

Uma Sankaran

## **CHOICE OF EXPORT CHANNEL BY MICRO, SMALL AND MEDIUM ENTERPRISES IN INDIA**

### **ABSTRACT**

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Under globalization, with competitiveness as the sole policy objective of economies, it needs to be noted that countries do not trade; indeed, firms do. In general, international trade theories assume that enterprises wanting to sell their products in foreign markets export directly to the final consumers. On the other hand, in recent years, theories focusing on the exporting behavior of firms have taken into account the heterogeneity prevailing among trading firms in the presence of intermediaries. In India, studies have not taken into account the heterogeneity aspect of exporting firms to reach the international market. In this context, the present study has attempted to fill this gap by analyzing the factors that govern the choice of a particular channel of export by Micro, Small, and Medium enterprises in India. A multinomial logit model was employed to examine the factors influencing firms' choice of export modes. Firms' decision to trade through a particular channel is mainly driven by their size, fixed cost of exporting, and quality of products.

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*Keywords: International trade, Channels of export, Multinomial-logit model*

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## INTRODUCTION

For many decades, global business was considered the domain of large and multinational enterprises. However, increasingly, there is a realization that small-scale firms are playing an important role in international business. In particular, given the globalization pressures that both pull and push small firms into the international market to ensure their survival (Mtigwe, 2006). Small and Medium Enterprises (SMEs) rapidly expand their businesses to international markets and use international diversification as an important strategic option to achieve growth (Masum and Fernandez, 2008). According to a United Nations report prepared by Raynard and Forstater (2002) for developing countries, integration into the global economy through economic liberalization is seen as an important way to overcome poverty and inequality. Essential to this process is the development of a vibrant private sector, in which SMEs play a central role. Raynard and Forstater (2002) highlighted that SMEs make up over 90 percent of businesses worldwide and account for 50 to 60 percent of employment. In India, Micro, Small and Medium Enterprises (MSMEs) contribute about 8 percent of the GDP of the country, about 45 percent of the manufactured output, and about 40 percent of exports.

Traditionally, exporting has been regarded as the first step to entering international markets. It is considered the most used strategy for small firms because of the lack of resources, market knowledge, and experience (Masum and Fernandez, 2008). The smaller units have to expand their operations and technological capacity to improve productivity and competitiveness in order to survive in the global market (Subrahmanya et al., 2002; Bhavani, 2002). Bhavani and Tendulkar (2000) argued that firms need to put in efforts to explore, establish, and continuously expand markets to survive globally. For this purpose, it is necessary for the firms to develop distribution networks. They argue that if an enterprise is involved in international trade, this requirement is much more crucial. There are studies that have highlighted that, due to a lack of market knowledge and resources, small firms are not only using direct channels but also indirect channels to integrate with the world market or exports (Knorrinda, 2005; Baskar, 2001). Therefore, it is pertinent to ask, in the competitive environment, how these small, unorganised firms are integrating with the world market.

Domestic manufacturing firms are expected to choose between different modes of export, such as exporting directly to foreign customers (direct export), using intermediaries (indirect export), or a combination of both modes. Essentially, the choice between direct export channels and sales through intermediaries amounts to a choice between internalized

transactions or externalized transactions involving distributors (Burgel and Murray, 2000). Studies investigating the role of intermediaries in facilitating international trade explain how they differ from direct exporters (Bernard, Grazzi, and Tomasi, 2010; Schroder, Trabold, and Trubswetter, 2003; Felbermayr and Jung, 2011; Ahn, Khandelwal, and Wei, 2010). However, the fundamental question that needs to be addressed is what type of firms export through intermediaries and what type of firms export directly. Excepting a few studies, like Krüger (2009), Abel-Koch (2013) and Lu, Lu, and Tao (2013), empirical evidence with respect to this question is sparse, especially in the Indian context.

The central issue being addressed in the present paper relates to the choice of export mode by firms in India's MSME sector and the factors that determine the observed choice. The study's main findings indicate that larger firms use direct export channels, comparatively medium-sized firms choose indirect export channels, and small-sized firms stick to the domestic market. MSME policies are crucial in enabling their participation in global trade. The Market Assistance and Export Promotion Scheme (MAEP), in particular, encourages businesses to engage in direct international trade.

## **THEORIES OF INTERNATIONALIZATION**

Li (2010) mentioned that the important decision to make by a domestic manufacturer who decides to introduce the company's product in a foreign market is whether the new product should be distributed directly or indirectly. Since the distribution structures are difficult to change, the wrong decision may lead to long-lasting inefficient performance. Unlike large, sophisticated producers, small and medium-sized manufacturers lack the capital and marketing knowledge necessary to market directly to overseas buyers and tend to export indirectly through an export agent or merchant middleman (Bello and Williamson, 1985). Firms that export directly have to be quality conscious and gain knowledge about the market through their interactions with foreign clients.

Studies by Chari (2000), Baskar (2001), and Singh and Sapra (2007) highlighted the different modes through which unorganized garment sector is integrating into the global garment market, which includes direct and indirect exporters such as merchant exporters, importers, subcontractors, and job workers in Tiruppur. This shows the dynamic nature and strategies of unorganized sector integration with the global market. Hence, the mode of integration into the global market equally matters. Therefore, to understand the small firms' response to international competition, it is important to distinguish between the different market channels through which they are integrating into the world market. Yet studies

dealing with different integration processes are limited, and this lacuna needs to be addressed.

In general, studies adopt a global value chain approach to understanding the participation of small firms in international trade. However, this approach can be considered top-down in nature in that it attempts to analyze how and why large and multinational firms incorporate small producers in the value chain (Schmitz, 1999; Maiti and Marjit, 2008). Starting from the other end, the market channel approach begins with a focus on marketing opportunities for small firms (Johanson and Mattson, 1987; Knorrninga, 1999).

Since the present study focuses on the distribution networks and channels of MSMEs for participation in international trade, the market channel approach could be the starting point of inquiry. In this approach, producers, traders, and other relevant market actors are presumed to be engaged in the production and distribution of particular products to international market segments (*ibid.*). Hence, each channel can be considered a network, with MSMEs accessing the international market by exploiting any of these channels. Firms are assumed to engage with one or more networks, such as suppliers, subcontractors, customers, and other market actors. Small firms, without the necessary resources to export, could access the international market by using these network relationships. However, this approach does not delineate the factors that determine the selection of a particular network by firms to gain entry into the international market. Further, firms use a wide range of distribution networks, like intermediaries, rather than merely the production net, as emphasized by Johanson and Mattsson (Chetty and Blankenburg Holm, 2000). In light of this constraint, this research focuses in particular on distribution networks (also known as distribution/export channels), as mentioned in Spulber (1996), Melitz (2003), Bernard, Grazi, and Tomazi (2010), Ahn, Khandelwal, and Wei (2010), Felbermayr and Jung (2011), and other related studies.

Distribution constitutes one of the most vital aspects of international marketing. Ramaseshan and Patton (1994) and Li (2010) contend that choosing between direct and indirect product distribution is a crucial choice that a domestic firm must make when deciding to enter a foreign market. An indirect channel is an independent channel that allows for very little to no control over its distribution, besides virtually sharing no links with end users (Fryges, 2005). On the other hand, the direct distribution channel generally provides the manufacturer with more control, thus bringing responsibility, commitment, and the

associated risks (Ramaseshan and Patton, 1994). In the real world, many exporters may resort to different combinations of direct and indirect distribution systems.

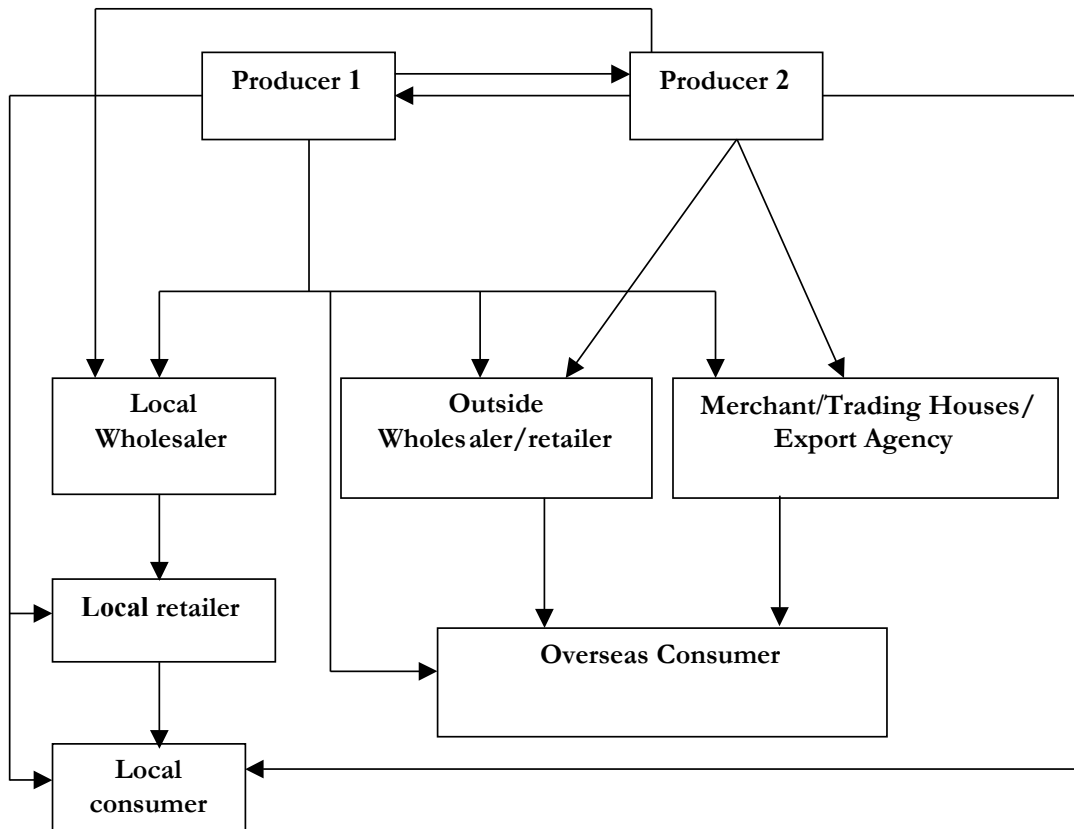
In order to explain the approach in a simple manner, the study considers two producers or firms (Figure 1), and both of them have opportunities to export via multiple channels. Firm 1, for instance, could cater to the needs of the domestic market either directly or indirectly through any local wholesaler or retailer. A similar marketing strategy could also be adopted for accessing the international market, that is, those firms not having the necessary resources to build a distribution and export network can do so via other intermediary channels such as merchandisers, trading houses, and export agencies. Hence, producers exporting directly to foreign consumers are called direct exporters, and others using intermediary channels are called indirect exporters. However, the complex part of the channel approach comes to the fore when producers export via foreign intermediaries, that is, outside wholesalers or retailers.

The most basic distinguishing feature of the two-channel alternatives is determined by where the second channel is located. The second channel is classified as a direct channel if it is located in the buyer's nation and is regarded as an indirect channel if it is located in the producer's country. If they are used in the buyer's nation, the route is regarded as direct even though independent middlemen, agents, or distributors may have been used (Root, 1964, as cited in Li, 2010). Since producer 2 has an equal number of marketing options, for example, the firm will be deemed to be using the direct channel if producer 2 (Figure 1) chooses to export through outside wholesalers or retailers; conversely, if the producer exports through domestic merchants, trading houses, or export agencies, the firm will be deemed to be using an indirect channel.

Additionally, under a subcontracting arrangement, producer 1 will market producer 2's products internationally. Producer 1 can participate partially in the production process under this arrangement, focusing only on the product's marketing. Producing at the lower end of the value chain, small businesses might take advantage of this subcontracting relationship to indirectly engage in the global market (Chaminade and Vang, 2006). Producer 2 is regarded as an indirect exporter due to this arrangement.

Although we have highlighted the number of choices of marketing channels for small firms, it is difficult to capture all the selection modes in the present study, given the limited data structure. Hence, in sync with the literature, in this study, we have grouped firms into direct exporters, indirect exporters, and exporters exporting via both direct and indirect channels (hereafter both channel exporters).

Figure 1. Market channel approach (exports)



Source: Prepared by author

## METHODOLOGY

### Hypotheses

The study hypothesizes that firms having sufficient resources tend to establish their own foreign distribution channel for exporting, that is, large-size firms are expected to export via direct channel. This is followed by relatively smaller firms not having the required resources to build up their own distribution channel and export through indirect channels, that is, with the help of intermediaries. Still, smaller firms do not export and serve merely the domestic market.

*Hypothesis 1: Firm size positively affects the choice of export channel.*

To understand the company's experience in the international market, we must ascertain how long it has been active in it. However, we do not currently possess any

information pertaining to the year that the company entered the global market. Due to this limitation, the only appropriate proxy variable we could uncover for a firm's experience was its age. A company's age is determined by the number of years since the beginning of the production process.

*Hypothesis 2: Age of the enterprise positively impacts the choice of export channel.*

Subcontracting firms are presumed to be the indirect exporters in international trade. However, the Census does not provide information regarding subcontracting relationships between firms. However, it provides information regarding whether a given firm is ancillary or not. It could be hypothesized that given the opportunity to participate in the network, relative to those firms who are not ancillaries, the probability of a given firm being an indirect exporter is high. We use a dummy variable defined as,

Ancillary Dummy = 1 if the firm is an ancillary, otherwise 0

*Hypothesis 3: Ancillarisation affects more positively the choice of indirect channel than direct and both channel choice of export.*

One of the main questions the study attempts to answer is whether or not firms more easily enter international markets if they have access to the policies that the Ministry has established. It could be hypothesized that firms that benefit from any of the schemes are likely to have a better chance of participating in international trade through a sophisticated export mode (that is, direct channel). For instance, firms accessing the Market Assistance and Export Promotion Scheme (MAEP) are expected to participate in the direct export channel. MAEP is a particular scheme for encouraging firms to participate in international trade. To test this hypothesis, we have created a dummy variable, which takes on 1 if an enterprise is resorted as a beneficiary of at least one of the schemes initiated by the Ministry, except MAEP. We have created a separate dummy for the MAEP scheme to examine its impact on firms' export behavior. This variable takes on 2 if an enterprise benefits from the MAEP Scheme and takes on 0 if an enterprise does not benefit from any of the schemes.

*Hypothesis 4: Government schemes affects positively the choice of export channel.*

The present study hypothesised that increasing variable trade costs, such as country-level import tariffs, would lead firms to become non-exporters.

*Hypothesis 5: Tariff negatively affects the choice of export channel.*

Schroder, Trabold, and Trubswetter (2003) argue in their model that these industry-specific costs, not firm-specific market access costs, can be pooled among exporting firms. Hence, after meeting the market costs once, a trade intermediary that is operating in the

international market could spread them across all the firms that use their service. Given these arguments, it is hypothesized that an increase in industry and country-specific market costs leads to more exports being undertaken through intermediaries or increases the chances of the firm being an indirect exporter. Due to limited data availability, we are not able to measure the fixed export cost specific to the variety and the country directly. However, by generating proxy variables for the country and industry-specific fixed costs, the study could capture the role of fixed export costs in the export behavior of firms.

A drawback associated with the Census of MSMEs is that it does not provide information on the destination of a firm's exports. However, to measure the fixed costs of exports, we need data on the destination of exports. To overcome this limitation, we have taken the data related to India's major export partners from UNCTAD, which collects data from individual countries and reports it in the Commodity Trade Statistics (COMTRADE). The data has been extracted at the 4-digit International Standard Industrial Classification (ISIC), rev. 3, which is consistent with NIC-04. Following Bernard, Grazi, and Tomasi (2010), we have developed two measures of country-level fixed costs. First, to measure a proxy for the market-specific fixed costs for exporting to a country, we have used the World Bank Doing Business dataset for the year 2006. This dataset provides information regarding the number of documents required for importing, the cost of importing, and the time involved in importing a standardized cargo of goods by ocean transport. We then compute the industry-level (at NIC 4-digit) weighted average of market-specific fixed cost measures such as the number of documents required for importing, the cost of importing, and the time taken for importing.

The weights are given based on the share of India's exports to major countries. Given the high level of correlation between these variables in the multivariate regression analysis, the study has used the standardized scores derived from Principal Component Analysis (PCA), named market costs, which account for most of the variance with respect to the original indicators. These scores have been entered in the Census of MSMEs as per the NIC-04 classification. To some extent, market costs, as a proxy, could capture the fixed cost of exports, which is common to all varieties exported to country  $c$  and in industry  $j$ .

*Hypothesis 6: Market cost more positively impacts the choice of indirect channel than direct and both channel export.*

The study hypothesized that the higher the governance quality, the higher the probability of a firm being a direct exporter. To identify a proxy for institutional/governance quality, we have used data from the World Bank's Governance



dataset for the year 2005. This dataset provides the following six variables: voice and accountability, political stability and absence of violence or terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. As these six measures are highly correlated, we have used the primary scores obtained from the PCA as a proxy for country governance quality.

*Hypothesis 7: Governance quality affects more positively the choice of the direct export channel than indirect and both channels.*

It could be hypothesized that firms avoid the use of intermediaries if their technology is advanced, simply on the plea that direct exporting is preferable to technically sophisticated products. The Census does not include information on firm-specific technology, despite the fact that we might see how important technology is when choosing export channels. Conversely, the Census offers data regarding various channels via which MSMEs acquire technical know-how. As a result, sources of technical know-how have been used in the study as a stand-in for MSMEs' technological endeavors. We have created the following dummy variable for several technical know-how sources:

Firms obtaining the technical know-how through collaboration with local R&D institutions or specialized agencies =1 otherwise 0

Firms obtaining the technical know-how through collaboration with local firms =1 otherwise 0

Firms obtaining the technical know-how through collaboration with foreign firms =1 otherwise 0.

*Hypothesis 8: Obtaining technical know-how more positively impacts the direct channel than indirect and both channel export choice.*

According to the study's hypothesis, companies with higher-quality products export directly. The fact that we are unable to accurately evaluate the firms' product quality is a basic problem with empirical research. Through her empirical research, Abel-Koch (2013) finds that businesses with ISO certifications generally rely far less on trade middlemen. Furthermore, the dummy variable for product quality in this study is quality certification, which is defined as,

Firms with none of the certificates = 0

Firms with any one of the certificates = 1

*Hypothesis 9: Quality certificate more positively affects the choice of direct than indirect and both channel export.*

## ECONOMETRIC MODEL

The dependent variable to be explained by our model is the choice of a firm as a particular type of exporter, such as direct, indirect, or both channel exporters. Hence, the dependent variable is not a continuous variable but instead a discrete choice of a firm. Greene (2012) shows that there are a number of cases where the “dependent variable” is not a quantitative measure of some economic outcome but rather an indicator of whether or not some outcome has occurred. In fact, in many economic situations, the choice may be among  $m$  alternatives where  $m > 2$ , like in the case that we have dealt with. The appropriate method here would be modelling probabilities and using econometric tools to make probabilistic statements about the occurrence of these events. These models are closer to regression models but are about discrete outcomes of behavioral choices and modelling probabilities of events. The individual firm chooses from among more than two choices, making the choice that provides maximum profit. The multinomial logit model is often used for estimating the model with more than two unordered categorical choice dependent variables. There are  $m$  choices, each with probability  $\pi_{i1}, \pi_{i2} \dots \pi_{im}$  for firm  $i$  (Baltagi, 2011).  $y_{ij} = 1$  if firm  $i$  chooses alternative  $j$ , otherwise, it is 0. For  $n$  firms, the likelihood function is a multinomial that is given by:

$$l = \pi_{i=1}^n (\pi_{i1})^{y_{i1}} (\pi_{i2})^{y_{i2}} \dots (\pi_{im})^{y_{im}} \quad \dots (1)$$

This model can be estimated broadly in line with the profit maximization formulation of a firm where the export that firm  $i$  derives from the mode of export choice  $j$  is denoted by  $U_{ij}$  and is a function of the characteristics of  $i$ -th firm,

$$U_{ij} = \beta x'_{ij} + \varepsilon_{ij} \quad \dots (2)$$

In our model,  $x_{ij}$  denotes the vector of firm, industry, and destination country-specific characteristics. If a firm makes the choice  $j$  in particular, then we assume that  $U_{ij}$  is the maximum export among the  $j$  export choices. Hence, the statistical model is driven by the probability that choice  $j$  is made, which is

$$\text{Prob}(U_{ij} > U_{ik}) \quad \text{for all others } k \neq j.$$

Let  $Y_i$  be a random variable that indicates the choice made. Here, our interest is to predict the probability of  $P_{ij}$ . The probabilities for the multinomial logit model are given as

$$P_{ij} = Prob(Y_i = j) = \frac{\exp(\beta x'_{ij})}{\sum_{j=0}^m \exp(\beta x'_{ij})}, j = 0, 1, \dots, m. \quad \dots (3)$$

The model implies that it is possible to compute  $j$  log-odds,

$$\ln \left[ \frac{P_{ij}}{P_{ik}} \right] = x'_i (\beta_j - \beta_k) = x'_i \beta_j \quad \text{if } k = 0$$

From the point of view of estimation, it is useful that the odds ratio,  $P_{ij} / P_{ik}$ , does not depend on the other choices, which follows from the independence of disturbances in the original model. A more intuitive interpretation can be obtained with the odds ratio or odds instead. In fact, the anti-logarithm of each slope co-efficient in a Logit regression is an odds ratio at different values, one unit apart, of the corresponding explanatory variable. This interpretation is useful when dealing with dummy variables. However, if our model is dealing with a measurement variable—for example, firm age—we may find the odds ratio corresponding to a unit change in the variable by taking the anti-logarithm of its slope coefficient (Mukherjee, White, and Wuyts, 1998).

The estimated equation is,

$$ML_{ij} = \alpha + \beta_1 LNSize_{ij} + \beta_2 LNAge_{ij} + \beta_3 Ancillary_{ij} + \beta_4 Scheme_{ij} + \beta_5 Tariff_{ij} + \beta_6 Mkt\_cost_{ij} + \beta_7 GQ_{ij} + \beta_8 Tech\_Know_{ij} + \beta_9 Qua\_Cer_{ij} + \mu_k + u_{ij}$$

for all  $i = 1, 2, \dots, n$  (firms),  $j = 0, 2, 3, 4$  (Choices)

wherein,

LnSize	= Log of Firm Size
LnAge	= Log of Firm Age
Ancillary	= Ancillary Dummy
Scheme	= Scheme Dummy
Tariff	= Weighted Tariff
Mkt_cost	= Market Cost
GQ	= Governance Quality
Tech_Know	= Source of Technical Know-how dummy
Qua_Cer	= Quality Certificate Dummy
$\mu_k$	represents industrial dummy
$u_{ij}$	= residuals

The construction of all these variables has been discussed above in detail.

Following Lu, Lu and Tao (2013), we have also referred  $ML_{ij}$  as Exporting Behavior, which takes on

a value of 0, if a firm has chosen to be a non-exporter,

a value of 1, if a firm has chosen an indirect export channel,

a value of 2, if a firm has chosen indirect and direct export channel (hereafter, both channel exporters),

a value of 3, if a firm has chosen the direct export channel.

The advantage of Multinomial Logit regression is that it does not impose any order on the choice of outcome. It takes a base outcome and estimates the relative risk ratio, henceforth the odds ratio, for each of the other outcome choices. If the odds ratio value is greater than 1, it means that firms are more likely to choose the corresponding outcome relative to the base outcome. In our model, we have taken Exporting Behavior<sub>ij</sub> = 0, that is, firms undertaking no exports, as the base category and estimated odds ratios for the other choices.

## DATA

The study relies on unit-level data from the All India-Fourth Census of MSMEs (2006–07), published by the Development Commissioner of MSMEs (DCMSMEs), Ministry of MSMEs, Government of India, for its analysis. This is the only database that provides information on the exports of MSMEs at the unit level. Further, from the fourth census

onward, exporting firms are classified based on the channels through which they are exporting. Apparently, this is the first study to exploit this huge unit-level data to address the research question discussed above.

## **VARIABLES**

### **Firm size**

Research has indicated that adequate resources, including financial and human ones, are necessary for internationalization. Smaller businesses may therefore be unable to engage in international trade if they have a disadvantage in terms of resources. Firm size and the inclination to export do, in fact, positively and significantly correlate, according to empirical analyses (Bonaccorsi, 1992; Calof, 1994). Melitz (2003), Ahn, Khandelwal, and Wei (2010), and Akerman (2014). This argument is based on the fundamental idea that a firm's resource base may be inferred from its size.

Abel-Koch (2013), in her empirical analysis using the World Bank Enterprise Survey conducted in Turkey, observes that the share of indirect exports in total exports declines significantly with an increase in firm size. Further, she also argues that as firms become larger, they shift from non-exporters to indirect exporters and from indirect exporters to direct exporters. Fryges (2005) found empirical support for this argument with respect to German and British high-tech firms. Similar findings were reported by Cieřlik, Michalek, and Szczygielski (2023). A potential concern in interpreting the coefficient of firm size on the choice of export mode may create a reverse causality. Following Abel-Koch (2013), to avoid the problem of a reverse causality, the present study has used one-year-lagged firm size as an explanatory variable. The size of a firm is measured as the log of gross output (GOP) for the year 2005.

### **Firm age**

One of the factors determining the choice between direct exporting and the use of intermediaries depends on a firm's experience. Burgel and Murray (2000) argue that by using distributors, firms could exploit economies of scale and scope that are not available to young firms, which is perhaps one of the ways to reach the international market. Further, studies (Johanson and Wiedersheim-Paul, 1975) suggest that young firms start as pure domestic producers, and after establishing themselves in the domestic market, they begin to export indirectly. After gaining experience and knowledge, they export directly.

On the other hand, given an improvement in communication, transportation, and technology, young firms could skip all these stages and participate in international transactions via networks (Young, 1987; Oviatt and McDougall, 2005). However, the results of empirical studies appear to be mixed. Kim, Nugent, and Yhee (1997) found in the case of Korean SMEs that many firms in their early phase of exporting depended on indirect channels, wherein producing firms played a passive role in marketing and later moved on to direct exporting channels. Hessels and Terjesen (2007) found that in the case of the Dutch, young SMEs were more likely to export directly than indirectly. Abel-Koch (2013) did not find any significant role of a firm's age in the choice of export mode with respect to Turkey. She observes that this is probably because of the crude proxy of firm age for its experience. A similar result could be seen in Ramaseshan and Patton (1994).

According to Anderson and Gatignon (1986), the lack of international market experience could influence a firm into choosing a low-control international entry mode, which is exporting via intermediaries. To measure international experience, Burgel and Murray (2000), using the number of years a firm had been engaged in international operations before entering a particular market, did not find any impact on the choice of sales mode. Fryges (2005) measured the international experience by country-specific experience of firms (years) in conducting international business activities in that particular country since their entry into the market. In his empirical analysis, it is found that the number of years an exporter is engaged in the target country has a positive effect on the probability of a transition from exporting via an intermediary to direct exporting.

### **Ancillarisation**

Small firms become subcontractors, commercial or industrial, chiefly to overcome their marketing deficiencies (Watanabe, 1971). Given the characteristics of the small-scale sector, that is, (i) low levels of productivity, lack of capital and technology, and hence lack of competitiveness; (ii) dominance by unskilled workers; and (iii) weak infrastructure and an inappropriate environment to grow and compete (Bathla, Sharma, and Banga, 2008), small firms may not be able to participate directly in international trade. However, they could respond to this competition by participating in indirect trade channels, with one of the strategies being subcontracting. Hence, subcontracting is considered a network relationship that provides assurance to small firms for indirect access to the market (Cawthorne, 1995). This is considered the indirect participation of smaller units in international trade.

### **Role of institutions**

The Ministry of MSMEs has introduced various schemes as part of encouraging the MSMEs sector to participate in international trade. For instance, the objective of the Market Development Assistance (MDA) scheme is to promote direct exporters. The success of any policy could be judged on the basis of the achievement of its objectives (Tendulkar and Bhavani, 1997). Further, the set of institutions in the public and private sectors and their interactions determine the generation and diffusion of knowledge, which, in turn, determine the competitiveness of firms (Lundvall et al., 2009). Firms prefer direct exporters over indirect exporters because of a high degree of institutional harshness and a low degree of uncertainty avoidance in the domestic market, according to Elango and Pangarkar (2020).

### **Variable costs/Tariffs**

Blum, Claro, and Horstmann (2009) argue that a reduction in variable trade costs, either lower units of transportation costs or lower tariffs, induces firms to switch from indirect selling to direct exporting. Further, it also encourages non-exporting firms to enter the export market by using intermediaries. Bernard, Grazi, and Tomasi (2010) observe that the role of variable trade costs such as tariffs and transportation costs in determining the share of exports handled by intermediaries is ambiguous. They found the variable trade costs proxied by the country-level import tariffs did not show a significant impact on the intermediary export share. Schroder et al. (2003) also observe that a change in variable costs of trade has no effect on the share of intermediary exports. However, Ahn et al. (2010) find a positive correlation between intermediary shares of exports and tariffs, suggesting that intermediaries are more important for country-product pairs with higher tariffs. The mixed results show the country-specific nature of variable costs impacting the choice of export mode. In this study, we have taken country-level import tariffs-related (4-digit ISIC Rev.3) data for the year 2005 from TRAINS published by UNCTAD.

### **Market cost**

Melitz (2003) argues that firms incur market-specific fixed costs to enter foreign markets. These fixed costs are related to the establishment of foreign distribution networks or difficulties in enforcing contractual agreements (Schroder, Trabold, and Trubswetter, 2003; Felbermayr and Jung, 2011). Bernard, Grazi, and Tomasi (2010) argued that firms' fixed costs associated with selling in the domestic market tend to be lower than those for exporting directly abroad. However, firms not capable of bearing the high fixed export costs

also participate in the export transactions through intermediaries' technologies. Hence, the higher the fixed cost of exporting, the higher the share of exports handled by intermediaries (Schroder, Trabold, and Trubswetter, 2003; Ahn, Khandelwal, and Wei, 2010).

### **Governance quality indicator**

Firms entering the export market have to face another form of fixed cost, which is related to the regulatory environment existing in the destination country. Bernard, Grazzi, and Tomasi (2010) found that the quality of country governance is negatively and significantly related to intermediaries' export share. It implies that better country governance and, thus, lower fixed costs are associated with lower exports by wholesalers. Schroder, Trabold, and Trubswetter (2003), using French Customs data, found that importing markets with a low level of enforcement of civil rights, which is a proxy for market access costs, show a significantly higher share of trade intermediaries than markets with a high level of enforcement of civil rights.

### **Technical know-how**

Following the arguments of Anderson and Gatignon (1986) and Chandler (1992), it could be observed that the choice of export mode—direct or indirect—depends upon the sector to which they belong. Hence, the authors put forth the proposition that a high control mode is often employed for technically sophisticated products that tend to have a higher proprietary knowledge content than unsophisticated products. Further, the inability to share tacit or firm-specific know-how, thereby making it difficult to share routines with intermediaries, suggests that a firm is less likely to involve third parties (Hill, Hwang, and Kim, 1990). Hence, the direct distribution export channel is used for products with high service requirements, a characteristic of customized products. Burgel and Murray (2000) found that firms incurring higher R&D expenditures have a lower propensity to sell through distributors.

### **Product quality**

Tang and Zhang (2012) and Crozet, Lalanne, and Poncet (2013) highlight the role of product quality in the choice of firms with respect to either direct or indirect exporting. According to them, wholesalers export lower-quality varieties produced by less-efficient firms, which otherwise would not be able to pay the fixed cost of exporting products directly. On the other hand, manufacturers with high-quality products prefer to export directly. Their models emphasized the role of product quality in sorting out manufacturing firms into



different modes. Yet, even if firm size were controlled, the explanatory power of product quality on firms' export behavior cannot be ignored. Schroder, Trabold, and Trubswetter (2003) argue that firms that incur costs involved in obtaining product certification are more likely to choose the direct export mode. Felbermayr and Jung (2011) argue that firms with highly marketable goods and a strong brand reputation tend to internalize foreign sales activities, whereas firms with a medium realization of those variables prefer to use trade intermediaries. Verhoogen (2007) argues that an internationally recognized quality certification such as ISO 9000 could be a suitable proxy for product quality.

### **ANALYSIS USING DESCRIPTIVE STATISTICS**

It could be helpful to utilize descriptive statistics to find the broader pattern in the export modes that enterprises in different categories choose before performing an econometric analysis of the hypothesis.

#### **Export channels**

Table 1 presents the number as well as percentage share of exporting and non-exporting enterprises of the registered, unregistered, and total (both registered and unregistered) MSMEs for the year 2006–07. It is evident that almost all the registered MSME units (around 1.1 million, or 97.2 percent) are domestic market-oriented or non-exporting units. The number of exporting units accounts for only a negligible share (0.034 million, or 2.7 percent) of the total number of units (1.2 million), of which (0.021 million) 1.7 percent may be termed both channel exporters (that is, those using both direct and indirect channels). The remaining one percent is distributed between direct (0.01 million, or 0.8 percent) and indirect exporters (0.002 million, or 0.2 percent). An overwhelming majority of MSMEs (89 percent) are unregistered, and the remaining 11 percent are registered. Hence, the unregistered MSMEs are added to the registered MSMEs so as to understand the total MSMEs sector. For the MSME sector as a whole, the share of exporting units is only 0.34 percent. Among them, those using direct, indirect, and both channels account for 0.09, 0.05, and 0.2 percent, respectively. As noted already, this is simply because the share of unregistered exporting MSMEs is almost zero. Hence, hereafter, the focus of the analysis shall be only on the registered MSMEs sector.

**Table 1. Distribution of MSME units based on export channel (2006-07)**

Channels	Registered MSMEs	Unregistered MSMEs	Total MSMEs (registered and unregistered)
	Number of exporting and non-exporting units (Percentage share of the total number of units)		
	Exporting units		
Only Direct /	10,032	-	10,032
Direct exporters	(0.83)		(0.09)
Only Indirect /	2,986	2,225	5,211
Indirect exporters	(0.25)	(0.00)	(0.05)
Both channel	21,046	1,208	22,254
exporters	(1.73)	(0.00)	(0.20)
<b>Total exporting units</b>	<b>34,064</b>	<b>3,433</b>	<b>37,497</b>
	<b>(2.81)</b>	<b>(0.00)</b>	<b>(0.34)</b>
Non-Exporting units	1,179,179	9,887,437	11,066,616
	(97.19)	(100.00)	(99.66)
<b>Total</b>	<b>1,213,243</b>	<b>9,890,870</b>	<b>11,104,113</b>
	<b>(100.00)</b>	<b>(100.00)</b>	<b>(100.00)</b>

Source: Author's own estimation from All India Fourth Census of MSMEs (2006-07).

Table 2 presents the size and labor productivity of exporting and non-exporting enterprises for the year 2006-07. It may be recalled that, though the share of registered MSMEs in exports is meager, the gross value added per unit of these enterprises amounts to 97.88 (which may be considered a proxy for firm size), which is substantially higher than for non-exporting units. Within exporting units, direct exporters show a relatively higher GVA per unit (220.76) than indirect (127) and both channel exporters (35), reflecting the size advantage of direct exporters. Further, labor productivity, measured as Gross Value Added per worker, of exporting firms (4.11) is also higher than for non-exporting units (2.65). Labor productivity in direct exporting units (4.45) is higher than for both channel exporters (3.63) and indirect exporters (3.47). This result reflects the sorting pattern highlighted by studies (Blum, Claro, Horstmann, 2009; Ahn, Khandelwal, and Wei, 2010; and Akerman, 2010), except in the case of both channel users, which Lu, Li, and Tao (2013) found.

**Table 2. Performance of exporting and non-exporting MSMEs (2006-07)**  
(value in Rs.)

<b>Export channels</b>	<b>GVA/U</b>	<b>GVA /L</b>
Only direct	220.76	4.45
Only indirect	127.24	3.47
Both channel exporters	35.14	3.63
<b>Total exporting units</b>	<b>97.88</b>	<b>4.11</b>
Non-exporting units	15.90	2.65
<b>Total</b>	<b>18.21</b>	<b>2.80</b>

Source: Same as for Table .1.

Notes: GVA/U=Gross Value Added/No. of Units;

GVA/L (Labor Productivity) = Gross Value Added/Total employment.

To encourage MSMEs to participate in the international market, the Ministry of MSMEs introduced one of the following schemes: the ISO 9000/ISO 14001 Certification Reimbursement Scheme. In the Fourth Census, the question of enterprises obtaining quality certification was added, with certificates being coded such as Quality Management System-International Standard Organization (QMS-ISO): 9000-1, Environment Management System (EMS-ISO): 14001-2, Both (QMS & EMS): 3, other certificates: 4, and none: 5. To penetrate the export market, small firms have to improve the quality of their products. Hence, the certificate of quality probably provides a proxy indicator to assess the quality of products produced by small firms. Moreover, to some extent, this quality certificate also helps us understand the efforts of enterprises towards strengthening their relationships with other actors in the market. For instance, the QMS-ISO 9000 family addresses various aspects of quality management besides containing some of the ISO's best-known standards. The QMS standards provide guidance and tools for companies and organizations that want to ensure that their products and services consistently meet customers' requirements and that quality is consistently improving. The enterprises obtain this certificate not only to ensure the quality of their products but also to maintain a certain standard with regard to customer service. Hence, QMS-ISO 9000 assures not only management quality but also product quality improvement, which, in turn, reflects the efforts of firms to meet their customer requirements as part of building strong relationships.

It can be seen from Table 3, which shows statistics on the percentage of businesses with quality certification, that exporting MSMEs generally have a greater percentage of quality certification than non-exporting units. This is consistent with the finding arrived at by Verhoogen (2007) with respect to Mexico that exporters in general possess ISO 9000 certification vis-à-vis non-exporters. This highlights the efforts of exporting units towards improving the quality of their products as well as their relationship with other agents in the market as part of promoting exports. Within the exporting units, the share of direct exporters obtaining QMS constitutes 16.97 percent, followed by their EMS, both QMS and EMS, and other certificates, with a share of 2.36, 1.41, and 6.63 percent, respectively. As noted above, the possession of ISO 9000 by a company reflects customers' satisfaction with the product's quality and continued improvement. This is likely to further help bring more customers and business to an organization. From the above analysis, it is clear that direct exporters are motivated to obtain QMS and EMS in order to attract more international customers.

**Table 3. Prevalence of quality certification and mode of export (percentage of firms in 2006-07)**

<b>Channels</b>	<b>QMS-ISO:9000</b>	<b>EMS-ISO:14001</b>	<b>Both</b>	<b>Others</b>	<b>No certification</b>
Direct	16.97	2.36	1.41	6.63	72.63
Indirect	16.54	6.03	0.60	10.08	66.74
Both	1.82	0.83	0.19	1.37	95.79
<b>Total exporting units</b>	7.57	1.73	0.58	3.68	86.43
Non-exporting units	0.97	0.62	0.28	1.79	96.33
Total	1.16	0.66	0.29	1.84	96.06

Source: Same as for Table 1.

Interestingly, 16.54 and 6.03 percent of the indirect exporters are found to have obtained EMS-ISO 14001 and QMS-ISO 9000 certificates, respectively. This is probably due to the requirements of exporting agents that enterprises prefer to be ISO certified. Quality certification is also a signal to customers that firms follow standard production practices.

For indirect exporters, in particular, obtaining these certificates will probably help them get regular business orders from agents by strengthening their relationship with them. This result also supports the argument of Basant (2002) that indirect exporters confront the pressure of product quality via intermediaries. In the case of other certificates not clearly defined in the census, indirect exporters account for a higher share (10.08), followed by direct exporters (6.63). These certificates are probably industry-specific. From Table 4, it could be observed that those exporters using both channels account for a lesser share in terms of obtaining certification than other exporters, but higher than non-exporting units.

Table 4 presents the percentage share of exporting and non-exporting firms with respect to sources of technical know-how for the year 2006–07. Overall, around 88 percent of the exporting and non-exporting enterprises report that they have not obtained technical know-how from any of the sources. As compared to non-exporting units, exporting units are found to be exploiting different sources for acquiring technical know-how.

**Table 4. Percentage share of exporting and non-exporting firms with respect to sources of technical know-how (2006-07)**

Channels	Collaboration with foreign firms	Collaboration with local firms <sup>a</sup>	Collaboration with local R&D institution <sup>b</sup>	No collaboration
Direct	3.93	7.89	12.02	76.16
Indirect	3.25	14.94	10.05	71.77
Both	0.61	1.21	1.27	96.91
<b>Exporting Units</b>	<b>1.82</b>	<b>4.38</b>	<b>5.21</b>	<b>88.59</b>
<b>Non-Exporting Units</b>	<b>1.83</b>	<b>4.48</b>	<b>6.14</b>	<b>87.55</b>
Total	1.83	4.48	6.12	87.58

Source: Same as for Table 1.

<sup>a</sup> Domestic collaboration company

<sup>b</sup> Domestic R&D institution/ specialized agency/ organization

For both exporting and non-exporting units, domestic R&D institutions, /specialized agencies, and organisations are the major sources for obtaining technical know-how, followed by domestic collaborative companies and foreign companies. This may not be surprising because small firms, unlike large firms with their own R&D departments, tend to meet their needs for technical know-how through a network of domestic R&D institutions and/or other collaborative companies. Within direct exporting units, 12, 8, and 4 percent of the direct exporters obtain technical know-how through collaboration with local R&D institutions, local or domestic firms, and foreign firms, respectively. In the case of indirect exporters, the major sources of technical know-how are domestic collaborative companies (around 15 percent), followed by domestic R&D institutions (10 percent), and foreign companies (3 percent). This reveals that, as compared to indirect exporters, the interaction of direct exporters with technology suppliers (domestic R&D institutions) and those from foreign is high. This probably reflects that direct exporters have greater market knowledge when accessing different sources of technical know-how relative to indirect exporters. However, for indirect exporters, the major source of technical know-how is domestic collaborative companies. This suggests the importance of indirect exporters in building a strong domestic network relationship for acquiring technical know-how. Further, among the exporters using both channels, only around 3 percent access technical know-how from different sources, which is even less than non-exporting units. This table shows the network advantage in terms of direct exporters obtaining technical know-how vis-à-vis other exporters.

## **RESULTS AND DISCUSSION**

The census of MSMEs is not free from errors. In other words, the existence of outliers in the data set might lead to an adverse effect on the estimates. More technically, outliers might influence the estimates, pulling the same towards them. Therefore, in order to address this problem, we have, as part of sifting the data, deleted certain outliers and leveraged using statistical tools like Cook's D test and DFBETA test.

**Table 5. Maximum likelihood estimates of the multinomial logit model for manufacturing (MSME) sector**

Regressors	Both channels		Indirect channel		Direct channel	
	Coefficient t (Z-values)	Odds	Coefficient t (Z-values)	Coefficient t (Z-values)	Odds	Coefficient t (Z-values)
Firm size	0.241* (51.270)	1.272	0.486* (55.070)	1.626	0.529* (107.200)	1.696
Age	-0.760* (-98.530)	0.468	0.121* (5.410)	1.129	-0.026** (-2.140)	0.975
Ancillary	-1.165* (-20.350)	0.312	0.196* (2.750)	1.217	0.111* (2.600)	1.118
Scheme_1	2.180* (111.770)	8.849	0.148* (3.570)	1.159	0.137* (5.820)	1.147
Scheme_2	0.705* (2.810)	2.024	0.361 (1.060)	1.435	1.877* (18.300)	6.532
Tariff	-0.099* (-20.610)	0.905	-0.033* (-4.800)	0.968	-0.013* (-3.560)	0.987
Market cost	0.089* (4.230)	1.093	0.153* (3.320)	1.166	0.183* (6.300)	1.201
Governance quality	-0.337* (-13.800)	0.714	0.127* (2.740)	1.136	0.317* (11.470)	1.373
R&D institution	-1.866* (-26.960)	0.155	0.037 (0.540)	1.038	0.133* (3.620)	1.142
Collaboration	-1.766* (-24.560)	0.171	0.646* (10.860)	1.908	-0.025 (-0.570)	0.975
Abroad	-1.708* (-17.740)	0.181	-0.197 (-1.620)	0.821	0.066 (1.060)	1.068
Quality certificate	0.003 (0.080)	1.003	1.486* (30.640)	4.418	1.274* (44.220)	3.577
Intercept	-5.858* (-84.590)	0.003	-9.453* (-70.230)	0.000	-8.377* (-108.700)	0.000
Industry dummy	YES					
Log Likelihood	-127469.92					
LR $\chi^2$ (99) (Prob)	79546.270 (0.000)					
Number of observations	1056037					

Table 5 presents the likelihood estimates of the manufacturing enterprises in the MSME sector. The results are interpreted as an odds ratio, which does not depend on other choices. The odds ratio for the firm size is more than 1 and statistically significant. As the firm size increases, the probability of a firm being both a channel exporter and an indirect exporter increases by 27 and 62 percent, respectively, and for the direct exporter, it increases by 69 percent as compared to a non-exporter. This confirms the theoretical prediction that larger firms choose the direct export channel, followed by relatively smaller firms choosing indirect export channels or modes, and small firms confining themselves to the domestic market. Hence, hypothesis 1 is accepted.

When it comes to the influence of the age factor, it is observed that the odds ratio of age of a firm is less than 1 and significant for direct and both channel exporters. The results suggest that young firms are more likely to participate in the export market than older firms. On the other hand, as firm age increases, the probability of a firm being an indirect exporter increases by 12 percent. As a result, hypothesis 2 has been rejected, especially when it comes to direct and both export channel choices. The ancillary firms have better odds (21 percent) of being indirect exporters than non-ancillary firms. This finding indicates that Hypothesis 3 is accepted. As expected, those enterprises having access to institutional support like the Market Assistance and Export Promotion Scheme (henceforth scheme\_2) have six times higher odds of being direct exporters than those firms that do not benefit from this scheme. The odds of being both channel exporters are two times higher for firms that benefit from Scheme 2. Further, enterprises accessing at least any one of the schemes introduced by the Ministry (hereafter scheme\_1), have eight times higher odds of choosing both channel export modes than non-beneficiary firms. Overall, 81 percent of both channel exporters receive benefits from scheme\_1 (see Table A.8). Interestingly, those enterprises accessing scheme\_1 are found to have odds of choosing a direct channel of only 14 percent. Presumably, established or large-sized direct exporting firms do not depend on institutional support after a certain point of their establishment. Scheme\_2 does not have a significant effect on the choice of indirect export channels. Overall, the results indicate a positive impact of institutional interactions, in terms of accessing schemes and policies, on the export behavior of enterprises. Hence, hypothesis 4 is accepted. Joseph et al. (2010) argue that if growth were to be inclusive, the system that facilitates it also needs to be inclusive. Following the argument, we have estimated the percentage share of firms benefiting from different schemes (see Table A.8). It can be noted



that, on the whole, firms benefiting from the MAEP scheme account for only 0.19 percent, while it is relatively higher for other schemes (37 percent). Within direct exporters, those benefiting from MAEP account for only around 2 percent. All these arguments point to the need for creating awareness regarding various institutional supports among enterprises and promoting interactions.

As expected, an increase in country-level import tariffs, the proxy for variable trade costs, induces firms to become non-exporters. In this instance, hypothesis 5 is accepted. Variable trade costs include, but are not limited to, transportation costs, per-unit handling charges or mark-up charges by intermediaries, and country-level import tariffs (Ahn, Khandelwal, and Wei, 2010; Bernard, Grazi, and Tomasi, 2010). Hence, mere country-level import tariffs may not be a sufficient proxy for variable trade costs for understanding their impact on the export behavior of firms. A rise in market costs increases the odds of firms being direct and indirect exporters by 20 and 16 percent, respectively, while the odds of choosing both channels of export are only 9 percent. It is suggested by this conversation to embrace hypothesis 6. As hypothesized, an increase in the scores of governance quality, which implies better governance in destination countries, leads to an increase in the odds of firms being direct exporters and indirect exporters by 37 percent and 13 percent, respectively. Interestingly, an increase in the scores of governance quality increases the odds of firms exporting via both channels by 71 percent. Thus, hypothesis 7 is agreed upon.

Firms acquiring technical know-how through R&D institutions are more likely to choose the direct channel, that is, 14 percent, than firms that do not have access to any technical know-how source. It does not have a significant impact on the choice of indirect export channel. Further, firms obtaining technical know-how through collaboration with domestic companies have a better chance (90 percent) of being indirect exporters. This result suggests the importance of indirect exporters in terms of building relationships with other firms and actors in order to reach the international market. Another source of technical know-how, which is the source of foreign firms (abroad), does not have a significant impact on export behavior. All these sources have a significant negative impact on the choice of both channels of export. As a result, hypothesis 8 is accepted, especially in light of the decision to choose a direct export route.

The odds of choosing direct and indirect channels are higher by 3 to 4 times for those firms that possess at least one of the quality certificates (QMS-ISO, EMS-ISO, both QMS and EMS, or other certificates) compared to those firms that do not hold any certificates. Further, the quality certificate as such does not have a significant impact on

choosing both channels for export. Indeed, the probability of choosing indirect channels is higher than that of choosing direct channels, and both channels export to these industries. This led to the rejection of hypothesis 9, especially in view of the direct export channel selection. This is consistent with Basant's (2002) argument that indirect exporters have to face the pressure of being quality-conscious from intermediaries. Hence, consistent with the WTO's stringent non-trade issues of sanitary, environmental, and labor standards, those firms fulfilling the environmental quality criteria with QMS and EMS certificates are more likely to participate in international trade.

## CONCLUSION

This paper analyzed the factors that determine firms' choice of a particular mode of export through which India's MSMEs reach out to the international market. Although the MSME sector is often considered a major source of India's exports, exporting still continues to be an activity limited to a negligible proportion of firms. The contribution of the unregistered sector is almost zero. Hence, the paper provides results only for the registered MSMEs sector. The descriptive analysis supports the sorting pattern of large and more productive firms with regard to choosing the direct distribution channel. The study incorporated indirect exporters, which the group found missing in academic research and policy documents. Although the Kholi (2001) committee has noted the presence of indirect exporters in India's SSIs, it didn't probe further by way of an analysis. The study established the active role of indirect exporters in India's MSME sector. Hence, any policy measures towards export promotion without due consideration for these units are bound to have exclusionary outcomes.

The relatively small firms are found engaged in the indirect channel, and the least-sized firms are confined to the domestic market. As compared to non-exporters, exporters account for a high share in terms of possessing quality certificates. As regards technical know-how sources, a large number of exporters and non-exporters do not have access to any source of technical know-how. Nonetheless, it is observed that exporting firms (especially direct exporters) resort to collaboration compared to non-exporters. Analysis of the factors that determine firms' choice of a particular export mode using a Multinomial Logit model, for the manufacturing units of the MSME sector supports the sorting pattern of exporting firms with an increase in their size. It is observed that, as size increases, firms prefer to be direct exporters as compared to non-exporters.

The effect of the age of firms on their export behavior perhaps points towards the fact that, with fast-changing technology and marketing practices, past investment gets locked up in the case of old-age firms, which might turn out to be a drag on the firms' choice of channel. Ancillary firms tend to increase the probability of indirect exports more than non-ancillary firms, probably because most of the subcontracting enterprises are participating in international trade via the ancillary route. MSMEs-related schemes, particularly the Market Assistance and Export Promotion Scheme (MAEP), encourage firms to participate in international trade through the direct channel. Other schemes also have a significant impact on firms' choice of export mode, particularly in respect of both channel exports. However, it is evident that the share of firms actually accessing these schemes is meager. This calls for creating awareness regarding various schemes and inspiring firms' interactions with different institutions. As expected, an increase in market costs, the first proxy variable for the fixed cost of exporting, results in an increase in the probability of firms choosing indirect channels, followed by direct channels. Similar observations have been made with regard to quality governance, another proxy for fixed costs of trade. The probability of being direct or indirect exporters is higher for firms that possess at least any one of the quality certificates than for those with none.

## ENDNOTE

This paper is abstracted and improved from the author's doctoral work.

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## APPENDIX

**Table A1. Percentage share of firms accessing schemes undertaken by the Ministry of MSMEs**

	Percentage share		
	Firms not benefiting from any schemes	Firms benefitting from at least one of the schemes	Firms benefitting from MAEP Scheme
Non-exporting	63.91	35.92	0.18
Only direct exporting firms	61.55	36.71	1.75
Only indirect exporting firms	60.05	39.46	0.48
Both channel exporting firms	18.26	81.64	0.10
Total	63.08	36.73	0.19

Source: Same as for Table 1.