, workers, and communities is a critical point. This research uses statistical techniques that make sure we are comparing plants in Virginia, for example, with other plants in Virginia, and not with plants in California. In fact, in several cases, we will be comparing globally engaged plants in Norfolk, Virginia, with other plants in Norfolk. We will sometimes refer to this kind of controlled comparison as a comparison of twins, and sometimes as a comparison of "apples to apples"—an inherently more interesting comparison than apples to oranges.

The basic pattern that emerges is a remarkable correlation. What it means, what it implies, and where it comes from are all contentious issues on which the research consensus is just beginning to form. This chapter surveys the findings that establish the pattern; we evaluate the various contentions about what that pattern means in chapters 3 and 4. We begin with American firms—or, more precisely, with American plants[1]—and then move on to American workers, and finally to American communities.

1. A plant (or establishment) is an individual physical facility where production takes place, whereas a firm is a company that organizes production, possibly at multiple plants. Although our focus is at the plant rather than the firm level, similar patterns were observed, both quantitatively and qualitatively, in earlier research that sought to aggregate plants under common ownership, and then to look for differences between the constructed "firms" that had and those that lacked global commitments. See Richardson and Rindal (1996, 8ff).

These patterns are not uniquely American. For a number of other countries that have compiled microdata sets, the same patterns and the same correlations tend to be observed. We add a very brief treatment of the parallel research abroad at the end of this chapter.

The research profiled here has been circulating within the academic community for roughly 10 years, but it has yet to make its way into the mainstream public policy debate over globalization. Its strength and interest spring from its close observation of real American plants, workers, and communities. This research does not rely on data that blur their activities by employing only averages or aggregates (as in so-called sectoral, structural, or macroanalysis).

Nor does this research rely on evocative anecdotes. Instead, in a way, the new research endeavors to include most or *all* of the anecdotes, so that it can also identify those that are typical, extreme, unusual, and so on. It can discuss individual Americans and representative Americans at the same time. It can also discuss representative Americans in different groups: representative young Americans, representative women, representative job losers, and so on. All this is possible because this new research is based on near-comprehensive censuses and carefully constructed statistical samples—what we have been calling "microdata." Microdata and the research methods employing them are described in more detail in sidebar 2.1.

This study does more than just report the findings of this new research. In a series of sidebars we add profiles of real Americans we have interviewed about their choice to embrace globalization. Without these personal profiles, the data might seem dry; but without analysis of the data and research findings, these profiles would merely be a few more anecdotes in an increasingly congested narrative literature.

We also reflect upon and interpret the microdata findings. The research itself often goes no further than to wonder about the causes of the one-on-one differences that it documents. It has yet to clearly establish the meaning of these find-

Sidebar 2.1 The new microdata research and its new terminology

Research on real-life plants and firms, and on real-life workers and localities, mushroomed in the 1990s in the United States and around the world.[1] New data at the level of real individuals, plants, and communities has made this possible, together with new techniques for working with these so-called microdata. The importance of this work has lately attained the highest possible recognition: the most recent Nobel Prize in economics was awarded to James J. Heckman and Daniel McFadden for pioneering techniques in handling such data and for applying them widely.

Some of the new research asks interesting questions about plants and firms that share many characteristics but nevertheless differ in some crucial regard—in this report, this "noncommon denominator" is global integration. Other new research asks about comparable workers who differ in their global engagement. Still other research investigates comparable states, counties, metropolitan areas, and even zip-code-defined communities that differ in global linkage.

This type of research is similar to some kinds of medical research, where tests of the efficacy of some treatment adopt carefully chosen controls, to make sure that the people receiving the treatment are comparable to those not receiving it. Medical research on biological twins is one way of fulfilling the comparability requirement, for example.

Two earlier reports in this style surveyed US research that revealed how average performance differences between exporting plants and others across the economy were quite striking.[2] Since then, such research has been extended to

1. Examples of US microdata studies include Doms and Bartlesman (2000); Foster, Haltiwanger, and Krizan (1998); Jensen and McGuckin (1997); Roberts and Tybout (1996); and Tybout (2000; 2001, forthcoming).

2. Richardson and Rindal (1995, 1996).

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Sidebar 2.1 *(continued)*

other countries, including Australia, Bulgaria, Canada, Chile, Colombia, Côte d'Ivoire, the Czech Republic, Mexico, Taiwan, and Turkey, as well as most of the countries of the European Union.

Even today, some critics of this export-focused research attribute the observed differences between exporting and nonexporting firms to the exporters' larger average size, more favorable location, or greater concentration in high-tech and high-value-added industries. These critics suspect that large, high-tech plants and firms in densely populated border states generally have higher performance measures than others, and that those features alone could explain why exporters perform better.

But they do not. In every country studied so far, exporting plants *still* outperform nonexporting plants that are comparable in size, place, and activity.[3]

Other critics observe that correlation is not causation, and that a plausible explanation for why export-related plants do better than their nonexporting twins is that better-performing plants naturally turn at some point to exporting, whereas others do not, because superior performance helps in *all* markets, including export markets. We deal with these criticisms in chapter 3.

Going beyond exports, a still newer set of studies from around the world has begun to examine real-life plants in their broader patterns of global engagement: in their import behavior, in their ownership (whether foreign or domestic, whether multinational or not), and in the country of origin of their technology imports. In the same spirit, other new microdata studies are examining real-life workers and communities in an effort to isolate the effects of global exposure on them. These studies apply the twins approach by focusing on workers and communities that are comparable except for their global engagement.

This new research has generated new terminology. *Globally committed, globally engaged,* and *globally integrated* are the terms we use to describe plants, workers, and communities that are linked to the global economy through some combination of exports, imports, investment, and technology transfer. We sometimes label those that are not linked globally in any way *insular* or *domestically focused*. Those that are linked in some ways, but not others, we sometimes call *narrow* (or *opportunistic* or *one-way*) globalizers, as opposed to *deep* or *broadly engaged* globalizers. The old language—which we rarely use in this report—describes its subjects as exporters, importers, investors, and so on, implicitly assuming that they are one or another of these things more or less exclusively. That language and those categories are increasingly irrelevant to a world in which *any* type of global engagement pays off, and in which adopting any one type practically invites the adoption of other types, since all are tied together in a family of globalizing commitments.

All these new research studies are the concern of this report. We highlight those that focus on the United States, but we also refer to the corresponding foreign literature in chapter 2 and elsewhere. The foreign and the American studies have striking parallels and reach a considerable consensus, but neither literature is as yet widely known, understood, or appreciated.

3. Size is measured by the number of employees. In the US literature, comparable location means the same state, and comparable industry means the same four-digit group in the Standard Industrial Classification. (Industry groups at the four-digit level are defined quite narrowly.)

ings for larger issues of the health of the economy and the direction of economic policy. We address these concerns in the last two chapters.

Globally Engaged *Firms* Versus Other Firms

Our central contention regarding firms—that globally engaged American firms seem healthier than their nonglobal counterparts—holds for all types of firms, of all sizes, in all industries. The pattern has been best documented for export engagement, but it is clear for investment engagement as well, and even for certain types of import engagement, especially imports of intermediate inputs and capital goods.

American Firms That Export

Firms that export are, on average, better firms.[2] In part, this is true because exporting firms tend to be larger firms, are often concentrated in urban and coastal communities with a strong commercial culture, and are disproportionately represented in dynamic, growing industries. But it is also true whether the exporter is large or small, whether it is located in New England or the Southwest, and whether it is in the electronics industry or the food industry. Exporters of all shapes, sizes, and origins are simply better performers in apples-to-apples comparisons. This can be seen in the area of technology use, for example, where exporters use more "hard" *and* more "soft" technologies than do nonexporters (figure 2.1).[3]

How much better? What this research shows is that, relative to *comparable* nonexporting plants, plants that have been exporting since the late 1980s

- experienced 2 to 4 percentage points faster annual growth in employment,
- expanded their annual total sales about 0.6 to 1.3 percentage points faster, and
- were nearly 8.5 percent less likely to go out of business.

The magnitude of these gains, surprisingly, does not depend on the time period being studied: the data extend back to the mid-1980s and include the early-1990s slump. Nor, again surprisingly, do the gains depend much on the intensity of exporting, but rather on the fact of it. The commitment to export turns out to be more important than the volume of exports. In other words, it is the decision to start exporting that matters, not reaching some threshold level of exports, for example as a percentage of sales.[4]

One interpretation of these patterns, however, makes them far less surprising. In this interpretation, exporters' stronger performance simply reflects the fact that successful corporate strategies of all kinds lead to stable growth and higher productivity, both at home and abroad. "Good firms export," one recent paper concluded,[5] but the authors were less sure that exporting encouraged good performance in a given firm. We return to this key question of causality in chapter 3. Among other things, we focus on the possibility that, by growing rapidly and more stably than other firms,

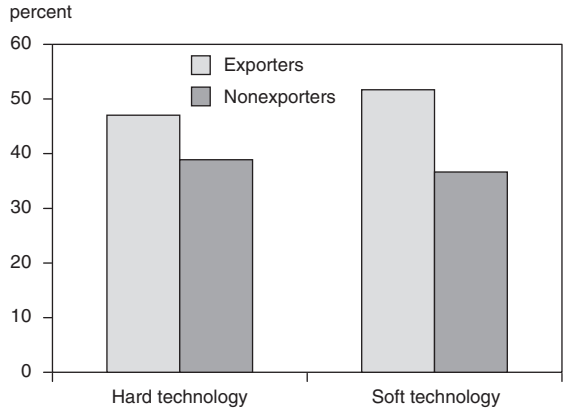
2. The key research contributions on which this section is based are Bernard and Jensen (1998, 1999a, b). Earlier contributions are surveyed in Richardson and Rindal (1995, 1996).

3. Hard technologies include computer-aided design, computer-integrated manufacturing, robots, and a variety of other machine-based technologies. Soft technologies include such techniques as statistical quality control, just-in-time production, and manufacturing resource planning. For a complete description see Swamidass (1998, 21–22).

4. There are, of course, some unique and probably irrecoverable (sunk) costs of making the commitment to export for the first time. These one-time costs—which include, among others, the cost of intelligence gathering, consulting, and licensing—are an offset to the gains from exporting that we document. But no American research, to our knowledge, has quantified them. Results for Morocco and Colombia (summarized by Roberts and Tybout, 1997, pp. 12–13) suggest that these export commitment costs are equal to one year's (in Morocco) and two years' (in Colombia) average export profits for those exporters that stay in the game.

5. Bernard and Jensen (1999a).

Figure 2.1 Across a broad range of hard and soft technologies exporters use more and more often
(percent of companies that reported using all or some of eight hard technologies and nine soft technologies)



Source: Swamidass (1998, 21–22).

good firms that export spur the rejuvenation of their home industry, and possibly of the communities in which they reside, by encouraging resources to shift from less productive to more productive activities. If so, then exporting is one means of global engagement that becomes a powerful tonic for strengthening American firms *as a group*. This rejuvenation might be one of the most important findings to come out of this new research.[6]

Selling abroad clearly is not just for the big companies anymore. In surveys done at the end of the 1980s, nearly half of small and medium-size manufacturing firms said they did not export. By the end of the 1990s, however, that figure had fallen to about a quarter. Moreover, exporting during this period was becoming a more important activity for these firms. In 1989, 4 percent of these firms said that 25 percent or more of their revenue came from exporting, and another 4 percent said they earned between 11 percent and 25 percent from exporting. By 1999 these figures had increased to 6 percent and 8.4 percent, respectively.[7] Hannay Reels (sidebar 2.2) is but one illustration of this trend.

In sum, exporting, as one form of global engagement, pays off. And it pays off regardless of the size of the firm and regardless of its location or industry. But the results of still newer research extend this conclusion still further. Better performance is associated with global engagement of all kinds, not just the commitment to export.

American Firms with Foreign Backers: Inward Foreign Investment

Foreign investment in American firms provides another tonic similar to exporting: the new research finds this "inward" investment to be associated with better performance.[8] US firms with foreign investment links tend to employ their workers more productively, provide them with more machinery and equipment to work with, and use more cutting-edge technology than their nonglobally engaged counterparts. They record not just higher labor productivity (about two-

6. These rejuvenation effects are best revealed in Bernard and Jensen (1999b, 2001). Imports, too, can rejuvenate, as shown in a forthcoming Institute study (Levinsohn and Petropoulos) which extends a previous paper by the same authors (Levinsohn and Petropoulos, 2000). The microeconomics behind both export and import rejuvenation is described by Bernard et al. (2000) and by Melitz (2000), who also shows how industry-level rejuvenation adds up to economywide rejuvenation.

7. These 1999 survey results actually are somewhat lower than the average for the preceding four years. This probably reflects a delayed impact on small US manufacturers of the Asian financial crisis plus continued slow economic growth overseas. Surveys for 1995–98 showed an average of slightly over 7 percent of firms earning 25 percent or more of their revenue from exporting, and nearly 11 percent earning between 11 and 25 percent. Regardless of these statistical differences, the overall trend is clear: more small and medium-size firms are now exporting, and exporting has steadily become a more important source of revenue for them in the past dozen years. (These results are from the 1989 and 2000 Small Manufacturers Operating Surveys conducted by the National Association of Manufacturers.)

8. The key research contribution on which this section is based is Doms and Jensen (1998).

Sidebar 2.2 Reinventing the reel: Hannay Reels goes global

We drive south out of Albany, New York, on Route 32, passing what many might describe as perfect examples of the global economy: a Cargill grain elevator, a General Electric plant, an Owens Corning factory. But our destination today is 20 miles down the road: the village of Westerlo, New York, population 350. We are looking for Hannay Reels, a family-owned manufacturing firm of 150 people, the kind of company that some people think is vanishing from the American scene. Hannay makes reels, reels used for everything from rolling up hoses on fire trucks to winding up electrical cables on a factory floor. Pretty ordinary products, we think. Nothing high tech here. After all, wasn't the wheel invented quite a few thousand years ago?

Westerlo and Hannay Reels are a world apart from downtown Albany and from the large corporate plants we pass on the way. In fact, we get slightly lost on the way. But the world is clearly finding *its* way to Westerlo and Hannay Reels. A sign in the small front lobby welcomes a Finnish delegation also visiting that day. The voice prompts on the company's telephone answering system include a number to press for international sales.

Executives at Hannay emphasize to us that the company is not a typical US manufacturer. In an economy where many if not most manufacturers today outsource much of their production and other activities, Hannay is remarkably self-sufficient. It still makes its own parts and components, maintains its own driveways and airstrip, and mows its own lawns. Preferring not to depend on just-in-time delivery, it stockpiles essential components and supplies on site. If power from the local electrical utility is interrupted, its own generators keep things running.

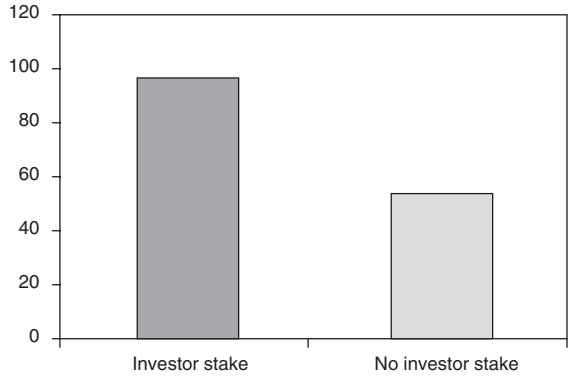
But although the company seems to march to its own drummer in many ways, it *is* globally engaged. And like other globally engaged firms, differences notwithstanding, we expect it to be better. It *is* better. Hannay illustrates a little-noted trend in US industry over the past decade, namely, the gradual internationalization of small business in the United States. The bulk of small companies that have started to export over the last decade have seen this business grow to about 10 to 15 percent of their total sales. Hannay falls into this category. It began direct sales overseas about 10 years ago, and these have now reached a little over 10 percent of total sales. The company would like to see this figure climb to 25 percent in another 10 years.

And Hannay *has* acquired a global technical niche. Its executives call their approach to manufacturing "mass customization": a typical order involves two or three reels built to the customer's specifications and delivered within three to four days. The customized nature of Hannay's business has made the jump into international markets relatively easy. For example, the reels used on firefighting equipment differ all over the world, but because it builds to order, Hannay does not have to change its production process to meet its foreign customers' requirements. Hannay's distinctive input is its near-flawless ability to match its global customers' exacting and precise needs. That advantage overshadows wages, material costs, and all the other usual suspects in the international competitiveness game.

Asked to identify one way in which doing business overseas differs from doing business at home, executives point to the different attitude of the foreign dealerships that handle their products. Foreign dealers view the company much more as an ally than as a mere taker of orders. The executives also note the revolution that the fax and the Internet have brought to a company and a village as small and out of the way as theirs. One gets the sense that much of Hannay's approach to international business is riding on this new information technology.

Touring the plant, we outsiders cannot help but notice the degree of employee involvement and initiative in Hannay's mass customization process. Is Hannay typical of other manufacturers today who have trouble finding skilled employees? It doesn't seem so. It actually has a waiting list of qualified people who want to come to work at the company.

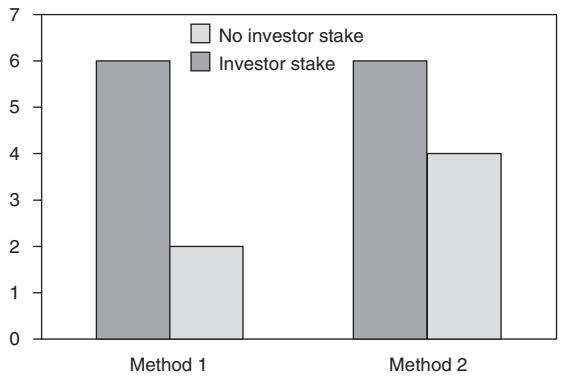
Figure 2.2 Average* labor productivity is higher in plants with foreign investor participation (value-added per employee) thousands of dollars



*Averages are for plants of all sizes in all locations and industries.

Source: Doms and Jensen (1998, table 7.3, 242).

Figure 2.3 Average* overall productivity growth is higher, too (percent rate of total factor productivity growth per year)



*Averages are for plants of all sizes in all locations and industries.

Note: Method 1 measures residual output growth from a value-added Cobb-Douglas production function; Method 2 measures it using a factor shared method similar to Bailey (1992).
Source: Doms and Jensen (1998, table 7.3, 242).

thirds higher, according to figure 2.2) but faster growth in overall productivity, too (by 2 to 4 percentage points, according to figure 2.3).[9] In short, they do a better job of putting together the pieces of the production puzzle than do more insular firms.

The research finds that these benefits are present with a foreign equity stake as low as 10 percent and can be documented for foreign stakes on up to 100 percent.[10] Just as with exports, an American host plant's commitment to foreign equity backing, rather than the intensity of that backing, seems to make the difference.

Of course, a part of each of these differences is attributable not to global engagement, but rather to the already attractive profile of those American plants that choose to engage. These plants are typically larger than other plants, and they are typically located in high-productivity industries and states. But even when we take these factors into account, to compare apples to apples, the productivity premiums remain quite large; American host plants have higher productivity than otherwise comparable, wholly American-owned plants.[11] For example:

- Labor productivity in American plants with foreign investment backing is 19 percent higher than in *comparable* American plants with none. It is still 12 percent higher for plants that are comparable in the amount of machinery and equipment per worker as well as in size, industry, and location.

9. Overall productivity growth, which economists call "total factor" or "multifactor" productivity growth, is measured as the rate of growth in output that remains after subtracting the output growth attributable to each measurable input, weighted by the share of that input in overall costs. In other words, total factor productivity growth is the rate of output growth due to growth in unmeasured inputs—new ideas, new techniques, management "smarts," worker loyalty, the quality of industrial relations, supplier dependability, weather, and so on.

10. In official US statistics, foreign ownership is defined as an ownership stake of 10 percent or more of an enterprise's equity.

11. These results are for firms that are comparable not only in size, industry, and location—as for the export results above—but also in age, as measured from the year the establishment first appeared in the industrial census.

- A typical American plant with foreign investment backing uses 27 percent more of a standard list of 17 advanced manufacturing technologies than a *comparable* American plant with no foreign equity participation.[12]
- Overall productivity in American plants with foreign investment backing grows 2 to 4 percentage points faster per year (depending on how growth is measured) than in *comparable* American plants with no foreign backing.[13]

American Multinational Enterprises: Outward Foreign Investment

It is hardly surprising that inward foreign investment might help American firms perform better.[14] Why else would almost every American state have established a business development office to encourage it? Many people would be more surprised to hear that *outward* investment by American firms helps them do the same thing. But it does. American firms that have invested abroad also stand taller than their peers that remain purely American. American multinationals—enterprises with ownership stakes in foreign production or other activities[15]—have higher worker productivity, use frontier technologies more intensively, and report higher growth in overall productivity than do American firms that are not multinationals.

Again, this might be explained easily by the fact that American multinationals are typically larger and more advantageously located (not just geographically but perhaps in "product space" as well) than nonmultinationals. But in fact, American multinationals look healthier even than *comparable* nonmultinationals. The productivity premiums they enjoy turn out to be still quite large even after the necessary apples-to-apples adjustment has been made in the analysis, so that the comparisons are between plants that are similar in size, industry, and location:

- Labor productivity in large American plants belonging to multinationals is 11 percent higher than in *comparably* large American nonmultinational-owned plants, and 33 percent higher than in small nonmultinational-owned plants in the same industry and location and of the same vintage.[16]
- A typical large plant owned by an American multinational uses 31 percent more of a standard list of 17 advanced manufacturing technologies than a *comparably* large American plant that is not owned by a multinational, and twice as many as do otherwise comparable small nonmultinational-owned plants.
- Overall productivity in large American multinational-owned plants grows 2.5 to 4 percentage points faster per year (depending on how growth is measured) than in *comparable* large American nonmultinational-owned plants, and 7 to 11 percentage points faster than in otherwise comparable small nonmultinational-owned plants.
- American investment abroad seems to pay off even for small firms in low-profile activities and locations, though these are not very typical American multinationals.

12. The list of technologies is similar to that in note 3 above. There is almost no difference, however, when the plants are made comparable in their machinery and equipment per worker as well as in size, industry, and location.

13. Figure 2.3 reveals the same differences with no attempt to make the plants comparable.

14. The key research contribution on which this section is based is Doms and Jensen (1998).

15. Doms and Jensen (1998, 239) impute rather than directly observe the multinationality of US enterprises by assuming that the foreign share of an enterprise's equity is the same as the foreign share of its assets of all kinds. This differs slightly from the US government's official definition of multinationality.

16. Research has not yet established whether multinationals grow faster and more stably than nonmultinationals, as is true for exporters versus nonexporters. If multinationals do grow faster, then they inherit the productivity and other benefits of larger firms, as well as the benefits of multinationality.

American Firms That Import

Microdata analysis on investment-engaged American companies allows a tiny glimpse into how even import engagement may pay off.[17] Firms whose operations are integrated with firms abroad through either inward or outward investment are the only ones in the United States that regularly record data on imports of intermediate inputs.[18] They turn out to be heavy importers. Foreign-backed manufacturing plants in the United States, for example, imported 16 percent of their intermediate goods in 1992; American manufacturing plants belonging to American multinationals imported 11 percent of their intermediate goods that same year. By comparison, other American manufacturers imported only about 7.5 percent of their intermediate inputs in 1992.[19]

Disproportionate importing by itself has no particular value. Yet the research suggests the hypothesis that part of the American premiums associated with investment are actually attributable to savvy importing—one more form of global engagement. Savvy importing includes the use of better tools and methods that "grow growth" efficiently.[20] In fact, the research shows that import shares of intermediates are especially high in such typically dynamic high-technology industries as chemicals, machinery, and electronics.

Still other research shows that American imports of valuable pure knowledge (as measured by patenting patterns) are enhanced significantly

17. The key research contribution on which this section is based is Zeile (1998).

18. Microdata on imports into the United States are unavailable at the plant level, unlike in some other countries.

19. Imputed data on intermediate-goods imports are from Huether and Richardson (2002). Campa and Goldberg (1997, as summarized in Feenstra and Hanson, forthcoming, table 1) estimated that 6.2 percent of intermediate goods in all of US production were imported in 1985 and 8.2 percent in 1995.

20. Savvy importing is described at greater length in Richardson and Rindal (1996), in a section of the text (23–28) that could well have been called, "Why Imports Really Matter!"

Sidebar 2.3 Where have all the flowers gone? Gone to supermarkets every one!

When Peter, Paul, and Mary wrote their famous antiwar song in the 1960s, "Where Have All the Flowers Gone?" the answer, "to US supermarkets," was perhaps not the one they had in mind. Today, however, cut flowers are a staple in supermarkets across the country. Why are a thousand flowers blooming in supermarkets today, when they did not in the era of flower power and flower children? The answer, in a word, is imports.

The story of US flower imports is peopled by all the usual characters found in international trade case studies—and then some. Up until the late 1970s, the flower industry in the United States was pretty much the proverbial carriage trade industry, selling expensive and seasonal products to a relatively small number of mostly well-to-do people. There was no mass market for cut flowers. Enter some professors at the University of Colorado, who asked a basic question: Where is the best place in the world to grow flowers? The answer: the high plateaus of the Andes, and Colombia in particular. The seeds of import competition, in other words, came from the middle of the United States itself. Colombia did not even have a flower industry to speak of until the professors showed up.

Starting in the 1970s, however, serious flower growing began in Colombia, as well as in a few other Latin American countries, with exports to the United States at the core of the business development strategy. Imported cut flowers began capturing an ever-larger share of the US market, to the extent that today 60 percent of cut flowers sold in this country are imported. Colombia is by far the largest source, with Ecuador, Costa Rica, Guatemala, and Mexico taking much smaller shares.

The story of the global cut flower industry includes many subplots; it is hardly a simple, uplift-

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Sidebar 2.3 Where have all the flowers gone? Gone to supermarkets every one! *(continued)*

ing case study of entrepreneurs finding a market and building a business with just their own sweat equity and business savvy, to the undiluted benefit of investors, workers, and customers alike. Indeed, certain elements of the story are of the sort guaranteed to turn critics of globalization apoplectic. At least one of those professors apparently got personally involved (presumably for personal gain) in setting up the Colombian flower industry. Flowers imported into the United States do receive some preferential duty treatment, and US foreign aid helped support the development of the industry in Colombia. US trade laws did little to help the domestic industry, because most of the trade complaints brought by domestic industry were turned down. Tending the flower fields can be backbreaking work, and exploitative, and there are real environmental issues surrounding how the flowers are grown. Although we are skeptical of the claim by one reviewer of an early draft of this report that the Colombian flower industry is the "poster child for everything that is wrong with globalization," all of these are indeed serious issues that should not be dismissed.[1]

But none of these complicating factors was the key to South American flowers winding up in US supermarkets. The key was the product itself. Flowers of good quality could be produced year-round in Colombia in sufficient quantities to open up new channels for retail distribution. (Obviously, improvements in refrigeration and transportation over the last three decades also helped.) But most important, the Colombian flowers could be produced, exported, and sold in the United States at a price that many more people could afford. The lower price of the imports, in other words, was the key to transforming what was literally a hothouse industry into a mass market.

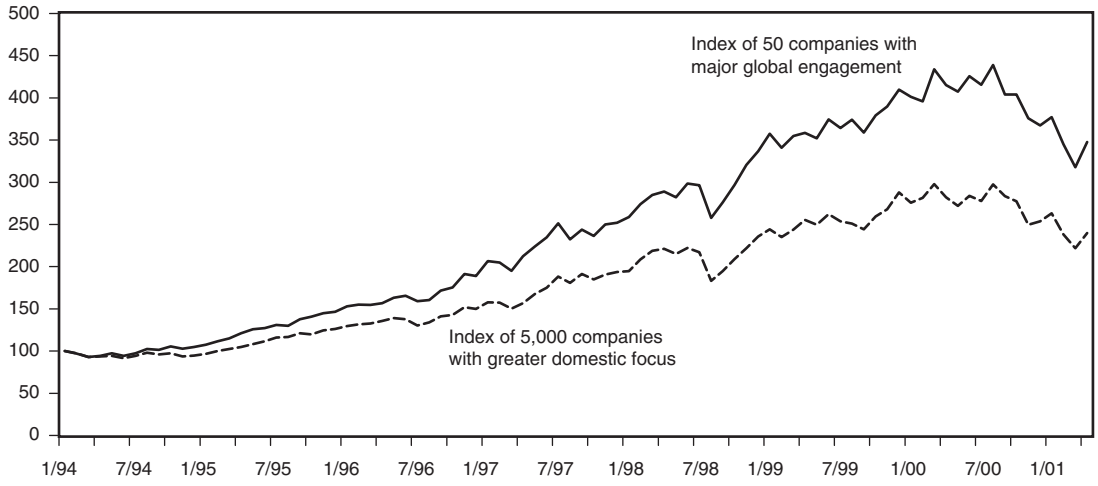
Aggressive marketing by the flower producers also played a role. Traditional flower shops could not create the mass market they needed: to cover their overhead, these small stores would have had to mark up prices sharply, negating the foreign producers' price advantage. New retail outlets had to be found, and supermarkets, with their low overheads and expertise in marketing perishable produce, were an obvious choice.

The strategy worked. Already by 1990, supermarkets accounted for about 40 percent of cut flowers sold in the United States. Today, that figure has doubled to slightly over 80 percent, and cut flowers are sold in 23,000 supermarkets around the country.

Imports, in short, helped create a mass market for cut flowers where none existed before, and in the process transformed a US industry. US flower growers certainly continue to feel the pressure: bitter complaints by growers about US trade policies can be found circulating on the World Wide Web. Many growers, however, have responded to the foreign competition, either by focusing on the high end of the market or by shifting into the potted plants and flowers business, where import competition is absent and profit margins are higher. Still other growers near major urban centers, finding their land has become more valuable for development than for horticulture, have paved their fragrant paradises and put up parking lots. And the former field workers? At least some are in air-conditioned groceries handling the flowers they formerly picked.

1. A report by the International Labor Organization (ILO, 1998) offered an authoritative and more balanced assessment, noting that generalizations about working conditions in the flower fields are difficult and that at least some of the growers "care for the well-being of their workers." Given the international nature of their business, moreover, it is likely that the growers have no choice but to be responsive to pressures from the developed countries that buy their products. In fact, some European consumer and environmental groups waged a successful campaign to induce the Colombian growers to adopt stricter environmental practices. See also Maggs (1999) for a further discussion of the labor and environmental issues.

Figure 2.4 Global engagement pays off on Wall Street



Note: January 1994 = 100.

Source: 50 Companies, Globally Engaged: Morgan-Stanley NFT-MS Multinational Index, 50 large-capitalization companies with U.S. roots. 5,000 companies, greater domestic focus: Wilshire 5000 Total Market Index.

by the presence of inward Japanese investment.[21] But savvy importing pays off even in garden-variety products, as sidebar 2.3 shows.

These patterns also underscore another important lesson of the new research, namely, that global engagement consists of a *family* of commitments to international integration. Many firms that are linked to overseas firms through investment tend to be heavy importers, too—and other research shows them to be disproportionately large exporters.[22] The correlation between performance and globalization is not just a matter of aggressively pushing exports. In chapter 3 we describe firms and industries that are simultaneously strong exporters, importers, *and* investment linkers as "deeply integrated." Other firms (a minority) are globally integrated most strongly with respect to exports only, or imports only, or investment only. Many are not globally integrated in any way. As we will see, the performance premiums associated with deep integration are striking.

The research summarized above shows that globally engaged firms outperform their non-globally engaged counterparts. The premiums to global engagement show up in various measures such as productivity, firm size, and growth. Globally engaged firms, in other words, make better use of their assets. One would expect therefore these assets to be more valuable, in the sense that people would be willing to pay more for them than for other assets. And in fact they are. As figure 2.4 shows, a stock index of American companies with a major focus on global markets has done significantly better than a standard market index of more domestically oriented firms.

Figure 2.4 also shows that the stock index of globally active firms did not outperform the domestic index every single day or every single year. It would be foolish to expect that it would. Globalization is not a one-day or a one-year cure. Anyone who buys this tonic expecting miracles should forget it. On some days and in some

21. Branstetter (2000, 2001).

22. Hanson (2001) is a good recent survey.

years, it might have been better simply to stay at home and ignore the world out there. Over the long run, however, this seems a short-sighted and costly strategy. At the most basic level, what the stock indices in figure 2.4 are really telling us is that the ownership stakes in more globally engaged firms are more valuable, and their value grows faster, than the ownership stakes in less globally engaged firms. In a sense that is the message of this report—that global commitment has a real, tangible payoff.

Globally Engaged *Workers* Versus Other Workers

Globalization skeptics might not be surprised that American firms that make global commitments seem to stand taller than other firms. Some of them claim that helping corporate America is what globalization is all about—that global integration is driven by the corporate agenda of large, powerful companies, and that their gains often come at the expense of others, especially workers.

But the new research looks at the impact on workers, too—and finds the same remarkable pattern. Globally engaged American workers seem better off than their nonglobally engaged counterparts, and the numbers are roughly comparable to those in our comparison of firms. Workers in globally engaged firms seem to get premiums similar to those that accrue to the firms themselves, not crumbs from the corporate table. The microdata research indicates that Pam's story, told in sidebar 2.4, is not an isolated case.

American Workers in Firms That Export

The jobs of American workers in firms that export are clearly better jobs.[23] This is especially so if we look not just at wages, but also at benefits such as

23. The key research contributions on which this section is based are Bernard and Jensen (1998, 1999a, b). Earlier contributions are surveyed in Richardson and Rindal (1995, 1996).

Sidebar 2.4 Pam's job

Pam is sitting in her boss's office explaining how she coordinates "drop shipments" to interviewers who have never heard the phrase before. Pam is global director of production for the Ralph Lauren children's wear line at the Schwab Company, an apparel manufacturer located in Cumberland, in the panhandle of Western Maryland (see sidebar 1.1). She explains that drop shipments are shipments of clothing that go directly from a foreign producer to a foreign customer and never enter the United States, although Schwab gets paid for its global intermediation.

Pam's job did not exist when she started working at Schwab. And the hands-on manufacturing job she had when she started does not exist today, at least not in Cumberland. (Many have been moved to the Caribbean and elsewhere.) Some would say this is a typical example of life on the global assembly line at its grimmest.[1] But it seems to have worked for Pam.

In the early 1980s, Pam had been working in a local restaurant for six years. She was considering accepting an assistant manager position there when Schwab offered her a job as a sewer. She took the job in part because the more predictable hours made it easier to care for her young daughter. But she admits she never liked sewing, and she jumped at the chance to switch to a part-time job in the computer room 18 months later. There she was told that her lack of computer skills would limit her chances for advancement. So she signed up for courses at a local community college, telling her supervisor that, if she brought her skills up to speed and still did not get full-time work, she would leave. Soon she landed a full-time job in

1. See, for example, Adler (2000), who tracks "Mollie's job" from Paterson, New Jersey, to Simpson County, Mississippi, to Matamoras, Mexico.

(sidebar continues next page)

Sidebar 2.4 *(continued)*

the computer room entering shipping orders; the rest, she laughingly says, "is history."

History, perhaps, but also International Economics 101. At the same time that Pam was moving off the sewing floor, Schwab was just beginning to move some of its production offshore. It was definitely the right time to be looking for a better job. New opportunities at Schwab allowed her to become increasingly familiar with customs procedures—skills that Schwab needed as it became the exclusive licensee for the Ralph Lauren children's line. Hooking up with a fashion designer of global repute proved to be a smart move for the company—and for Pam.

Pam's global savvy seems to run in the family. Her oldest daughter, now a pre-med major in college, worked in the customs department at Schwab for three years after graduating from high school. It helped that she already knew about custom procedures from watching her mother work on the forms at home. Her other daughter is interested in foreign languages. Why? Perhaps because she learned the value of being able to speak another language from observing Schwab employees deal with foreign customers and suppliers. Pam admits she hated to fly and did not even have a passport until one of her daughters got hers to go to Europe. Pam has now traveled to Colombia and Mexico and will soon be going to Asia.

Pam says that the magnitude of what she and others at Schwab are doing around the world never really hit her until two years ago, when the company invited over 100 foreign vendors to come to Cumberland. The vendors and their hosts broke into working groups so Pam and her coworkers could show what happened on the US side of Schwab's operations, focusing on why things had to be done in a particular way or at a particular time. Today Pam jokes that after shepherding the foreign visitors around Cumberland for a week, she now knows how to say, "let's get going," in six different languages.

We ask Pam the question that a critic of globalization might ask: "You are the happy exception to the grim global rule, right?" "No" is the emphatic answer. Pam says that there are a lot of stories like hers out in the plant. She points out that she supervises 5 managers and 18 contract managers (as well as offshore auditors and agents in supplier countries). Four of the five managers came off the sewing floor, and 13 out of the 18 contract managers were likewise promoted from within the company.

Despite all the global forces that are changing life for Schwab and its employees, we also get another impression, one of continuity and collegiality, talking to the management and workers here. We are sitting in the office of the man whose family name is on the front of the building, and the employees talking with us in that room know it. Nonetheless, one gets a sense that this is a real team. And not just one cobbled together in one of those phony "team-building" exercises that a lot of companies love to put their employees through. Rather it is a team in the sense of people who have worked together for a long time ("we're a family of families," one says) and understand what it takes to get the job done, even on the global assembly line. Even in apparel. Even in Cumberland.

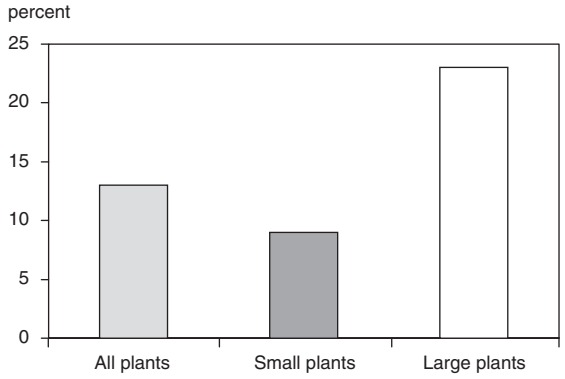
medical insurance or paid leave, which are an increasingly large part of employee compensation today. As figure 2.5 shows, the wages of blue-collar workers, averaged across all exporting plants, are 13 percent higher than in nonexporting plants; they are 23 percent higher when the comparison is between large plants, and 9 percent higher for small plants. The news is good for white-collar employees as well (figure 2.6). They earn, on average, 18 percent more than their counterparts in nonexporting plants. Benefits for all workers average 37 percent higher in exporting plants as a group than in nonexporting plants (figure 2.7).

Some of these gains from exporting, of course, stem from the fact that exporting plants are typically larger and often located in communities where wages are higher across the board. But once again, when statistical techniques are used to compare apples to apples, the advantages to American workers of being employed in an exporting plant are still large. Wages are still 10 percent higher and benefits 11 percent higher. Another part of the gains to export workers can be attributed to the fact that exporting plants typically employ more skilled workers than their nonexporting counterparts. However, even when the level of skills is taken into account, at least half of that 10 percent gain in wages and 11 percent gain in benefits remains. Exporting clearly pays off for the American worker.

Jobs grow faster at American exporters, too, with stronger opportunities for advancement and lower probabilities of dislocation. In some instances, smaller firms seem to get a bigger jolt from this export tonic than do larger ones. For example, from the mid-1980s to the early 1990s, employment growth among all exporting firms was around 18 percent higher than among nonexporting firms. But whereas larger firms grew jobs at only a 13 percent faster rate during this period, the comparable figure for smaller firms approached 20 percent.[24] (Sidebar 2.5 provides an example of a small Atlanta firm whose employment more than tripled after it began exporting.)

These are striking job growth premiums. If just one-third of the nearly 120,000 small exporters that were in business in the early 1990s had maintained these employment growth rates,

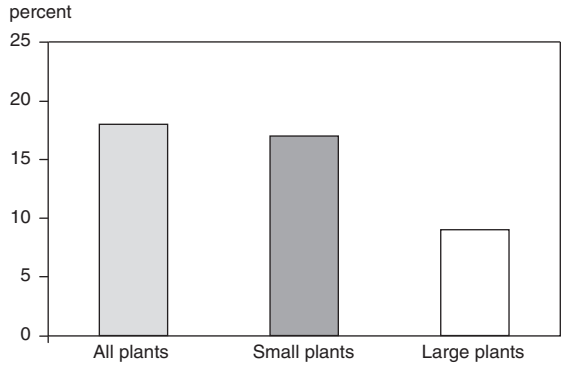
Figure 2.5 Average* exporting plants pay higher blue-collar wages (percent that wages are higher in export versus nonexport plants)



*Averages on the left are for plants of all sizes in all locations and industries. Averages on the right are for plants in all locations and industries. 1987 dollars.

Source: Richardson and Rindal (1996, chart 2A, 11).

Figure 2.6 Average* pay is higher for white-collar employees, too (percent that wages are higher in export versus nonexport plants)

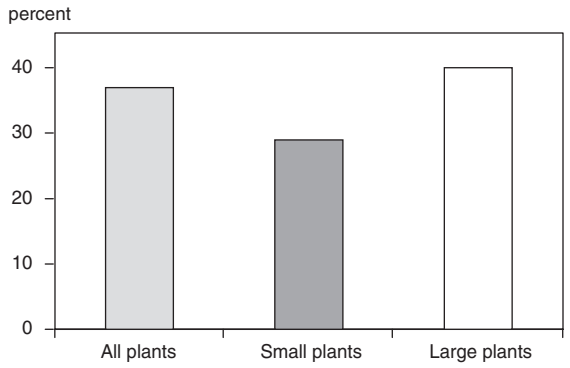


*Averages on the left are for plants of all sizes in all locations and industries. Averages on the right are for plants in all locations and industries. 1987 dollars.

Source: Richardson and Rindal (1996, chart 2B, 11).

24. As smaller exporters grow faster and hence larger, their workers also gain from the higher wages, benefits, and stability that larger employers provide.

Figure 2.7 Average* workers at exporting plants have higher benefits (percent that benefits are higher in export versus nonexport plants)



*Averages on the left are for plants of all sizes in all locations and industries. Averages on the right are for plants in all locations and industries. 1987 dollars.

Source: Richardson and Rindal (1996, chart 2C, 11).

they would have generated 1 million jobs per year. Given the extraordinary job growth seen in the United States during the 1990s and the nearly 65 percent growth in the number of small exporters,[25] it is hard to argue that this was not part of the story. It undoubtedly was. There is strength in numbers: a lot of smaller exporters can have a very large impact.

American Workers in Firms That Import

Most workers perceive imports as a threat—and for good reason when the imports in question compete directly with the worker's own product.[26] Recent research on a microdata sample of American workers over the period 1979–94, for example, finds a steep decline in employment

25. In 1998 the number of small firms (those employing 100 people or fewer) that exported was slightly over 180,000, and the number of exporting firms employing 100–500 people was almost 18,000 (US Department of Commerce, 2000).

26. The key research contributions on which this section is based are Levinsohn and Petropoulos (2000) and Kletzer (2001).

Sidebar 2.5 Cleaning the world's air from Atlanta

When the Vatican needs to filter corrosive gases out of the air in the Sistine Chapel to protect the Michelangelo frescos, where does it turn? To a small manufacturer in Atlanta. When a paper mill in the middle of the Brazilian rain forest needs an air filtration system to protect sensitive equipment in its computer control room, to whom does it go? To the same small company in Atlanta. And when that small Atlanta company wants to find a sales manager to supervise its representatives in Asia, where does it look? Of course, it hires the former head of the Beijing bureau of the old Soviet news agency, TASS, who speaks fluent Chinese and English.

This type of global linkage may strike some as straight out of the *Wizard of Oz*. But for Bill Weiller, CEO of Atlanta-based Purafil, there is nothing odd about any of it. The need to filter harmful gases out of the air—to preserve food, prevent corrosion of electronic equipment, improve air quality in buildings, or protect valuable art—is universal. Indeed, Weiller does not see how Purafil can afford *not* to sell its products throughout the world. But for Purafil, the rest of the world is more than simply a vast sales outlet. It is also a place to find new ideas, buy raw materials, and educate employees. For example:

- Technical research: One of the three inventors of a technology developed by Purafil (for which it received a prestigious national award) was a Chinese national on an exchange program at the Georgia Institute for Technology. Without this global linkage through an American educational institution, Purafil most likely would not have been able to include this talented person in its research work.
- Imports: Purafil imports some of its basic raw materials and electronic components. These products are also sourced domestically, but imports are a way of keeping a check on domestic suppliers' pricing.

(sidebar continues next page)

Sidebar 2.5 Cleaning the world's air from Atlanta *(continued)*

- Foreign direct investment: To service customers better, Purafil has set up a warehouse and assembly operation in the Netherlands, and another is planned for Taiwan.
- People: Purafil is also using exposure to foreign markets to develop its own employees' skills. Twenty percent of its employees have been on company missions outside the United States. Younger executives are being sent for longer-term assignments to help manage Purafil's business in international markets.

A dozen years ago Purafil sold almost nothing outside the US market and employed only 25 people. Now, 60 percent of its sales come from exports, and it has a payroll of 85.

and high involuntary dislocation from familiar import-competing industries such as apparel, footwear, and watches and clocks. On the other hand, in a second microdata study over the same period, one of the same researchers finds that workers in a broader group of import-competing industries experienced only slightly less favorable dislocation, reemployment, and recovery of earnings than did other manufacturing workers.[27] True, American manufacturing workers as a group had a significantly unhappier experience than other workers during that period, but the point is that, according to this study, import-competing workers as a group did not suffer extraordinary losses.[28]

Furthermore, none of these trends is inconsistent with the other, more favorable microdata evidence presented in this report. For example, 70 percent of all US imports are raw materials, components, and capital goods.[29] Many of these complement, rather than compete with, the products of American workers. This shows that imports can benefit workers, too. Imports may allow them to work with just the right machinery for the task at hand or with components that are less prone to failure.

Most important, imported intermediate and capital goods often have unique capabilities and are available at competitive prices, and thus often enhance the productivity and wages of American workers more than do their domestic substitutes.[30] This has been the case even in textiles and apparel, to cite just one striking example. Both US industries, but especially apparel, have been affected for the worse by overseas outsourcing (that is, by a shift toward imported inputs), and employment in these industries has declined as a result.[31] But the outsourcing plants, on average, pay their remaining workers roughly $1,000 more in annual salaries for every 10 percent of their inputs that they outsource. In apparel, successful outsourcing firms also have higher plant survival rates, and hence their workers have more stable jobs. But this research does not find the same stability payoff for textiles. And on the darker side of the outsourcing phenomenon, outsourcing-sensitive plants (those that have historically specialized in those stages being outsourced) have extremely high dislocation rates. Both jobs and whole plants that specialize in those stages may disappear. (On the other hand, the dislocated workers are often shifted easily to other activities within the firm, as sidebars 1.1 and 2.4 illustrate.)

27. Kletzer (2001).

28. Scott, Lee, and Schmitt (1997) argue that imports undermine a significant number of high-wage US jobs, whereas Kletzer's results are more consistent with the view that those jobs are under pressure from an array of common trends in manufacturing, including technological change and domestic outsourcing to American suppliers.

29. Huether and Richardson (forthcoming).

30. Mere diversification of input suppliers through import liberalization can have productivity and stability payoffs for workers, quite apart from price and quality considerations. See Feenstra, Markusen, and Zeile (1992).

31. Kletzer (2001, chapter 6) finds that, across all manufacturing industries, those with strong growth in overseas outsourcing also had more rapid declines in employment than other industries, especially from 1985 to 1994.

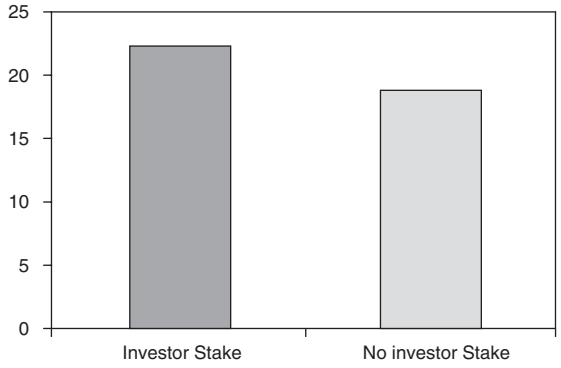
Finally, some researchers see imports of intermediates and capital equipment as a conduit for inward technology transfer. One influential paper conjectured that imported inputs were an important mechanism whereby the United States imported the productivity benefits of foreign technology.[32] It estimated that, through such imports, US overall productivity rose by more than 2 percent for every doubling of cumulative research and development (R&D) undertaken abroad. That may seem like a small number, but it is almost one-tenth of the 23 percent productivity "return" from a comparable doubling of America's own cumulative R&D. And the technology responsible for these productivity gains from imports comes to the United States for free—the R&D that creates it is paid for by the foreign firm. American workers presumably earn some share of such imported boosts to productivity.

Americans Who Work for Multinational Enterprises

Many American workers are "investment-engaged," globally committed because of who owns the establishment in which they work. Some are employed by foreign multinationals, some by American multinationals. It is remarkable that both stand taller than other American workers, even those with comparable fundamentals. We examine each type in turn.

American Workers in Foreign-Owned Multinationals (Inward Investors). American jobs with inward foreign investors are better jobs, according to recent research using microdata from the late 1980s and early 1990s.[33] They are, for one thing, higher-skill jobs. In part because of this, in 1987 they paid almost 29 percent more than other jobs.[34] But even when jobs requiring comparable skills are compared, those with the foreign-owned multinationals paid more. The raw wage premiums were 19 percent for blue-collar manufacturing workers (figure 2.8) and 13 percent for white-collar manufacturing workers (figure 2.9).[35]

Figure 2.8 Average* plants with foreign-investor participation pay higher blue-collar wages (annual wages per production employee in thousands of dollars, 1987)



*Averages are for plants of all sizes in all locations and industries.

Source: Doms and Jensen (1998).

Of course, these premiums are due in part to the fact that foreign-owned plants in the United States are larger on average than other plants and tend to be located in high-productivity industries and states.[36] But the new research also shows that wage premiums remain significant when the foreign-owned plants are matched with wholly American owned plants in terms of size, industry, and location. Blue-collar jobs in American plants with foreign investment backing paid 7 percent more than jobs in comparable American

32. Coe and Helpman (1995, table 5). The authors confirm the size of these estimates in Bayoumi, Coe, and Helpman (1999), in light of controversy surrounding their earlier paper. Both these papers are based on aggregate data, however, not microdata.

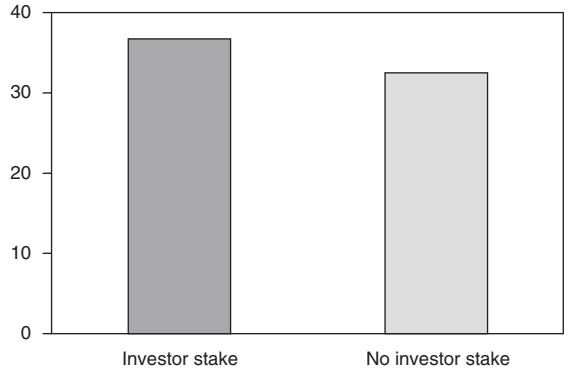
33. The key research contributions on which this section and the next are based are Doms and Jensen (1998) and Feliciano and Lipsey (1999).

34. Feliciano and Lipsey (1999, table 1a). Their sample covers all sectors including services except private education and noncommercial establishments. The premiums they measure are compensation premiums, consisting of both wages and benefits.

35. Doms and Jensen (1998, table 7.4).

36. Howenstein and Zeile (1994) discuss these patterns.

Figure 2.9 Average* plants with foreign investor participation pay white-collar workers more, too (annual wages per nonproduction employee in thousands of dollars, 1987)



*Averages are for plants of all sizes in all locations and industries.

Source: Doms and Jensen (1998).

plants without such backing, and white-collar jobs paid 2.5 percent more.[37]

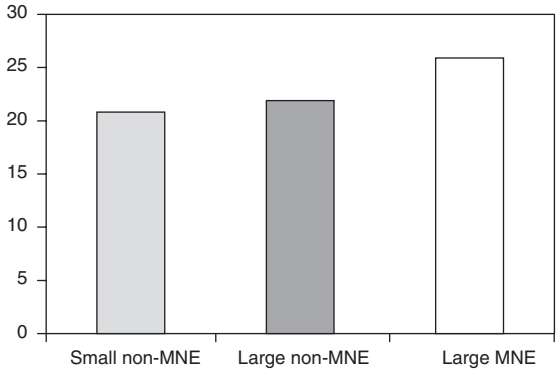
American Workers at American-Owned Multinationals (Outward Investors). Jobs with American-based multinational enterprises are better jobs, too. Annual earnings of the average employee at a large American multinational are 18 percent higher than at comparably large American nonmultinationals, and 25 percent higher than at small American nonmultinationals (figure 2.10).

Of course, American-owned multinationals may be able to pay their workers more because their activities tend to be concentrated in high-technology industries with global economies of scale,[38] or because they are located in dynamic areas such as Silicon Valley in California or the high-tech corridors in northern Virginia. Indeed, favorable industry and location fully account for the measured white-collar wage differences between multinationals and nonmultinationals. The message of the research is that, for white-collar workers, it is hard to disentangle the gains of working for a globally engaged company from the gains of working in a favorable geographic location and industry.

But blue-collar workers at American-owned multinationals, unlike their white-collar counterparts, seem to gain a lot, according to the research. They earn 7 percent more in large American multinationals than in large nonmultinationals in the same industry and location, and 15 percent more than in otherwise comparable small nonmultinationals (figure 2.11). Does this mean that blue-collar workers gain relatively more than white-collar workers from global engagement? In this case the answer is yes. Unions may gain, too, as sidebar 2.6 demonstrates.

To summarize, workers, like firms, seem to gain from jobs that are export-related, from jobs with multinational companies, and even from jobs that are import-dependent, when the imports in question are of inputs and technology

Figure 2.10 Average* American multinational plants pay higher wages (annual wages per employee in thousands of dollars, 1987)



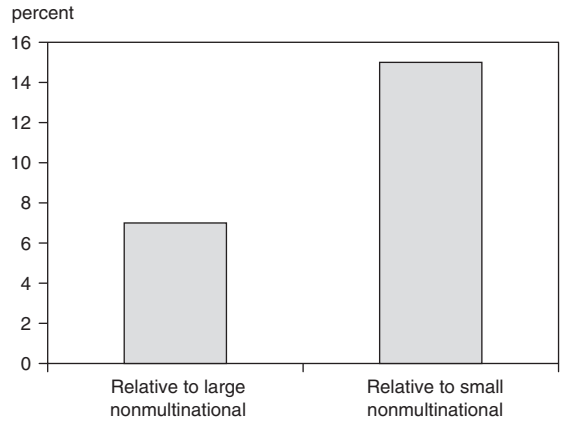
*Averages are for plants of all sizes in all locations and industries.

Source: Doms and Jensen (1998).

37. These wage premiums, however, unlike the labor productivity premiums for firms discussed above, are largely explained by the heavier capital intensity of plants backed by foreign investors. The premiums vanish if the plants are made comparable in their machinery and equipment per worker as well as in size, industry, and location.

38. Lipsey (1994, 46–47) shows how both inward and outward American investment is concentrated in three high-skill-intensive manufacturing industries: chemicals, electrical machinery, and nonelectrical machinery. See also figure 3.5.

Figure 2.11 Blue-collar workers gain from working in an American multinational (wage premiums of blue-collar workers in US multinational)



Source: Doms and Jensen (1998).

that enhance their productivity. Once again it appears that global integration of several kinds pays off. Once again it appears likely that workers at firms that embrace the family of commitments that we call deep global integration are better off than other workers. We will see an aggregate reflection of this in chapter 4.

Globally Engaged *Communities* Versus Other Communities

Globally engaged American communities seem healthier, too, in large part because their workers and firms are healthier, as described above. Focused microdata research on communities themselves, apart from their workers and firms, is at an early stage. But the topic is of immense importance to states and municipalities, and their economic development offices, and research could be carried out more easily if US Commerce Department data were more readily accessible to researchers.[39]

39. Confidentiality concerns and the separation of administrative responsibility between the Commerce Department's two main data-gathering agencies, the Bureau of the Census and the Bureau of Economic Analysis, for the censuses of establishments and of multinational firms are what cause this inaccessibility.

Sidebar 2.6 Thinking globally, negotiating locally: Sheet Metal Workers Local 527

Bruce Evans is a gregarious and grizzled veteran of the ups and downs of American labor relations. But he is also an incisive student of what it takes for his union to prosper in the new, interlinked, global economy.

Evans has been with the Carrier Corporation, a subsidiary of United Technologies Corporation (see sidebar 3.2), for 37 years (he plans to retire soon), 15 of them as chief steward of skilled trades and maintenance workers on the first shift. He has been with Local 527 of the sheet metal workers union all that time. He has seen it all: four or five strikes, a half-dozen contract renewals, and uncountable changes in plant managers and mismanagers.

Bruce led the last round of contract negotiations with Carrier. The local had 2,200 members when his three-year term started. That figure sank to 1,700 as the company moved some production out of Syracuse (acrimoniously) to North Carolina, but jobs and membership rose back toward 2,000 again as the company's global sales mushroomed in the late 1990s. In all, Carrier has roughly 3,700 workers in Syracuse and recently passed Pratt & Whitney, the aircraft engine manufacturer, as the sales leader in the United Technologies group.

"What were some of the main negotiating issues?" the interviewer asks to start the conversation. "Global customer service!" Bruce says. "What?" the startled interviewer asks. Bruce goes on to explain: "Without customer satisfaction, we don't have a job. I've got to be customer-conscious. I don't ever want to be in bed with the company, but I've got to be in the same bedroom!"

Orders for Carrier products are based on a round-the-clock, seven-day workweek, Evans explains. Holidays and down days are not the same around the world. Just-in-time delivery is not just convenient, but vital to sustain produc-

(sidebar continues next page)

Sidebar 2.6 Thinking globally, negotiating locally: Sheet Metal Workers Local 527 *(continued)*

tion at other plants at home and overseas, which use compressors made at the Syracuse plant in commercial cooling systems under a number of different brand names. This means long hours and lots of overtime for Carrier's Syracuse workers, who are resisting the pressures to work repeated 12-hour shifts, or to work overtime and on scheduled days off. Among other things, many of these workers have spouses whose own work schedules are not flexible and children who need care. Only 1 or 2 percent of Local 527's members take advantage of Carrier's tuition assistance program (the Employee Scholar Program, featured in sidebar 3.2); the rest just don't have the time.

"What about more traditional worker issues—wages, benefits, job stability?" the interviewer wonders. Sure, those are the fundamentals, Bruce agrees. But Carrier pays well, listens well (or at least it has in the past few years), and recognizes that unhappy workers and strikes are fatal to the quality and timeliness that make its products and workers world class. Local 527 members are well educated (local schools are strong), savvy, trainable, rooted (not footloose), and quietly proud to be where they are—and they are profiting from it. Deep down they know—though they won't tell Bruce they know—that their livelihoods depend on the company keeping up with technological momentum and globalization. Yet they are not machines. They cannot work around the clock, and they have ample reason to be skeptical, even cynical. They want their union representatives to resist being beaten down by management's threats to move operations elsewhere (the company has a whole network of plants producing identical products, to say nothing of outsourcing) if they fail to offer enough concessions at the bargaining table.

Bruce is solidly on his members' side, but he thinks their expectations are often too high and their complaints too loud and unconstructive. He also thinks Carrier has taken advantage of his union's leadership in the past, and he was not about to repeat his predecessors' mistake. He did not want to get too close to management as he thinks past union leaders did. But that does not mean he is indifferent to what is going on at Carrier. Quite the contrary. If he thought something is not right—for example, if inventories of parts were inadequate—he raised the roof, even to the point of calling the parent company's headquarters in Connecticut. He felt the door was open to ask management for the information he needed to serve his members.

But Bruce was also prepared to take heat from his membership. He is proud to have allayed their skepticism recently, when Carrier was considering whether to move a parts and components warehouse out of Syracuse. He had seen too much self-defeating worker intransigence on this type of issue in the past, and he thought he could make concessions work *for* the workers in this case. And concessions did work, as the members belatedly agreed. Although roughly 200 warehouse jobs now have lower pay scales than before, the jobs are still in Syracuse, and they have become a typical entry-level position for new hires. Many workers who used to hold the warehouse jobs have been able to move on to even better jobs elsewhere in Carrier's multiple operations in Syracuse.

The interview has already gone on twice as long as planned when the interviewer asks: "So, Bruce, do you think the thesis of this report applies to unions, too?"

"I'm not sure I've caught your thesis yet. Can you bring it down closer to earth?"

"OK, I'll try. You must know other locals of the sheet metal workers union pretty well. I'm guessing that some of them work in companies with mostly US-oriented operations, sourcing locally and selling domestically, maybe only to a few states in the Northeast and the Midwest. Some of those locals must be about the same size as Local 527, and they probably look a lot like 527 with one important difference: you're global, they aren't. We're guessing that Local 527's jobs are better—growing faster, more stable, better paying—than those in the other, more domestic locals. That's our thesis. Is that your impression?"

"No doubt about it. You said it well and you captured it well."

Although microdata research on communities is still in its formative stages, some intriguing findings have already come to light. For example, one recent project finds a high correlation between the concentration of exporting plants within a US zip code and average labor productivity among *all* plants in that zip code, when other factors are controlled for.[40]

The community microdata research that is most developed shows that American communities are better off in a number of ways as hosts to foreign multinational companies than they are as hosts to otherwise comparable companies that are strictly American owned. Unfortunately, there is no research, however, on whether American communities that host American-owned multinationals are also better off than communities that host otherwise comparable nonmultinational firms. US data exist for such projects but are not readily available.

Communities can be studied at different levels.[41] A US state can be considered a relatively broad type of community. So is a firm's principal or "home" industry. One recent study[42] compares states as hosts to foreign and domestic firms in 26 industries. Its findings imply that two states with the same industry composition will differ according to the shares of foreign firms. The higher the foreign firms' share, the higher are state wage levels.

In this study, all plants with foreign stakes in a given state and industry are considered one mini-community, which is compared with the mini-community of all wholly American-owned plants in the same state and industry (yet another apples-to-apples comparison).[43] On average, foreign-owned establishments in a typical state and industry paid their workers 8 percent more in 1987, and 9 percent more in 1992, than comparable American-owned establishments.[44] These average premiums shrink to 5 percent in 1987 and 6 percent in 1992 when average plant size and average unionization rates are made comparable, too. That is, both large and small foreign-backed plants pay 5 to 6 percent more than comparably sized American-owned plants in the typical industry,[45] in both heavily unionized states and in states with little unionization (types of apples to types of apples). Compensation is higher in states with higher unionization rates. But it is higher still when a unionized state and industry link themselves to the global economy by welcoming foreign multinationals. Nor, contrary to anecdotal impression, is there any evidence that foreign multinationals shun American unions.[46]

One cynical explanation for this correlation is that foreign investors skim off a community's best workers. But there is no evidence of such skimming in the limited research done so far: no correlation has been detected between low compensation in an industry's American-owned plants and the percentage of a community's industry employment in foreign-owned plants. In fact, among nonmanufacturing enterprises in

40. The project is being undertaken by Mary E. Lovely and Stuart Rosenthal of Syracuse University.

41. The three research contributions on which this discussion is based are Feliciano and Lipsey (1999), Figlio and Bloningen (1999), and Ondrich and Wasylenko (1993).

42. Feliciano and Lipsey (1999).

43. More precisely, the data consist of 100 state averages (50 for foreign-owned establishments and 50 for American-owned establishments) for various variables, for each of 6 nonmanufacturing activities (mining, construction, transportation and utilities, wholesale trade, retail trade, and other services) and each of 20 manufacturing industries (at the two-digit SIC level), in 1987 and 1992.

44. These results are from table 3 of an unpublished earlier version of Feliciano and Lipsey (1999).

45. These average premiums, however, are due almost entirely to 9 percent average premiums across states in nonmanufacturing establishments; in manufacturing alone, no significant average premiums are found.

46. Ondrich and Wasylenko (1993, 79) find no effect of unionization (or of right-to-work and minimum wage laws) on greenfield American investment by foreign multinationals. Lipsey (1994, table 9) shows that 1987 rates of unionization were actually higher, not lower, among foreign-owned than among American-owned nonmanufacturing establishments, and that the rates of unionization were the same in manufacturing.

1992, the opposite seems to have been the case: inward investment is linked to positive spillover benefits to other workers in the community. Workers in American-owned plants earn more, the higher the employment share of foreign-owned plants in that community's industry.

Of course, skeptics might object that the data on which these findings are based are not true microdata—US states stretch the limits of what one thinks of as a "community," and data for "industries," even at the two-digit SIC level, are unwieldy averages of very disparate subindustries and firms. Do patterns like these hold for what most people would recognize as communities? At least one recent study, of counties in South Carolina, suggests that they do. Among US states, South Carolina has been one of the most active seekers of inward foreign investment. Microdata research finds intriguing county-by-county patterns there from 1980 to 1995. Counties that hosted a new foreign-owned manufacturing plant (called a "greenfield" plant, as distinguished from an existing plant acquired by a foreign investor) enjoyed higher wages than otherwise comparable counties that hosted a new domestically owned plant of the same size in the same industry.[47] Specifically, in counties adding new foreign-owned plants, wages in *all* the plants in the county's entire industry base were found to be 2.3 percent higher on average. In contrast, wages were pulled up only 0.3 percent in counties where the new plant was American-owned.[48] More generally, tides of new investment from any source tended to raise all boats in a given county, but the boats rose even higher when the new investment was by foreigners.

The most intriguing aspect of these results is the implied community wage spillovers. A new foreign manufacturing plant is associated with especially large wage spillovers to *other* workers in *other,* established plants in the same county, both foreign-owned and American-owned. But why? There are many possible answers. The foreign investor may bring (import) more productive technology than a new American investor does, or it may force stronger upgrading of skills in its industry, or it may share more of its state-financed fiscal concessions with workers.[49] Or the causation may run the other way, as we discuss in chapter 3: counties that have somehow learned how to grow dynamically will be especially attractive locations for foreign investors, that are perhaps less constrained by historic location choices than are American firms.

But there is also an ambiguous pattern in this community-level research. South Carolina counties that hosted a new foreign-owned manufacturing plant had 1.0 percent lower taxes and 1.6 percent lower government spending than otherwise comparable counties that hosted a new American-owned plant of the same size in the same industry. Furthermore, counties hosting foreign investors spent less on public education (and had more private schools), and less on transportation and public safety. On the other hand, a nationwide study covering 1,197 new foreign-owned manufacturing plants from 1978 through 1987 found that states that frequently hosted foreign investors had especially high public spending on higher education, but also especially low corporate taxation and social welfare spending.[50]

47. Comparable counties were defined as those with approximately the same level of manufacturing employment in a particular industry in a particular year. Industries were identified at the two-digit SIC level.

48. This finding is not inconsistent with those summarized above, in which workers at the foreign-owned plants earn wage premiums over comparable workers at new domestically owned plants, whose wages have indeed been pulled up relative to still other workers by the foreign investment. In contrast to greenfield investments, however, foreign acquisitions of existing plants had the same correlation with the county's industry-wide wages as a new American-owned plant. This conforms well with the intuition that a foreign acquisition often saves an existing plant from closing its doors entirely, which would shrink the number of plants by one.

49. American-owned investors also receive fiscal concessions, to remain or to move in, that in principle can be shared with workers.

50. Ondrich and Wasylenko (1993).

Sometimes, of course, the choice is not between new foreign or domestic plants, but between a foreign-owned plant or no plant, no tax base, at all. In such cases foreign investment through takeover is just as welcome as greenfield investment. Foreign takeovers of American tire-making facilities are a familiar illustration. But sidebar 2.7 illustrates the point in a much richer way, although on a much smaller scale and in a seemingly unpromising sector and location. And this case presents several remarkable features: the takeover artist really was resurrecting a plant, one that had been dead for 20 years, not just taking it over; he himself was an immigrant (an imported input, in a sense); and although he relied on machinery imported from Italy, he imported ideas from everywhere.

Globally Engaged Firms, Workers, and Communities Abroad

Critics of globalization often argue that American firms, workers, and communities such as we have been describing benefit from globalization at the expense of other countries. But are these benefits unique to Americans? To answer this question, we end this chapter with a brief look at microdata research being done across a wide variety of countries outside the United States.

Microdata research abroad is in many cases more developed and more sophisticated than similar research in the United States. And remarkably, it finds similar patterns. Foreign firms, workers, and communities that commit to all sorts of global linkages prosper relative to comparable counterparts that do not. Among other benefits, their market prospects and rewards usually grow more rapidly and more stably over time. As a result, they gradually displace more insular firms, workers, and communities and are subject to less volatility (contrary to the impression that globalization breeds unpredictability). National populations with high and rising levels of global commitment also experience strong forces of rejuvenation.

Sidebar 2.7 Statesville, N.C., Entrepreneur Finds South Carolina Workers Fit to a Tee

by John P. McDermott

LANE, S.C.—Mike Terblanche looked south of the border after deciding to expand his North Carolina T-shirt business. That's hardly surprising, except Terblanche, unlike countless other U.S. apparel makers, wasn't interested in the dirt-cheap labor that Mexico and Caribbean basin nations had to offer. Instead, he set his sights just below the Tarheel State line—specifically on Lane, a former whistle-stop town roughly halfway between Charleston and Florence. "People have looked at us as if we were insane," said Terblanche, a soft-spoken South Africa native.

Terblanche's company, Tip Top Tees Inc. of Statesville, N.C., is investing about $1 million to retool an old knitting plant that now-defunct Oneita Industries shuttered in the early 1980s. By the end of the year, he hopes to bring 100 apparel jobs back to rural Lane, population 532, and add 300 more by 2005.

"The obvious tendency is that bad news related to plant closings and job losses tends to grab the attention," said the American Apparel Manufacturers Association spokesman Jack Morgan. "Less loosely reported are the new start-ups and the entrepreneurs working in the industry. . . . There are opportunities out there, particularly for companies willing and able to access very high-tech methods."

Tip Top Tees is among the scrappy risk-takers. It is betting it can effectively compete and turn a profit in hard-hit Williamsburg County by combining the latest technology with a labor force steeped in textile know-how. "It's a calculated gamble," Terblanche said.

Terblanche cut his teeth in the clothing business working summers and weekends at his father's sweater-knitting plant in South Africa, where he also hawked letter jackets at his high school. The family left its homeland in 1991 amid political unrest and was drawn to textile-rich North

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Sidebar 2.7 Statesville, N.C., Entrepreneur Finds South Carolina Workers Fit to a Tee *(continued)*

Carolina. Terblanche followed his dad into the industry, forming Tip Top Tees a few years ago. As the name implies, its specialty is knitting, cutting and stitching together plain cotton tank tops and T-shirts, which customers can enhance through embroidery or silk screening. While prices have been falling, Terblanche said, "the market is busier than ever. There are more people and they're wearing more T-shirts."

Tip Top Tees happened upon Williamsburg County through a Greeleyville company that it had hired as a subcontractor. When Terblanche mentioned plans to expand earlier this year, someone suggested he check out the vacant Oneita mill in nearby Lane. "This area was perfect," he said. "Because of Oneita and the other textile companies around here, the work force is incredible." And eager for jobs. Word of mouth has generated more than 200 applications in the past month, Terblanche said. "Most are from people who live right here, up and down these roads," he said.

Apparel veteran Donnie Newton and two of his brothers are among the handful of local residents helping Terblanche equip and reopen the 40,000-square-foot mill on Lane's Oneita Avenue. Newton said he was surprised to see a clothing manufacturer take over the property. "So much textile work has gone to Mexico and Honduras," said Newton, who once worked for Oneita in his hometown of Andrews. "It's very helpful to the county. . . . We have a lot of experienced people in this area." At 12.1 percent for May, Williamsburg County has the second highest unemployment level in South Carolina. More troubling is that two large local apparel employers have closed in the past three months, said Hilton McGill, executive director of economic development for the Williamsburg County Development Board. "We appreciate the fact they're here," McGill said of Tip Top Tees. He noted that many of the county's displaced apparel workers are middle-aged. "It's kind of late to train them to do something else," McGill said. "A lot of them are good at what they do. Really good."

Surrounded by corn and tobacco fields, Lane was formed in 1885 as a railway stop between Salters and Gourdin. Less than a century later, Oneita was the rural town's top employer, boasting a payroll of 380. Its knitting mill, built in 1969, closed in 1982, according to news reports.

While the skilled hands that Oneita and other textile outfits have left behind were a major draw for Tip Top Tees, the company is not "going to come in here and take advantage of the work force," Terblanche said. "The county asked us about that," he added. For instance, the T-shirt-maker plans to offer health care coverage and other benefits. The hourly pay scale will range from minimum wage for floor sweepers on up to $15 for experienced help, Terblanche said. To help pull that off, the company plans to use technology to boost production levels. Its long-term goal is to operate around the clock turning out 120,000 T-shirts and tank tops from scratch each week. "We feel if we do it right, we can make it," Terblanche said.

For instance, the company's heavy-duty knitters can accommodate 300-pound bolts of yarn, about seven times more than the industry standard. "It's a lot more efficient," Terblanche said. And rather than trim the knitted material by hand, Tip Top Tees will use several Italian-made machines that stamp out cotton shirt parts like a cookie-cutter. "It's four times more productive than a person, and the person running it doesn't have to have years of experience," Terblanche said.

Despite the automated efficiencies, Tip Top Tees probably still won't be able to match low-cost foreign competitors on price. So Terblanche plans to pitch the benefits of buying U.S.-made goods, such as the more productive work force, lower shipping costs and no importing delays. "Containers won't go missing at the port," Terblanche said. Potential customers include large apparel makers that turn to third-party manufacturers when they need extra inventory quickly. Others will include companies that prefer to buy American-made T-shirts but have not been able to afford them. "We'll give them a very workable alternative right here," Terblanche said.

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Sidebar 2.7 *(continued)*

Also, by staying in the United States, Tip Top Tees hopes to make it easier for prospective customers to inspect its operation, he said. With that in mind, Terblanche plans to set up an Internet site with live streaming video inside the mill to allow anonymous virtual visits day or night. "We want to make this facility a showroom for the technology we're talking about so customers can see what it is and see what we do," he said. "I'm very confident about this."

Some specific findings:

- Microdata researchers find that Taiwanese firms that begin exporting subsequently experience an upward shift in their productivity trajectory, even when compared with firms with similar characteristics and corporate histories.[51] They also find that export orientation enhances a firm's internal efficiency. Other researchers find that Taiwanese firms sometimes undertake overseas investments as part of a package of corporate reforms aimed at making them "better."[52] Those that become multinationals subsequently grow faster and fail less frequently than comparably "reformist" Taiwanese firms that do not invest abroad. All of this research thus suggests a synthetic answer to the controversial causality question discussed in the next section: good Taiwanese firms export and invest abroad, but exporting and outward investment also help make these firms and their industries even better. *Causality runs both ways*.
- Research on a microsample of firms in Belarus, Russia, and Ukraine finds that employment growth is higher in exporting firms than in comparable nonexporters, suggesting again that commitments by firms to exporting can rejuvenate an industry.[53]
- Turkish microdata reveal a correlation between export sales competitiveness and a firm's reliance on imported machinery, consistent with the notion that savvy importing and export engagement may often go together in the family of global commitments.[54]
- Microdata research on trade liberalization in Chile finds that increased export opportunities stimulated both the entry and the rapid growth of manufacturing plants with higher productivity, and prompted the exit or sluggish growth of those firms with lower productivity, thus rejuvenating industries where exports were most likely.[55] In other manufacturing industries, the same study found that increased import penetration led the surviving Chilean plants to improve their performance by adopting productivity-enhancing innovations.
- Microdata researchers studying Bulgarian firms find an upward shift in productivity trajectories from a significant and sustained redirection of exports toward buyers in the advanced industrial countries, and from a redirection of imported materials and components toward suppliers in those countries.[56]
- Australian microdata research uncovers performance premiums for Australian exporters and their employees that actually exceed the wage premiums and greater job stability familiar from American research.[57] Compared with nonexporters, Australian exporters invest more in technology-intensive business practices, provide safer workplaces, and are more likely to implement employee training.
- Mexican microdata research shows that both the incidence and the intensity of worker train-

51. Aw, Chung, and Roberts (2000); Aw and Batra (1998).

52. Chen and Ku (2000).

53. Bleaney, Filatochev, and Wakelin (2000).

54. Ozler and Yilmaz (2000).

55. Pavcnik (2000).

56. Djankov and Hoekman (1998).

57. Harcourt (2000).

ing are higher in firms that export, that welcome foreign investment, *and* that face strong import competition, than in firms that are not globally engaged.[58]

- Compared with other *comparable* British plants, foreign-owned British plants are found to have higher wages, for both skilled workers and less-skilled operatives, and higher labor productivity.[59] Although the same study also found lower overall productivity in foreign-owned British plants, a second study found plant-level productivity to be significantly correlated with inward foreign investment in the plant's own industry *and* in the plant's home region—a correlation that could be explained by beneficial information and technology spillovers from foreign-owned to other British plants.[60] One of the authors of the second study is undertaking causality research on a longitudinal micropanel data set of British plants, to see whether good plants in Britain attract inward investment or whether inward investment makes good plants better (or both).
- Compared with *comparable* wholly Indonesian-owned manufacturing plants, Indonesian plants with even minor foreign ownership paid considerably higher wages to both white-collar and blue-collar workers, who ranged from primary school dropouts to college graduates.[61] Moreover, even wholly Indonesian-owned plants paid their workers better in those provinces, industries, and subindustries where foreign-owned plants had higher shares of output (as measured by value added).
- Recent Czech microdata research finds that overall productivity at the plant level rose in 6 out of 10 industries receiving inward foreign investment between 1995 and 1998 and remained unaffected in the other 4.[62]

In sum, among the other reasons for believing that global engagement (of all sorts) and high performance (of all sorts) go together for Americans willing to make the commitment is the increasingly well-established fact that they go together for others, too, around the world.

But what does this correlation really mean? And does it imply bad news for firms, workers, and communities around the world that cannot or will not engage in global integration? We turn to those questions in chapters 3 and 4, respectively.

58. Robertson (2001).

59. Griffith and Simpson (2000); Griffith (1999); Girma et al. (1999); and Conyon et al. (1999). A similar study of foreign-backed plants relative to other plants in Canada (one of the earliest microdata studies in the literature) found no differences in wages or productivity once the plants were made comparable in size and capital intensity (Globerman, Ries, and Vertinsky, 1994). Since the study, microdata research has mushroomed around the world, with results that almost always find that foreign-backed firms perform better than their purely domestic rivals.

60. Haskel, Perira, and Slaughter (2001).

61. Lipsey and Sjoholm (2001).

62. Evenett and Voicu (2001).