THE RELATIONSHIP BETWEEN INTERNATIONAL DIVERSIFICATION AND FIRM PERFORMANCE: WHY IT REMAINS A PUZZLE

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Despite a wealth of empirical research, whether and how international diversification impacts firm performance remains one of the major unresolved research questions in the fields of strategy and international business. We propose that the lack of consensus about the nature of the international diversification–firm performance relationship results from a failure to fully grasp this complex phenomenon. Using data on trade flows of U.S. companies and their foreign subsidiaries, we provide a more focused and comprehensive perspective on the activities that define the geographic scope of U.S. companies that we hope will motivate a conceptualization of international diversification that encompasses the full range of activities that determine the geographic scope of a firm. Copyright © 2011 Strategic Management Society.

INTRODUCTION

A central focus of strategy research is to gain a better understanding of the impact of corporate strategy on the economic performance of firms. A core aspect of corporate strategy is the scope of the firm in terms of its geographic or international activities (international diversification) and the industries or product markets in which to participate (product diversification). How decisions regarding a firm’s geographic scope affect firm performance is the subject of a large body of research in the fields of strategic management and international business (see Hitt et al., 2006 for a recent review).1 In this regard, this literature has proposed a variety of theories to explain managerial motivation for expanding the geographic scope of a firm. Researchers have postulated that firms gain benefits from international diversification by realizing economies of scale due to spreading fixed costs of production, marketing, and research and development (R&D) over a larger global market (Caves, 1971; Hymer, 1976; Kobrin, 1991), as well as by exploiting and leveraging firm-specific intangible assets into international markets (Bartlett and Ghoshal, 1989; Caves, 1971; Hymer, 1976; Teece, 1982). Resource-based theory would argue that leveraging excess firm-specific resources into new markets creates economies of scope advantages

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1 For a recent meta-analysis of empirical findings for the international diversification–firm performance relationship see Kirca et al., 2010.
Researchers have also postulated that firms can gain exploration benefits from geographic diversification (Buckley and Casson, 1976). International expansion can enhance a firm’s knowledge base and capabilities through the experiential learning it gets from operating in foreign markets (Barkema and Vermeulen, 2001; Zahra, Ireland, and Hitt, 2000). Industrial organization arguments have also been used to postulate that firms can gain greater market power over suppliers, distributors, and customers by expanding overseas (Kogut, 1985). Finally, some researchers have suggested that firms can diversify risks by operating across several international markets (Kim, Hwang, and Burgers 1993). The benefits from the exploitation of economies of scale and scope, organizational learning through exploration, and greater market power implies that firms with greater international diversification should experience higher financial performance.

Researchers have also proposed that there can be costs associated with international diversification. As firms operate in more diverse market environments, they face a greater need to integrate their activities and, as a result, encounter an escalation in the cost of coordinating their activities (Lawrence and Lorsch, 1967; March and Simon, 1957). At higher levels of international diversification, diseconomies can set in due to escalating costs of coordination and from the greater information processing demands on managers and administrative systems (Gomes and Ramaswamy, 1999; Hitt, Hoskisson, and Kim, 1997; Tallman and Li, 1996). With continued international diversification, the complexities of managing information and communication among widespread units imply that extensive international diversification is likely to result in net costs (Gomes and Ramaswamy, 1999).

While the theories underlying the motivation for international diversification and its implications for firm performance are quite developed, empirical investigations of the linkage between international diversification and firm performance have, by and large, found mixed results and have, therefore, failed to produce a consensus within the field. At first, several studies found evidence of a positive linear relationship, but then others found evidence of a linear but negative relationship (see Hitt et al., 2006). Efforts to resolve these conflicting findings focused on potential nonlinearities in the relationship (Capar and Kotabe, 2003; Contractor, Kundu, and Hsu, 2003; Gomes and Ramaswamy, 1999; Lu and Beamish, 2004). Recent evidence does indicate that the international diversification-performance relationship varies with the extent of a firm’s international diversification but, again, this is not a universally accepted proposition. In addition, recent research indicates that significant methodological limitations in prior studies make it difficult to tease out the effects of international diversification on firm performance (e.g., Bowen and Wiersema, 2007). Thus, despite the wealth of empirical research to date, whether and how international diversification impacts firm performance still remains one of the major unresolved research questions in both the international business and strategy fields (Glaum and Oesterle, 2007; Peng, 2004).

In this article, we seek to provide a fresh perspective on international diversification by examining data on the pattern and evolution of exports and imports by U.S. companies and their foreign subsidiaries. Whereas prior conceptualizations of international diversification have relied on a sales-based approach, the globalization of markets has led many firms to expand internationally through the geographic dispersion of their value chain.3 Thus, globalization has resulted in managers reassessing not only what value chain activities their company will undertake internally (e.g., a firm’s vertical scope), but also where these activities are located geographically. As an example, General Electric has moved from a strategy of expanding its international presence by exporting its products internationally to the adoption of a global business concept, wherein upstream components of the value chain of each of its business units are sourced globally through the development of a supplier network in low cost countries, including even the movement of design and R&D activities to lower cost regions. This change in how companies manage their value chains has major ramifications for how we conceptualize the construct of international diversification and how it may impact firm performance.

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3 Value chain refers to the set of sequential activities that the firm must undertake in order to produce an end product or service. Chain refers to the set of activities (such as production, marketing, and logistics), whereas value refers to the economic value that each step in the value chain generates and, thus, adds to the total value of the end product.
The drivers of the globalization of markets (and industries) include technological change via information technology, lower costs of international transport, reductions in trade barriers, and homogenization and convergence of consumer spending patterns across countries (Konya and Ohashiz, 2004). Evidence of rising globalization emerged in the 1980s as the growth in world exports began to rapidly exceed the growth in world production, implying an increasing number of transactions between countries. Growing integration of national economies was also indicated by a rapid increase in foreign direct investment (FDI) flows; as a percentage of world gross domestic product (GDP), the world stock of FDI rose from 6.62 percent in 1980 to 30.5 percent in 2009 (UNCTAD, 2010). The rising growth in the volume of international trade and cross-border investments has increased the linkages and deepened the economic interdependencies between nations. For example, many U.S. industries, such as computers or athletic footwear, are now almost completely dependent on importing their finished product from other countries.

As markets have become more global, production activities have become more specialized and spatially dispersed to capture global scale efficiencies. Thus, as in the automobile industry, companies can benefit from significant scale economics and other cost efficiencies by having a global network of suppliers rather than only domestic suppliers. The international trade flows in intermediary products that reflect this geographic dispersion of firms’ supply chains are estimated to now account for up to 30 percent of the world values of exports (Hummels, Ishii, and Yi, 1999; OECD, 2002a; Whichard and Lowe, 1995; Zeile, 1997; 2002). Therefore, the growth in world trade reflects the growing interdependence of nations and firms in terms of the sale and sourcing of both intermediary and end products. The increasing economic integration of markets associated with globalization has not only driven the internationalization of companies, it has also influenced the nature of their strategies. Technological change and the ease of trade have enabled managers to effectively monitor and control their company’s global activities and have resulted in major changes in organizational configuration and strategy. While historically many companies have had foreign sales operations, the ability to conduct business efficiently and effectively across the globe has enabled managers to make strategic decisions on where to geographically locate the different activities that constitute a firm’s value chain. Therefore, decisions regarding the geographic scope of a firm increasingly entail more than where to sell its products. While theories of internationalization have evolved to propose that a company’s capabilities can be located and developed globally (Kogut, 1985), prior empirical examinations of a firm’s geographic scope have not fully addressed this important dimension of internationalization. In this article, we point to the need for a broader conceptualization of international diversification and its measurement if researchers are to better understand the strategic choices managers face with respect to a firm’s geographic scope and the implications of these choices for firm performance.

In this regard, we propose that the lack of consensus about the nature of the international diversification–firm performance relationship and, hence, our knowledge of the impacts of international diversification, results from a failure to fully grasp this complex phenomenon. Specifically, we argue that the predominant measures of international diversification used in empirical research capture only a single dimension of a firm’s geographic scope and, hence, do not encompass the full range of strategic choices that determine the nature and extent of a firm’s international diversification. Using data on international trade flows, we provide a more comprehensive perspective on the phenomenon of international diversification that illustrates that the geographic scope of U.S. companies increasingly reflects managers’ decisions about the geographical dispersion of their company’s value chain, decisions that go beyond simply deciding where to sell a firm’s products or services. By providing a more comprehensive perspective on the phenomenon of international diversification, we hope to motivate a conceptualization of international diversification that reflects the full range of decisions that define the
INTERNATIONAL DIVERSIFICATION: CONCEPT AND MEASUREMENT

International diversification is often referred to as geographic diversification, geographic scope, internationalization, or global diversification. These terms refer to ‘a process in which firms gradually increase their international involvement’ (Johanson and Vahlne, 1977: 23), ‘a firm’s expansion beyond its domestic market into other regions or countries’ (Ghoshal, 1987), or ‘the extent to which a firm depends on foreign markets for customers, factors of production, and the capacity to create value’ (Lu and Beamish, 2004: 565). Thus, on the surface it would appear that the construct of international diversification includes all foreign aspects of a firm’s value chain, from the geographic markets where it sells its products/services to the global locations where it produces its products/services and the geographic locations where its capabilities reside. All of these are strategic decisions that define the geographic scope of the firm and, thus, its degree or extent of international diversification.

Conceptually, the field recognizes that a firm’s international diversification strategy can be multifaceted and, hence, international diversification is more than just a firm’s multinational presence. Yet, researchers have chosen to adopt a very narrow conceptualization of the international diversification construct: ‘international diversification is a strategy through which a firm expands the sales of its products or services across the borders of global regions and countries into different geographic locations or markets’ (Hitt, Ireland, and Hoskisson, 2007: 251). Given this, it is not surprising that research has predominantly focused on the selling component of a firm’s international diversification strategy and has operationalized the construct of international diversification using the foreign sales ratio, defined as the ratio of a firm’s foreign sales to its total sales (Capar and Kotabe, 2003; Geringer, Beamish, and daCosta, 1989; Geringer, Tallman, and Olsen, 2000; Grant, Jammie, and Thomas, 1988; Rugman, 1979; Tallman and Li, 1996). Given its widespread use, we will subsequently refer to the foreign sales ratio as the ‘traditional measure’ of international diversification. One reason for the widespread use of the foreign sales ratio is the fact that data on a firm’s sales in foreign markets is readily available from secondary sources (e.g., COMPUSTAT) and it enables researchers to make comparisons across firms.

The foreign sales ratio captures the extent of a firm’s international diversification in terms of its dependence on foreign sales. To instead capture a firm’s international diversification in terms of the geographic diversity of its foreign sales, researchers have used the geographic entropy measure of the dispersion of a firm’s sales across different geographic market regions (Hitt et al., 1997). Both these measures rely on COMPUSTAT’s geographic segment data which, in turn, are taken from a firm’s 10K report. However, these data have several limitations that make it difficult to accurately assess the extent of a firm’s international activities (Denis, Denis, and Yost, 2002). For example, while the 10K line of business data is rather precise in its definition of what constitutes an industry (e.g., a four-digit SIC), there is no such precision for reporting a firm’s geographic segments. One firm could report a single country (e.g., France) while another reports an entire region (e.g., Europe). In addition, COMPUSTAT limits a firm to reporting at most four geographic segments including its domestic market. Hence, not only is the definition of a geographic segment arbitrary, the limitation on the number of segments makes it impossible to accurately capture the full extent of a firm’s geographic reach.

While these sales-based measures predominate, other measures of international diversification have also been used. These include the number of countries in which a firm sells (Tallman and Li, 1996), the number of foreign subsidiaries (Lu and Beamish, 2004), the ratio of a firm’s foreign subsidiaries to the total number of subsidiaries, the ratio of exports to total firm sales, the ratio of foreign to total firm employees (Kim, Hwang, and Burgers, 1989), the ratio of foreign to total firm assets (Ramaswamy, 1993), and foreign direct investment announcements.
Such measures are less commonly used because they can have significant limitations in terms of capturing the relative scope of a firm’s international activities. The simple count measures (number of foreign subsidiaries, number of foreign countries, FDI announcements) fail to capture the relative importance of a firm’s international activities in terms of a firm’s overall size, while the other measures capture only certain aspects of a firm’s geographic scope. For example, a firm’s export to sales ratio fails to capture sales by foreign subsidiaries, whereas neither the foreign employee ratio nor the foreign asset ratio captures a firm’s export sales. Furthermore, these measures can vary significantly with the nature of the industry. Thus, the various measures of international diversification utilized in the empirical literature all have significant shortcomings in their ability to accurately reflect the extent of a firm’s geographic scope.

Reliance on the foreign sales ratio as the predominant measure of international diversification has meant that researchers capture only one dimension of a firm’s geographic scope—the extent of foreign sales—while failing to capture other international aspects of a firm’s activities. Concerns and criticisms over the failure of any one measure to fully capture the multidimensional nature of international diversification have been raised before. For example, early on Welch and Luostarinen (1988: 84) criticized the foreign sales ratio for not providing much information about a firm’s international operations and suggested the need for a broader perspective for assessing the ‘extent of increased international involvement.’ Similarly, Sullivan (1994: 326) criticized the reliability and validity of single-item measures, such as the foreign sales ratio on the grounds that they capture ‘only a limited portion of the domain’ and, therefore, misrepresent the construct of international diversification. More recently, Asmus sen, Pedersen, and Peterson (2007) argue that the conventional measure of international diversification fails to capture an important dimension of a firm’s global strategy: the global configuration of a firm’s value chain.

The reliance on measures that fail to disentangle the dimensions that constitute a firm’s geographic scope represents a central issue for research examining the linkage between international diversification and firm performance. Without capturing the dimensions of a firm’s geographic scope that impact firm performance, it is not possible to determine if a given set of empirical findings support or refute the underlying theoretical explanations for a link between a firm’s international diversification and its performance. Therefore, a fresh perspective on the phenomenon of international diversification is sorely needed in order to address the previously narrow conceptualization of international diversification.

**U.S. firms’ international involvement**

To more fully address and understand the phenomenon of international diversification, we propose that it is necessary to examine what we know about the extent of international involvement by U.S. firms. To begin, we can examine the traditional measure of a firm’s international diversification—the foreign sales ratio—and what it reveals about the extent of foreign involvement of U.S. firms. Foreign sales data come directly from a firm’s 10K filing. As shown in Figure 1, the percentage of firms who report having foreign sales has grown over time, from 49.6 percent in 1979 to 56.7 percent in 2008. As to the level of international involvement of U.S. firms, Figure 1 indicates that the average foreign sales ratio across all U.S. firms (i.e., those with and without foreign sales) almost doubled between 1997 and 2008 (from an average of 8.5% in 1997 to an average of 16.3% in 2008). Eliminating firms without any foreign sales from the analysis reveals a much higher level of international involvement by U.S. firms. As indicated in Figure 1, the average foreign sales ratio across only those firms reporting foreign sales rose from 32.9 percent in 1979 to 38.6 percent in 2008. Thus, both the percentage of firms with foreign sales and the depth of international involvement of U.S. firms in terms of the percentage of their total sales that derive from outside the United States grew during the 1979 to 2008 period. These trends align with those found in earlier studies of international involvement of U.S. firms (e.g., Denis et al., 2002).

While the extent of international involvement of U.S. firms has increased over time, the relative increase in foreign sales is perhaps not as substantial as one might expect given conventional perceptions of rising globalization and the growing international presence of U.S. firms over the past three decades. This disparity can be attributed to the limitations of using a firm’s foreign sales ratio to measure the extent of its international diversification since this measure fails to capture and thus, reflect, other aspects of a firm’s international activities including...
the geographic locations where its products are produced and the geographic locations where its capabilities reside.

To gain a better understanding of the activities that define the geographic scope of U.S. firms and to, therefore, arrive at a better conceptualization of what constitutes international diversification, it is insightful to examine data on the characteristics and evolution of the international involvement of the U.S. economy and, by implication, U.S. firms. Data on U.S. international trade flows (i.e., exports and imports) provide such information since they account for all international sales and purchases of U.S. firms and, thus, provide for a more accurate assessment of the geographic scope of U.S. firms. Moreover, international trade data encompass not just sales and purchases of end products, but also sales and purchases of the intermediary products used to create an end product. This means international trade data can shed light on an important aspect of a firm’s international diversification (and, hence, its internationalization strategy) that is missing from the traditional sales measure of international diversification: internationalization of a firm’s value chain. Indeed, the analysis of U.S. international trade data conducted in the next section reveals that a great deal of the action is indeed ‘below the surface,’ and it suggests that a focus only on a firm’s foreign sales indeed misses important strategic choices that expand the geographic scope of a firm and that can impact a firm’s performance independent of the geographic source of its sales revenue.

INSIGHTS ON FIRM INTERNATIONAL DIVERSIFICATION FROM U.S. TRADE

In this section, we examine U.S. international trade flows in order to provide unique insights into the nature and extent of the scope of the international activities of U.S. companies and to shed important

Figure 1. Extent of international involvement by U.S. firms, 1979–2008
Note: Percentage of firms with international involvement is based on the number of firms that report geographic segment data in each year as reported in COMPUSTAT.
light on the international diversification strategies pursued by managers of U.S. companies.

Data on U.S. international trade flows can provide for a better understanding of the activities that define the geographic scope of U.S. companies, since these data capture all exchanges of products and services between U.S. companies and companies located outside the United States. Since the trade data cover all transactions that occur between U.S. and foreign companies, they capture the transactions that may occur between U.S. companies and their foreign subsidiaries (intrafirm trade) and, hence, the flow of products and services among a firm’s global network of subsidiaries. Such information is not available through the consolidated financial statements a company is required to file with the SEC (the basis for the data reported in COMPUSTAT). Moreover, the export and import flows between U.S. companies and foreign companies can often be separated into whether the products being traded are intermediary products or end products. This also allows for further insights into the nature of firms’ value chain activities and, in particular, decisions regarding the vertical scope of these activities and their geographic location. However, because trade data are publically available at only a group level (e.g., industry level or type of firm level) and not at the individual firm level, these data provide for only an overall perspective on the managerial decisions that determine the scope of a company’s international activities. Nonetheless, the richness of trade data in terms of capturing all transactions between companies and in indicating the type of products being exchanged, provides for a better understanding of the nature and scope of the activities that define the geographic scope of U.S. companies.

Our analysis of U.S. trade data presented in the following subsections begins with an examination of the overall participation of U.S. firms in the global economy in terms of the relative importance of exports and imports to the U.S. economy. Not surprisingly, these data reflect the growing importance of trade to the U.S. economy and, by implication, the growing international presence of U.S. companies.

While this economy-wide perspective is informative, it lacks the requisite detail that can shed light on the managerial decisions determining the nature of the international activities of U.S. firms. To gain insight into this important issue, we will present and examine recently available data from the Bureau of Economic Analysis (2010) that provides for a unique view on U.S. trade flows in terms of the ‘relatedness’ between U.S. firms and the foreign firms with which they trade. These data reveal how much of the trade by U.S. firms is with their (related) foreign subsidiaries (intrafirm trade) and how much is conducted with (unrelated) firms who have no ownership relationship with a U.S. firm (arm’s length trade). This breakdown of the export and import data helps shed light on the international diversification of U.S. firms in terms of their economic relationship with their foreign subsidiaries. These data are also able to indicate the type of product—intermediary versus end product—that U.S. firms sell to their foreign subsidiaries. This represents an important distinction that can shed light on a firm’s geographic scope that is not captured by end product sales data alone. This analysis reveals that a growing proportion of the sales by U.S. firms to their foreign subsidiaries is increasingly in intermediary products rather than end products, indicating an emerging role of foreign subsidiaries in the international diversification strategies of U.S. firms.

Finally, we will also examine the pattern of sales by the foreign subsidiaries of U.S. firms. This analysis indicates that sales by foreign subsidiaries are increasingly being directed toward other foreign subsidiaries of the same U.S. firm and, hence, that intrasubsidiary trade is an increasingly important part of the international activities and, hence, geographic scope of U.S. firms. This exchange of products and services between a company’s foreign subsidiaries is also a dimension of international diversification not captured by the traditional foreign sales measure.

The participation of U.S. firms in the global economy

The extent of participation of U.S. firms in the global economy is indicated by the relative importance of international trade to the U.S. economy. One measure of such importance is the value of U.S. exports of products and services relative to the total value of all final products and services produced within the U.S. economy, the latter measured by U.S. GDP. However, this is only half the picture, since firms import as well as export products and services. Thus a more inclusive indicator of the engagement of U.S. firms in the global economy is obtained by adding the value of exports and imports together to obtain a measure of the total trading activity of U.S. firms. As indicated in Figure 2, the rising levels of U.S. exports and U.S. total trade (exports plus
imports) relative to U.S. GDP reflects the increasing globalization of the U.S. economy. But more importantly, Figure 2 shows evidence of the increasing international presence of U.S. firms, since the basis for the increases in U.S. trade are the strategic decisions of managers as to the markets in which to sell their company’s products and services and the markets from which to source products and services. Thus, at a fundamental level, the overall trends in U.S. exports and U.S. total trade reflect the managerial decisions that shape the geographic scope of U.S. firms.

Not evident from Figure 2 is the fact that the increasing globalization of U.S. firms is not equally distributed, but is instead concentrated, with the value of total U.S. trade flows accounted for by a relatively small number of U.S. firms. Bernard, Jensen, and Schott (2005) report that almost 81 percent of the value of total U.S. trade (i.e., exports plus imports) in 2000 was attributed to the activities of just 2,245 firms, and that these firms constitute just 1 percent of the 204,245 U.S. firms identified as being engaged in international trade.

In summary, the data on the relative importance of international trade in the U.S. economy provides evidence of the increasing internationalization of U.S. firms and indicates that most U.S. trade stems from the activities of a relatively small percentage of internationally active U.S. firms.

**Intrafirm trade by U.S. firms**

The data on U.S. trade reported in Figure 2 includes all trade by U.S. firms regardless of who owns these firms (i.e., domestic owned or foreign owned). In this section, we narrow our focus and concentrate only on international trade between U.S. firms and their foreign subsidiaries. In general, a U.S. firm can conduct trade with a foreign firm that is either affiliated (e.g., related) or unaffiliated (unrelated) to the U.S. firm. Selling and purchasing to/from an affiliated firm is called *intrafirm* trade; selling or
purchasing to/from an unaffiliated foreign firm is called *arm’s length* trade.

To understand the full extent of a firm’s geographic scope, it is important to understand not only the extent of a firm’s arm’s length trade, but also the extent of its intrafirm trade. In this regard, Figure 3 examines the relative importance of intrafirm trade for U.S. firms, that is, trade between U.S. firms and their foreign subsidiaries. As indicated in Figure 3, both the exports by U.S. firms to their foreign subsidiaries as a percentage of total U.S. exports and the imports by U.S. firms from their foreign subsidiaries as a percentage of total U.S. imports have declined steadily since about 1997. These trends provide evidence of significant changes over time in the international diversification strategy of U.S. firms. First, the relative decline in exports by U.S. firms to their foreign subsidiaries indicates a decision by the managers of U.S. firms that their foreign subsidiaries increasingly manufacture their own products or source products from locations outside the United States. Second, the relative decline in imports by U.S. firms from their foreign subsidiaries indicates that managers have reduced their reliance, for the U.S. market, on sourcing product from their firm’s foreign operations. Both these trends suggest managers have adopted significant changes in the geographic scope of their firm’s activities and, in particular, a change in the configuration of their firm’s value chain. Such changes are not captured by the traditional measure of international diversification—the foreign sales ratio—since this measure excludes intrafirm sales.

**U.S. firms’ sales to their foreign subsidiaries**

Whereas the relative decline in exports by U.S. firms to their foreign subsidiaries indicates that the foreign operations of U.S. firms are becoming more self-sufficient, more telling for the changing geographic scope of the activities of U.S. firms is the nature of the products that U.S. firms sell to their foreign

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**Figure 3.** Intrafirm trade of U.S. firms, 1982–2007

*Note: Data exclude exports and imports by U.S. subsidiaries of foreign firms.*

*Source: The authors, from Bureau of Economic Analysis (2009) data.*
subsidiaries. In this regard, Borga and Zeile (2004) report that sales of manufactured products by U.S. firms to their foreign subsidiaries are increasingly in intermediary products rather than end products. Table 1 reproduces the relevant data from their paper.

As shown in Table 1, sales by U.S. firms to their foreign subsidiaries increasingly represent sales of intermediary products rather than end products. Intermediary products as a share of the total sales of U.S. firms to their foreign subsidiaries rose from 39.3 percent in 1966 to 54 percent in 1994, and it then further jumped to 64.7 percent in 1999. That U.S. firms are increasingly selling intermediary rather than end products to their foreign subsidiaries indicates a significant shift in the nature of the international diversification strategies pursued by the managers of U.S. firms. This change in the nature of the transactions between U.S. firms and their foreign subsidiaries is evidence that the managers of U.S. firms are disintegrating value chain activities and dispersing these geographically to create value chains that are global in scope. At an industry level, Borga and Zeile (2004) report that the value of sales by U.S. firms to their foreign subsidiaries as a percentage of the U.S. firm’s total sales was highest in electronics (22%), transportation equipment (18%), instruments (11%), and industrial machinery (10%). As Borga and Zeile (2004) remark, these industries are ones whose production processes are more easily divisible and, hence, more amenable to undertaking different stages of production at different geographic locations.

**The geographic scope of U.S. foreign subsidiaries**

Managerial decisions impacting the geographic scope of their firm encompass the full range of international activities conducted by their firm and its foreign subsidiaries. Hence, to further understand the changing nature of the geographic scope of U.S. firms, it is useful to examine the activities of U.S. firms in terms of the distribution of the sales by their foreign subsidiaries. In this regard, a foreign subsidiary can sell in its own local market, to other (non-U.S.) markets, or to its U.S. corporate parent.

As indicated in Figure 4, the percentage of sales by foreign subsidiaries going to their U.S. corporate parent remained relatively constant at about 11 percent for the period from 1997 to 2007. In contrast, the percentage of sales by foreign subsidiaries in their own local market fell from 62 percent to 55 percent, while the percentage of sales to other foreign (non-U.S.) markets rose from 26.8 percent in 1997 to 34 percent in 2007. This shift in the destination of the sales by foreign subsidiaries indicates that the market orientation of these subsidiaries is becoming more global. The next section further explores this shift in the destination of foreign subsidiary sales by examining the importance of this intrasubsidiary trade. This can shed light on the changing geographic scope of U.S. firms in terms of the importance of their network of foreign subsidiaries.

The changes in the destination of sales by the foreign subsidiaries of U.S. firms and the increasing sale of intermediary products by U.S. firms to their foreign subsidiaries indicate significant changes in the scope and geographic location of the value chain activities of U.S. firms. The foreign subsidiaries of U.S. firms are becoming less and less a destination of end products exported from the U.S., but instead are adding value of their own in the production stage. In addition, a U.S. firm’s foreign subsidiaries are increasingly selling product into other foreign markets outside their own local market. To gain additional insight on the changing geographic scope of U.S. firms, Figure 5 presents data indicating the relative importance of these intrasfirm purchases by U.S. foreign subsidiaries. In this regard, a foreign subsidiary can purchase products and services from

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<td><strong>Intermediary product sales as a percent of total sales by U.S. firms to their foreign subsidiaries</strong></td>
<td>39.3%</td>
<td>32.7%</td>
<td>50.6%</td>
<td>55.4%</td>
<td>54.0%</td>
<td>64.7%</td>
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<td><strong>Value of intermediary product sales by U.S. firms to their foreign subsidiaries (millions of dollars)</strong></td>
<td>2,483</td>
<td>9,577</td>
<td>22,443</td>
<td>47,689</td>
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Source: Adapted from Table 1, Borga and Zeile (2004).
two potential intrafirm sources: the subsidiary’s U.S. corporate parent or related foreign subsidiaries, that is, other foreign subsidiaries of the same U.S. firm. The relative importance of these intrafirm purchases is measured by the value of foreign subsidiaries’ purchases from that source as a percentage of total foreign subsidiary sales.

As indicated in Figure 5, the importance to foreign subsidiaries of purchases from other related foreign subsidiaries has increased significantly over the past 25 years, rising from 13.2 percent of total foreign subsidiary sales in 1982 to 22.4 percent of total foreign subsidiary sales in 2007. In contrast, purchases by foreign subsidiaries from their U.S. corporate parent are a smaller percentage of total foreign subsidiary sales, and this source has declined in importance over time. This decline in the dependence of foreign subsidiaries on their U.S. corporate parent reaffirms the trend decline in the sales (exports) by U.S. firms to their foreign subsidiaries observed in Figure 3. These trends provide further evidence that the geographic configuration of the value chain of U.S. firms has changed, with a U.S. firm’s foreign subsidiaries becoming increasingly linked, in contrast to the more traditional configuration in which foreign subsidiaries act mainly as conduits for the sale of end products sourced from a firm’s U.S. operations.

### The geographic distribution and concentration of trade

Many researchers have noted that, in addition to the extent of a firm’s foreign sales, the geographic dispersion of a firm’s international activities in terms of the number of countries in which a firm operates represents an important aspect of its international diversification strategy. Trade flows can shed light on this important dimension of the geographic scope of U.S. firms by revealing the number of countries to

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**Figure 4.** Geographic scope of U.S. foreign subsidiary sales, 1997–2007

Note: Data are only for sales of manufactured products by foreign subsidiaries of U.S. firms; data excludes sales to U.S. subsidiaries of foreign firms.

Source: The authors, from Bureau of Economic Analysis (2010) data.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of total U.S. foreign subsidiary sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>55.0%</td>
</tr>
<tr>
<td>1998</td>
<td>52.6%</td>
</tr>
<tr>
<td>1999</td>
<td>51.8%</td>
</tr>
<tr>
<td>2000</td>
<td>51.1%</td>
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<tr>
<td>2001</td>
<td>50.5%</td>
</tr>
<tr>
<td>2002</td>
<td>49.9%</td>
</tr>
<tr>
<td>2003</td>
<td>49.3%</td>
</tr>
<tr>
<td>2004</td>
<td>48.7%</td>
</tr>
<tr>
<td>2005</td>
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</tr>
<tr>
<td>2006</td>
<td>47.5%</td>
</tr>
<tr>
<td>2007</td>
<td>46.9%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales by U.S. foreign subsidiaries to their local market as % of total U.S. foreign subsidiary sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>61.9%</td>
</tr>
<tr>
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<tr>
<td>1999</td>
<td>60.5%</td>
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<td>60.0%</td>
</tr>
<tr>
<td>2001</td>
<td>59.5%</td>
</tr>
<tr>
<td>2002</td>
<td>59.0%</td>
</tr>
<tr>
<td>2003</td>
<td>58.5%</td>
</tr>
<tr>
<td>2004</td>
<td>58.0%</td>
</tr>
<tr>
<td>2005</td>
<td>57.5%</td>
</tr>
<tr>
<td>2006</td>
<td>57.0%</td>
</tr>
<tr>
<td>2007</td>
<td>56.5%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales by U.S. foreign subsidiaries to other foreign markets as % of total U.S. foreign subsidiary sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>34.1%</td>
</tr>
<tr>
<td>1998</td>
<td>34.6%</td>
</tr>
<tr>
<td>1999</td>
<td>35.1%</td>
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<tr>
<td>2000</td>
<td>35.6%</td>
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<tr>
<td>2001</td>
<td>36.1%</td>
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<tr>
<td>2002</td>
<td>36.6%</td>
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<tr>
<td>2003</td>
<td>37.1%</td>
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<tr>
<td>2004</td>
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<tr>
<td>2005</td>
<td>38.1%</td>
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<tr>
<td>2006</td>
<td>38.6%</td>
</tr>
<tr>
<td>2007</td>
<td>39.1%</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Sales by U.S. foreign subsidiaries to the U.S. corporate parent as % of total U.S. foreign subsidiary sales</th>
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</thead>
<tbody>
<tr>
<td>1997</td>
<td>11.3%</td>
</tr>
<tr>
<td>1998</td>
<td>10.9%</td>
</tr>
<tr>
<td>1999</td>
<td>10.5%</td>
</tr>
<tr>
<td>2000</td>
<td>10.1%</td>
</tr>
<tr>
<td>2001</td>
<td>9.7%</td>
</tr>
<tr>
<td>2002</td>
<td>9.3%</td>
</tr>
<tr>
<td>2003</td>
<td>8.9%</td>
</tr>
<tr>
<td>2004</td>
<td>8.5%</td>
</tr>
<tr>
<td>2005</td>
<td>8.1%</td>
</tr>
<tr>
<td>2006</td>
<td>7.7%</td>
</tr>
<tr>
<td>2007</td>
<td>7.3%</td>
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</table>
which U.S. firms export and the number of countries from which they import. In this regard, Bernard et al. (2005) classified U.S. firms on the basis of the number of countries with which they conduct trade, as well as the share of their trade that was intrafirm trade. Their trade flow data for 1993 and 2000 is shown in Table 2 and provides some revealing insights regarding the geographic scope of U.S. firms.

As indicated in Table 2, the number of firms that export to 10 or more countries represent less than 8 percent of all U.S. exporting firms, but they account for 86 percent of the value of U.S. exports and 93 percent of the value of export sales to foreign subsidiaries (intrafirm exports). A very similar picture emerges with respect to U.S. firms that import: only about 4 percent of all U.S. importing firms purchase from 10 or more countries, but they account for 78 percent of total U.S. imports, and about 84 percent of these import purchases are from foreign subsidiaries (intrafirm imports). Hence, the lion’s share of U.S. trade is accounted for by a small percentage of U.S. firms that conduct their international activities across a significant number of countries. Furthermore, the majority of the trade by these highly internationally active firms consists of intrafirm trade, whereby the firm buys from or sells products to its foreign subsidiaries. These trade flows reveal that the international diversification strategies of a small percentage of U.S. companies are the underlying force of the globalization of the U.S. economy. This set of firms account for the vast majority of the value of U.S. trade, its geographic dispersion in terms of number of countries, and the nature of trade in terms of the proportion of trade conducted with related firms (e.g., intrafirm trade). The significance of the trade flow data is that it highlights how important the international diversification strategies of a select group of U.S. firms have been in driving globalization. This suggests that a focus on these highly internationally active firms would provide the greatest insights for understanding the phenomenon of international diversification and its potential impact on firm performance.

Figure 5. Intrafirm purchases by U.S. foreign subsidiaries, 1982–2007
Note: Data are for purchases of products and services by foreign subsidiaries of U.S. firms.
Source: The authors, from Bureau of Economic Analysis (2009) data.
The insights gained from an examination of the patterns and shifts of U.S. trade flows were meant to provide a new perspective on firm international diversification. Our analysis of U.S. trade data indicates that a very small percentage of U.S. firms constitute the bulk of the global economic activity by U.S. firms. Thus, the international diversification strategies pursued by the managers of these U.S. firms are responsible for the level of international trade, its destination and source countries, and the extent of the trade that is with related firms (intrafirm trade) versus unrelated firms (interfirm trade). The fact that a small number of firms (2,245 according to Bernard et al., 2005) account for 81 percent of all U.S. trade, has important ramifications for strategy and international business researchers. For purposes of understanding the phenomenon of international diversification and its performance consequences, researchers should focus their analysis on the more select set of firms that are highly engaged globally instead of the entire population of firms in COMPUSTAT. A deep dive into the nature of the strategic decisions undertaken by the managers of these firms would shed considerably more insight on the phenomenon of international diversification. This would allow for a deeper analysis that can bring a better understanding of the various elements that constitute managerial decisions that affect the geographic scope of firms. Ultimately, this will allow researchers to identify aspects of a firm’s international diversification strategy that can generate superior financial performance for a firm. Bowen (2007) similarly calls for researchers to more carefully delineate the underlying choices managers make regarding the international activities of their firm, what he labels the different ‘modes of multinationality,’ in order to assess which choices for a firm’s activities do or do not lead to improved or superior performance.

Furthermore, our investigation of U.S. trade flows reveals that while the U.S. economy has become more globalized, the reliance of U.S. firms on their foreign subsidiaries as end markets, as well as a source of products for the U.S. market, has diminished. Instead, the data reveal that managers of U.S. firms are increasingly exporting intermediary rather than end products to their firm’s foreign subsidiaries. Thus, managers of U.S. firms have strategically

<table>
<thead>
<tr>
<th>Number of destination countries</th>
<th>Percent of all U.S. exporting firms (%)</th>
<th>Share of total U.S. export value (%)</th>
<th>Intrafirm share of total value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60.3</td>
<td>56.6</td>
<td>5.9</td>
</tr>
<tr>
<td>2</td>
<td>13.6</td>
<td>14.7</td>
<td>2.7</td>
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<tr>
<td>3–4</td>
<td>10.5</td>
<td>11.8</td>
<td>4</td>
</tr>
<tr>
<td>5–9</td>
<td>8.3</td>
<td>9.3</td>
<td>5.8</td>
</tr>
<tr>
<td>10 or more</td>
<td>7.2</td>
<td>7.7</td>
<td>81.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of source countries</th>
<th>Percent of all U.S. importing firms (%)</th>
<th>Share of total U.S. import value (%)</th>
<th>Intrafirm share of total value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52.1</td>
<td>51.3</td>
<td>4.2</td>
</tr>
<tr>
<td>2</td>
<td>18.2</td>
<td>18.9</td>
<td>3.7</td>
</tr>
<tr>
<td>3–4</td>
<td>15.3</td>
<td>15.4</td>
<td>9</td>
</tr>
<tr>
<td>5–9</td>
<td>10.3</td>
<td>10.2</td>
<td>13.5</td>
</tr>
<tr>
<td>10 or more</td>
<td>4.1</td>
<td>4.2</td>
<td>69.6</td>
</tr>
</tbody>
</table>

Source: Adapted from Table 6, Bernard, Jensen, and Schott (2005).
shifted away from the traditional multinational model that was based largely on creating a global presence through the exporting of end products to foreign subsidiaries. Instead, the nature of the geographic scope of U.S. firms has changed considerably as foreign subsidiaries increasingly take on the role of producing their own end products rather than sourcing such products from their U.S. corporate parent.

Further investigation into the destination and source of products and services by the foreign subsidiaries of U.S. firms indicates significant changes in the role of these foreign subsidiaries. Specifically, trade between foreign subsidiaries of the same U.S. firm (intrasubsidiary trade) has become increasingly important, suggesting that the foreign subsidiaries of U.S. firms have become increasingly linked in terms of procuring both intermediary and end products from each other. Both the growing share of intermediary products in the sales by U.S. firms to their foreign subsidiaries and the increasing sales activity between the foreign subsidiaries of the same U.S. firm are indicative of significant changes in the international strategies of U.S. firms. The changing nature of the relationship between U.S. firms and their foreign subsidiaries is the direct result of changes in the configuration of the value chain in terms of disintegration and dispersion. Specifically, managers have broadened the geographic dispersion of their firm’s value chain activities and are using their international network of foreign subsidiaries to increasingly support their firm’s international operations and create value chains that are global in scope. This has significant implications for how and why firm international diversification strategies have evolved over time.

The changing scope and nature of the relationships between firms and their foreign subsidiaries is not unique to U.S. firms. Indeed, parallel changes in the nature and configuration of the activities undertaken between parent firms and their related subsidiaries is also taking place for European and Japanese multinational firms, and indeed most multinational firms (e.g., Belderbos and Sleuwaegen, 2005; Defever and Toubal, 2007; Marin, 2006; Marin and Verdier, 2003; Mayer and Ottaviano, 2007; Yamawaki, 2004)

**Limitations**

This study complements and extends recent work (e.g., Beugelsdijk, Pedersen, and Petersen, 2009) that has utilized U.S. trade data, particularly on the flows among U.S. foreign subsidiaries, to provide insights into the geographic scope and, hence, international diversification strategy of U.S. firms and how it has evolved over time. However, while trade data provide for a different perspective on the activities of U.S. firms and their network of foreign subsidiaries, there are limitations to the use of these data. Perhaps the major limitation is that the trade data are not publicly available at the level of the individual firm. This severely limits the usefulness of the trade data for strategy and international business researchers who are predominantly concerned with the impact of a firm’s international strategy on its financial performance. The lack of trade data at the individual firm level also prevents researchers from comparing and contrasting differences in international diversification strategies across firms to gain insight into changes in a firm’s international strategy over time. Despite these limitations, the analysis of this article demonstrates that trade data can provide insights into the international strategies of U.S. companies and, in particular, they provide clear evidence that significant components of a firm’s geographic scope are not captured by the traditional sales based measures of international diversification. Moreover, the use of trade data can assist researchers in identifying industries where significant changes are occurring with respect to the geographic scope of companies. For example, the trade data can be used to identify those industries in which there is significant geographic expansion of firms’ value chain activities. These industries could then become the focus of a firm-level analysis. In a different vein, the industry-level data on intrafirm trade could serve as a control variable in a firm-level analysis. Finally, the extent of trade in intermediary versus end products, or the extent of intrasubsidiary sales, could be used as moderators of the relationship between international diversification and firm performance, which is one method to better understand how different international diversification strategies may impact firm performance.

**AGENDA FOR FUTURE RESEARCH**

A central focus of research in strategy and international business has been to gain a better understanding of the impact of a firm’s international diversification strategy on firm performance. However, empirical investigations of this linkage
have largely produced confounding results. In this article we argued, as have others, that the traditional foreign sales-based measure of the construct of international diversification is problematic (Sullivan, 1994; Welch and Luostarinen, 1988), and that this has contributed to our inability to fully understand the choices that managers make with regard to a firm’s geographic scope and their impact on firm performance. Researchers have relied on the level of a firm’s foreign sales to operationalize a firm’s international presence and, thus, its international diversification strategy. Yet, international diversification is a multidimensional phenomenon that includes all foreign aspects of a firm’s value chain, not just the geographic breakdown of its final sales. Hence, we argue that reliance on a single measure, such as the foreign sales ratio, has obscured and, in fact, precluded, detection of the international diversification strategies likely to differentiate the relative performance of firms engaged in international diversification. This obfuscation is similar to that of the research conducted on corporate diversification and its impact on firm performance, which obtained mixed signals as to the nature of this relationship until measurement of relatedness among the businesses of a firm’s portfolio that were linked to underlying theory provided insights (Robins and Wiersema, 1995). Once the problem of measurement was identified and corrected, a key source of the lack of connection between theory and empirical investigation was resolved.

With regard to international diversification strategy, we propose that the adoption of a single measure of a firm’s international diversification has ultimately led researchers to invest significant research time and effort in specifying and testing for alternative forms of the functional relationship (e.g., the shape of the international diversification-performance relationship) without providing any further insight into the nature of the relationship. To date, the cumulative outcome of this process has been to declare that the international diversification-firm performance relationship is cubic (Contractor, et al., 2003; Lu and Beamish, 2004). In turn, this particular nonlinear model specification has been conveniently justified by developing a three-stage theory of internationalization—a theory that, in essence, states that a firm must surpass a minimum or threshold level of internationalization (i.e., foreign sales) before the net benefit of internationalization is realized (Contractor, 2007). Unfortunately, the focus to empirically verify the existence and nature of such a relationship has failed to provide any normative insights into what managers do, or what they should do, regarding strategies that determine the geographic scope of a firm. At best, these studies have provided limited evidence that there are likely to be higher costs associated with low levels of international diversification (i.e., foreign sales) and diminishing returns at very high levels of international diversification (i.e., foreign sales), without any clear understanding of where the ‘optimal’ level of international diversification resides. But even if such an optimum were found, what would this information offer in terms of advice for managers wishing to pursue a strategy of international diversification?

More fundamentally, the reliance on a single measure, such as a firm’s foreign sales ratio, to proxy for the multitude of activities that underlie the geographic scope of a firm has led researchers to a slippery slope. By focusing on trying to explain contradictory empirical findings, researchers fail to address the fundamental problem: poor construct validity. Most researchers understand this, but they have, by and large, chosen to look the other way, to instead perpetuate and take comfort in the fact that the foreign sales ratio is the most widely used measure of international diversification in the literature. It is understandable that researchers have embraced this measure; it is based on secondary data and can easily be used to draw comparisons across a multicity sample of international firms. Its widespread use, however, does not confer the measure with greater validity.

The utilization of an alternative, single composite indicator of international diversification, as has been suggested by Sullivan (1994), would also not resolve the issue of construct validity. Instead, more effort needs to be directed to identifying and measuring the essential elements that constitute the phenomenon of international diversification. This is the issue of content validity, also called ‘face validity,’ which is an assessment of how well a measure connects to the underlying concept of interest (Nunnally, 1978). Therefore, the central issue for international diversification research is that the existing measures cannot disentangle the various aspects of what constitutes a firm’s international diversification strategy. As a result, the empirical investigations have failed to assess those underlying aspects of a firm’s international diversification strategy that are likely to influence firm performance. The fact that a vast body of empirical studies on international diversification cannot address the theoretical concerns of the
literature means that there is a fundamental problem of content validity.

Regarding the issue of content validity, our analysis of U.S. trade data and the sales of their foreign subsidiaries demonstrate that the geographic scope of U.S. firms has undergone significant changes that have important implications for how we conceptualize and measure firm international diversification. This analysis indicated that managers have significantly changed the nature of the relationship between their firm’s U.S. operations and their foreign subsidiaries, with an increased reliance by a firm’s foreign subsidiaries on purchases of products and services produced by related foreign subsidiaries.\(^9\) The implication of the growing importance of purchases and sales between foreign subsidiaries is that managers are using their firm’s international network of foreign subsidiaries as a key component of their international diversification strategy. As indicated by the data, managers have re-evaluated the vertical scope of the firm in terms of the value chain activities it undertakes and where these activities will be located. The decisions of whether to make or buy and where to make or buy are motivated by both economic and strategic factors in terms of how and where a firm’s capabilities can best be leveraged. Thus, international diversification is far more than just deciding in which foreign markets to sell; it also involves decisions regarding a firm’s full value chain of activities, and it is the combination of these strategic decisions that determines a firm’s geographic scope.\(^10\) Given this, relying on indicators that capture only a firm’s foreign sales clearly fails to capture fully the decisions that determine a firm’s geographic scope. In particular, one could observe minimal changes in a firm’s foreign sales ratio but large gains in firm performance due to, for example, a geographic restructuring of a firm’s value chain that lowers its costs. Essentially, the foreign sales ratio fails at capturing an important dimension of a firm’s corporate strategy that determines its geographic scope: the location of the firm’s value chain activities.

We are not the first to suggest that existing measures of international diversification fail to fully capture the construct (e.g., see Hennart, 2011). But in examining the patterns and shifts of U.S. trade data, we have identified and highlighted significant changes in the nature and geographic scope of the activities of U.S. firms, changes that have implications for the conceptualization of international diversification and its measurement. In particular, our study identified that the existing and rather narrow operationalization of international diversification fails to capture the phenomenon and, hence, does not constitute a valid measure for testing the underlying theories that link international diversification to firm performance. Given this, we believe it is time for the field to fully recognize and admit the significant lack of content validity of the foreign sales measure, whose continued use precludes our ability to ascertain and test theoretical statements of how international diversification impacts firm performance. Given the multidimensionality of the internationalization construct, as well as the evidence provided here on the changing nature of the geographic scope of U.S. firms, we propose that researchers must become more precise in their specification of the measures used to test the linkage between international diversification and firm performance. The prevailing theories for why internationally diversified firms generate higher performance are based on different mechanisms that either reduce a firm’s costs and/or increase its revenues. This has ramifications for what constitutes an appropriate and valid measure for the international dimension theorized, whether it be the scale economies of a global business or the experiential learning gains from operating in a diverse set of foreign markets (Barkema and Vermeulen, 2001). One predominant theory for why a firm diversifies internationally is that by leveraging intangible resources (e.g., research and development, brand equity) into foreign markets, the firm achieves economies of scope that enable it to earn higher profits (Caves, 1971; Hymer, 1976; Kobrin, 1991). The measure needed to test this linkage is one that can directly capture the global economies of scope hypothesized to arise and to generate a performance benefit. Similar to the evolution of research on product diversification, where the theoretical basis for performance benefits is the construct of ‘relatedness,’ researchers eventually developed measures of ‘relatedness’ across industries to adequately assess the empirical linkage to firm performance (Robins and Wiersema, 1995). Due to a lack of

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\(^9\)This finding is also supported in Beugelsdijk et al. (2009).

\(^{10}\)That decisions regarding a firm’s geographic scope encompass more than just the geographic markets in which a firm sells, one need only consult other articles in this volume of the journal that address, for example, issues such as the management of inter-and intrafirm knowledge flows (Anand, forthcoming), the development of a firm’s ‘locational capital’ (Zaheer and Nachum, 2011), and the importance of the geographic proximity of a firm’s international alliance partners (Zaheer and Hernandez, 2011).
firm-level data on the relatedness of a firm’s resources across its business portfolio, researchers instead captured the similarities of the firm’s businesses by using indirect measures such as the patterns of technology flows across industries (Robins and Wiersema, 1995). Farjoun (1994) utilized occupational profiles of industries and Tanriverdi and Venkatraman (2005) relied on managers’ assessments of cross-business knowledge symmetries to measure portfolio relatedness. These measures of relatedness were more fine-grained, but also better grounded in theory, and the studies using these measures illuminated that it was the weaknesses in measurement rather than theory that was the source of empirical ambiguity. Therefore, the future research agenda we propose is simple and direct: researchers must work to construct credible measures of the operational and organizational factors theoretically predicted to arise from international diversification and that then will create a differential impact on the financial performance of firms.

REFERENCES


