DIRECT FOREIGN INVESTMENT AND EXPORT:
THE CASE OF ITALY AND ITS SMALL ENTERPRISES

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1. INTRODUCTION

1.1. Objective, Scope and Organisation of the Study

This paper aims at interpreting the emerging characteristics of the Direct Foreign Investment (DFI henceforward) undertaken by the Italian industry, by focusing the analysis on a sectoral comparison between DFI and export.

Both the object and the analytical approach make the present study rather unusual within the literature on DFI.

As an object of research, the Italian DFI offers indeed a rather unconventional perspective, inasmuch as a number of peculiarities have been characterising the recent trend of Italian DFI: its dynamic growth has in fact been coupled with an increasing involvement of Small and Medium-sized Enterprises (SMEs henceforward), a growing concentration on traditional and specialised-supplier sectors, as well as a high projection towards low and middle-income countries. Most of these peculiarities are relatively new and original if compared to either the past Italian DFI trend or the DFI carried out by other developed countries. Furthermore, their interpretation also leads to dealing with rather neglected topics in the literature on DFI and on international trade too. In this respect, the Italian case shows very clearly how the typical pattern of the international involvement of the country is, in turn, influenced by a peculiar industrial organisation characterised by a SME-based and flexible mode of production, especially in the most competitive sectors. Overall, the Italian experience may be unrepresentative, but it nonetheless represents a case in which the ongoing globalisation process is actually more variegated than it is generally meant to be.

As concerns the analytical approach, this paper focuses on the sectoral comparison between DFI and export. Unfortunately, this kind of analysis is not very widespread in the DFI literature, or more in general in the research on international economics. Apart from some empirical obstacles intrinsic to this kind of research, the major difficulty comes out to be theoretical. In fact, despite some attempts, it is fair to affirm that there exists no proper theory which allows an integrated analysis of the internationalisation process, with all its trade, factors and technology flows, particularly at macro- or country-level. Given the state of the art, the relation between DFI and export cannot be referred to a unitary and coherent theoretical framework, but it has necessarily to be conceptualised on the basis of heteroge-

neous, fragmented and to some extent contradictory ideas. This makes the analytic task of this research more difficult and questionable, but at the same time also more fascinating and challenging.

Turning now to the organisation of the present paper, most of the theoretical aspects concerning the relation between DFI and export are dealt with in chapter two. Here the attention is mainly devoted to the formulation of theoretical arguments that enrich the interpretation of the export/DFI comparison. The presentation of these arguments is broad but targeted, in order to support a precise hypothesis, that is the complementarity between DFI and export. Such a hypothesis, though still very tentative from a theoretical point of view, finds some empirical support through international macro-evidence, which is also provided in chapter two.

The empirical analysis that specifically deals with the Italian DFI is, instead, all contained in chapter three, which is almost entirely based on the export/DFI comparison at sectoral level. Here the comparison, both cross-country and inter-temporal, is meant to offer an interpretation of the recent DFI trend, with all its various peculiarites, including the role of the SMEs.

Finally, chapter four addresses some of the qualitative aspects which represent critical points for the present and future growth of the DFI undertaken by the Italian industry. These aspects include the sustainability and the compatibility of the DFI growth with respect to the 'Italian mode of production', its effects in the host countries and the crucial role of policies and interventions aimed at encouraging this kind of industrial initiatives.

1.2. Data and Methodology: A Brief Note

The comparison between DFI and export represents the focus of the empirical analysis carried out in this paper. This analysis, however, not only presents some theoretical difficulties, but also implies some empirical problems and questions that are worth noticing.

First, the measuring of DFI is rather problematic in itself, given the limited reliability that usually characterises the financial data on the flow or on the stock of DFI. In the Italian case, these difficulties have fortunately been overcome, given the existence of an *ad hoc* da-

tabase on Italian affiliates abroad.[1] This database (R&P) started in 1986 and it is held and regularly updated at the Dipartimento di Economia e Produzione at the Politecnico of Milano (see Cominotti and Mariotti 1997).

Second, the choice of a proper DFI indicator is not an obvious one, especially for what concerns the export/DFI comparison. The few past researches on this topic have acknowledged this problem too. Dunning (1979) suggested that the use of the DFI stock (that he had to use anyway) could overestimate the DFI propensity of the capital-intensive sectors or activities. In the present empirical analysis, instead, the DFI indicator used is the employment corresponding to the Italian affiliates abroad, an indicator which perhaps suffers from the opposite bias of overestimating the DFI propensity of the labour-intensive sector or activities.[2]

Third, for the export/DFI comparison the export data (organised according to a commodity classification) have to be re-classified according to sectors.[3] This operation, overall quite straightforward, poses some problems in few cases. In these cases the degree of sectoral disaggregation of the comparison has been lowered, so that the possibility of a misleading re-classification of export has been avoided.

2. THEORETICAL FRAMEWORK

2.1. Introduction

The aim of this chapter is to build a general framework for interpreting the relation between DFI and export at macro- and sectoral level. The approach chosen for the analysis and for the building of the relative arguments refers to very broad topics; therefore, dealing

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[1] The mentioned database includes also data on the foreign affiliates in Italy, as well as information on both the Italian and the foreign investing enterprises.

[2] Ideally speaking, the best DFI indicator for a comparison with export would have been the turnover corresponding to the affiliates abroad. Notwithstanding, I decided to use employment instead of turnover, because the data on the former were more reliable and disaggregated (given the data source, that is, the published work of Cominotti and Mariotti (1997)).

[3] The source for the export data has been the "International Trade Statistics Yearbook" of the United Nations. Various years of this publication have been consulted, the oldest and the most recent years being, respectively 1986 and 1994. The data have been mainly collected from the country volumes, though in some cases it has been necessary to get (or to check) some data also in the commodity volumes. For most commodities, their specification up to the two digits (SITC, rev. 2) has been enough for allocating them into the sectors according to which the DFI was disaggregated.

with them in few pages is forcefully very incomplete, though, hopefully, justifiable by the exploratory nature of the research which is not placed in the field of a well consolidated theory.

Despite the variety of ways through which DFI and export can be related, a particular emphasis is placed on the influence of country's competitiveness on both forms of internationalisation. The nature of this relation is further investigated, so as to evaluate the theoretical and empirical backing of the complementarity hypothesis between DFI and export. Based on these findings, this chapter subsequently attempts to interpret the differences and similarities in the pattern of internationalisation across developed countries, with a final attention on how this pattern may differ in the countries characterised by a high incidence of SMEs.

2.2. Ownership Advantages and Intangible Assets as determinants of DFI

The theorisation on DFI is quite fragmented, thus reflecting the considerable number of determinants and variables that appear to influence this phenomenon in all of its various patterns and manifestations. In this regard, theoretical and empirical evidence have identified both micro- and macro-economic determinants,[4] sometimes enriching the analysis with extra-economic influences such as political, institutional, cultural, social and even psychological factors.

Despite the fragmentation of the theories, the main (economic) approaches to DFI are chiefly focused on the international production to which DFI gives rise rather than on DFI as capital flow. In this sense, one should define more appropriately such approaches as theories of international production or theories of multinational enterprises; this is because, unlike other cases of capital flows, in the case of DFI the ownership of the capital is retained, so that the financial flow is mostly only the means to activate international production, which is the real underpinning of the whole phenomenon.

In this regard, a common assumption - or a necessary precondition - towards this international involvement consists in the possession by part of the investing enterprise (or the

[4] Within the macro-economic determinants we can distinguish between 'push' and 'pull' factors, according to whether the perspective of analysis is, respectively, the investing or the host country.

'investing country') of some sort of advantages (technological, organisational, managerial, marketing, financial, etc.). Besides this communality, various theories explain DFI by adding some other necessary conditions, which in turn correspond to different theoretical framework.

Hymer (1960)[5] identifies the so-called oligopolistic 'ownership advantages',[6] which (more than) compensate for the disadvantages that a foreign firm, as opposed to a local firm, faces when producing abroad.

Based on quite similar assumptions, Buckey and Casson (1976) explain the existence of DFI and multinationals as a consequence of the internalisation (direct exploitation) of the 'intangible assets'. This is due to the fact that the transfer of these assets through arm's length transactions seems to be limited, not profitable or impossible, given a number of market failures.[7] Hence, the more favourable exploitation of these assets through the internal hierarchical structure (foreign affiliates), rather than through the market,[8] explains the very existence of multinationals.

Some other approaches have transposed the analysis from the micro- to the macro-level, thus identifying the source of the advantages or other determinants of DFI in country-specific factors.[9] Typically, country-specific determinants have been identified by the product-cycle theory of Vernon (1966), with innovation and demand dynamics determining the life of the product and hence the DFI flows. However, the most macro-oriented explanation of DFI has probably been given by Kojima (1973 and 1978) and Ozawa (1978), who, though putting factor endowment as the focus of their analysis, postulate the existence of some

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[5] His theory was successively refined and popularised by Kindleberger (1968).

[6] The ownership advantages as an explanation of DFI are not very compatible with the assumption of a perfectly competitive market. A situation in which a firm possesses over the long run some technological, organisational or marketing advantages is likely to be coupled with some degree of market imperfection. It is for this reason that Hymer associated the DFI with a monopolistic or oligopolistic firm strategy, following the industrial organisation approach in his analysis.

[7] It is interesting to observe that the reasons why a firm internalises the market are not just confined to the oligopolistic nature of competition (as basically assumed by Hymer (1960)) but they refer to a wider set of situations such as those due to market failures (asymmetric information, uncertainty, moral hazard, etc.). In these cases, hierarchical institutions such as the enterprises can perform better than how the market would do.

[8] This approach finds its theoretical support in Coase's (1937) analysis, which originated one of the new streams in institutional economics.

[9] An approach that identified a typically country-specific advantage was proposed by Aliber (1971), that explained DFI through the imperfections of international financial market and the premium on hard currencies.

country's technological and managerial advantages (superior production functions).

Finally, as a compromise among the different approaches, the eclectic paradigm of Dunning (1979 and 1981) considers both the typically micro- (ownership and internalisation advantages) and macro-economic (locational advantages) determinants as necessary conditions for a general explanation of DFI, relating them to firm-, sector- and country-specific influences.

2.3. New Trade Theories: Towards a Dynamic Notion of Competitive Advantage

Whereas the increased role of innovation and technology in production and industry has shown, for a long time, the need to incorporate the above-mentioned factors as core analytical elements in the explanation of international trade, the very existence of an analytically strong, internally coherent and formally elegant model such as HOS[10] has retarded the attempt of shifting towards more realistic views of international trade.

This static model of general equilibrium is in fact based on a number of assumptions (such as perfect competition, decreasing returns to scale, perfect domestic mobility of factors, universal and costless access to technology, international immobility of factors of production, full employment, etc.) which are in open contrast with the modern industrial production, characterised instead by the central role of innovation, as well as by economies of scale, external economies, technological asymmetries, oligopolistic competition, product differentiation, etc.

In this respect, it is only apparently paradoxical that one of the first attempts to provide an explanation of international trade based on the modern and dynamic factors of industrial development was the product cycle, an approach rooted in the DFI theories, which, since their first appearance, had proved totally incompatible with the major tenets of neoclassical economics.[11]

However, from the product cycle onwards, not many other approaches to international trade or to internationalisation have been able to incorporate effectively most of these

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[10] This model that still represents one of the core parts in all handbooks of international economics is built on the contributions of Heckscher (1950) (the original text in Swedish was published in 1919), of Ohlin (1933) and of Samuelson (1948).

[11] An exception is represented by Kojima (1978) and the Japanese school.

dynamic elements. In this respect, also the lack of integration between the theory of international trade and the one of DFI can be seen as the result of a difficulty in incorporating these analytical dynamic elements into the models of trade.

More recently, one of the most important theoretical advances that allowed, at least conceptually, to depart significantly from the HOS static view on international trade, has been the introduction of space as analytical dimension (Krugman 1991).

In particular, countries (or regions) are less and less regarded as abstract and a-spatial entities with instantaneous domestic factor mobility; on the contrary, the space defines the economic and industrial context in which the various determinants of competitiveness may dynamically interact. In this way, competitiveness is regarded as a phenomenon which impinges on national and regional development trajectories, which are unique and whose changes are the result of a cumulative process. In other words, 'history', being embedded in space, influences any further change (path-dependency), so that competitiveness (or more generally development), once attained, has a rather long-term profile.[12]

Confining ourselves within the international trade literature, noteworthy are at least two contributions. The first is represented by the rediscovery of economic geography and development theory by Krugman (1991 and 1994), who has considered the phenomenon of concentration particularly through the concept of external economies, in their various forms and dynamic inter-acting.

The second contribution, which is more general and empirically oriented, is found in Porter (1989), who develops the concept (that will be widely used in this paper) of competitive advantage. As in the comparative advantage, he focuses the analysis on the industrial specialisation of a country, specialisation which is however due to a very different kind of competitiveness from the one envisaged by HOS. Apart from the fact that Porter considers a concept of absolute rather than comparative advantage (given the international mobility of factors as in the case of DFI), competitiveness is, in his view, an industry- and country-specific phenomenon resulting from the dynamic and synergic interaction of four determi-

[12] This vision, antithetic to the neoclassical world of 'reversibility', is shared in different forms by many branches of economic and development theories. Some examples are represented by the 'cumulative causation' of Myrdal (1957), the path-dependency (see Krugman 1991), and, in the field of industrial economics, all the studies influenced by an evolutionary perspective (Nelson and Winter 1982).

nants (labelled as the 'diamond'): factors conditions, demand conditions, industry structure and rivalry, and supporting industries (sort of Hirschman's linkages). Among the various implications of his view is that competitiveness, though still recognised as an enterprise phenomenon with its micro-economic dimension, is very much influenced by the environment (the specific industry in a given country), which is the result of a proper system of synergic inter-actions. In this way, despite the dismissal of HOS, the trade specialisation of countries is still a meaningful category of analysis, but its explanation must be mostly sought in created and dynamic advantages rather than in the exploitation of a given factor endowment.

2.4. Competitive and Comparative Advantage in the Relation between International Trade and DFI

Searching for a long-term macro-economic explanation of the relation between export and DFI (this latter interpreted as international production) means basically to relate the two phenomena to the country's competitiveness - the *primum mobile* of both – a relation which however depends critically on how competitiveness itself is conceptualised.

At the risk of an oversimplification, two extreme views can be taken in analysing trade and DFI flows, as well as their relation with the country's competitiveness in a certain industry: the comparative advantage, in its "Flying Geese" formulation,[13] and the competitive advantage of orter. Both attempt to explain the industrial composition of trade and DFI flows and how they can be related to some macro- and country-specific determinants.

[13] The first attempt to integrate the analysis of international trade and long-term capital movement (among which one could include DFI) was developed by Mundell (1957) within the neoclassical theory of the comparative advantage. By assuming barriers to trade (and obviously relaxing the HOS assumption of no capital movements), he showed that capital movements may substitute for trade, as capital would flow from the capital-rich to the capital-poor country. In terms of factors' remuneration, the effects should be the same as those caused by international trade.The work of Mundell (1957) seems to provide an intuitively appealing explanation of why capital flows should be a substitute and not a complement for trade flows. However, his analysis is not only affected by the neoclassical problem of measuring and defining capital without ambiguity, but it also applies if DFI is basically conceptualised as simple capital transfer. On the contrary, it must be stressed that DFI should be seen as a transfer of a 'package' of resources (especially technological know-how). In this respect, if one wants to use HOS to analyse DFI, it is preferable that the latter is conceptualised as a transfer of technology that shifts outward the production frontier of the host country, rather than as a capital flow affecting factor endowment . That was what Kojima (1978) did.

Sticking to the neoclassical comparative advantage principle, the Flying Geese assumes that a country's sectoral specialisation of export is due to its factor endowment. With the progressing of development and the rising of per capita income, the factor endowment changes in favour of a greater availability of capital. As a result of this process, the export specialisation also changes towards more capital-intensive industries.

However, assuming that an industry, though declining because of the changes in factor endowment, still possesses (as inheritance from its past specialisation) a sort of 'superior technology', then there is a case for DFI outflows towards lower income countries, so that their 'superior' technology is exploited with the appropriate factor endowment.

According to the Flying Geese hypothesis, DFI outflows should correspond to an erosion of the comparative advantage, and hence of the export position, in the same industry of the investing country. At the same time, DFI should allow for the development of the same industry with positive export flows from the host country, partly even directed to the investing country itself. While the dynamics of these various flows may be not so perfectly timed as predicted by the theory, eventually the industrial composition of both DFI outflows and export should tend to be dissimilar and opposite in the investing country, with DFI concentrated in industries with comparative disadvantage and export concentrated on industries with comparative advantage.[14]

On the contrary, the competitive advantage, which sees the ability to export in certain industries as created by a number of dynamic forces, and not simply due to factor endowment,[15] conceptualises DFI in much the same way as export.

A substantial worsening in the export performance of a certain industry would thus look like a decrease in the ability of sustaining innovative capacity and competitive advantage, namely the same abilities which lie behind the undertaking of DFI. In this way the similarity in the industrial composition of DFI outflows and export in an investing country

[14] In Kojima's (1978: 83-102) opinion, the dissimilarity between the industrial composition of DFI and the one of export is actually typical of the Japanese model. The American model is considered by Kojima to be quite the opposite, with DFI concentrating on the same innovative and oligopolistic industries as export.

[15] To be precise, the concepts of competitive and comparative advantage are not totally divergent, since the 'supply side' of the competitive advantage also incorporates the factor endowment. However, aside from this aspect, the two concepts are so different that it is basically correct to analyse them as antithetic.

can be explained. In this sense DFI outflows and export have to be complementary, since most of the determinants are common and push[16] both phenomena in the same direction.[17]

Using the dichotomy 'competitive-comparative' (also corresponding to the one 'complementary-substitutive') it is interesting to interpret two major contributions to the integrated analysis of export and DFI. It will be easily shown that both approaches can be seen as a mix of the competitive and comparative advantage, with a probable predominance of the former.

Dunning's (1981) "eclectic" theory sees both export and DFI as influenced positively by ownership and internalisation advantages (tab. 2.1), so that these two kinds of advantage may account for the complementarity between export and DFI. Yet, there are locational conditions (neo-factorally broadened with respect to the sole undifferentiated labour and capital endowment),[18] which still determine whether the advantages are exploited through export or through DFI. Thus, with respect to the locational conditions, DFI and export are substitutes, even if, empirically speaking, these substitution effects may be hidden or overwhelmed by the influence of the complementary effects, such as those due to the ownership and internalisation advantages.

[16] The competitive advantage can also be seen as a 'pull' force. Recent literature (Dunning 1998, Becattini and Rullani 1993) has underlined the positive impact of both local dynamic factors of competitiveness and industrial contexts on the locational choices of multinationals. Actually, in a theoretical perspective, if we really want to substitute the comparative with the competitive advantage, we should have a more 'general equilibrium approach', which takes into account both sides of internationalisation process, namely the interplay of the competitive advantage of one country with those of other countries.

[17] It is interesting to observe that the complementarity of export and DFI, from the point of view of the investing country, does not mean that the DFI is necessarily anti-trade oriented, as was in Kojima's model. Both the investing and the host country can in fact export, either because there are third countries or because of intra-industry trade (i.e. in many industries the major exporting countries are also the major importers).

[18] Dunning considers as locational conditions not only supply factors but also local demand. However, if for a moment we supposed to be in a HOS world (notably, with perfect competition and absence of transport costs) local demand would not be anymore a condition that favours DFI more than exports.

Tab. 2.1: Alternative Routes of Servicing the Market (or of Internationalisation)

		Advantages		
		Ownership	Internalisation	(Foreign) Location
Route of servicing the market	DFI	Yes	Yes	Yes
	Exports	Yes	Yes	No
	Contractual Resource transfer	Yes	No	No

source: Dunning (1981)

On similar lines, and before Dunning's analysis, Vernon (1966) integrates the analysis of trade and DFI in the product cycle approach, showing that both are determined by home country conditions such as dynamics in the innovation and in the demand. However, Vernon's approach also foresees a well specified sequencing between export and DFI flows, with the former preceding the latter according to either the process of product maturing or the locational conditions, which play a similar role as in Dunning's paradigm.

Overall, analogously to what assumed in the eclectic approach, dynamic competitive factors (i.e. technology gap, changes in consumer taste, oligopolistic competition, etc.) may be predominant in explaining export as well as DFI, both seen, however, as alternative forms of internationalisation.

In any case, the product life cycle approach, originated by a generalisation of business cases, had been conceived for - and applied to - a specific analytical category: the product. The implications of this approach on different levels of analysis such as an industry or the whole country's economy are not very strict, given that, in a certain moment, the various product may be at a different stage of their life-cycle.[19]

2.5. The Complementarity Hypothesis: Competitive Advantage versus Other Interactions between DFI and Export

So far, DFI and export have been seen as responding to some common macro-determinants. Indeed, it has been argued that a dynamic notion of competitive advantage

[19] When the empirical analysis is carried out at industry or aggregate level, 'overlapping generations' of products could contribute in hiding a genuine substitutability between export and DFI.

may explain the complementarity between DFI and export, while a view sticking more to the neoclassical static approach would tend to see them as substitutes.

The empirical evidence would seem to support the hypothesis that export and DFI are complementary and respond in a parallel way to some common determinant. Some authors (Dunning 1979; cf. also the next chapter of the present paper) underline in fact a certain similarity in the sectoral composition of export and DFI (with the exception of Japan in the 70s); furthermore, the distribution across sectors of both variables seems to respond, though not in a totally symmetrical way, to some common determinants, in turn somehow related to the dynamic factors of competitiveness. Evidence of this latter correlation is found in the USA for factors such as R&D and human capital (Baldwin 1979, Zhu 1992).

On the other hand, if competitive advantage may offer a valuable and (apparently) empirically supported interpretation for the complementarity between DFI and export, the relation between these two phenomena appears to be quite intricate, so that one could also envisage many other possible explanations to account for their complementarity. For example, micro-economic factors, which are not reflected in the country's competitive advantage, may also exert notable influences.[20] In particular, DFI and export may be inter-related, not just indirectly through the communality of determinants, but also directly, in a way that, in functional terms, can be interpreted as a proper or genuine causality.

In this regard, the most important direct linkage is probably due to the direct influence of DFI on trade, through infra-firm trade, as well as to the 'additional' market penetration that DFI, in oligopolistic frameworks, may confer to export. While the DFI theory would support quite naturally this view, given that some of its major underpinnings can be found in both the internalisation theory and the imperfect and oligopolistic competition, some empirical evidence may also suggest the relevance of this linkage. Not only infra-firm trade accounts for a substantial and growing share of total international trade, but sectorally disaggregated econometric evidence also shows that the higher the DFI stock of an investing

[20] Kojima (1978) explained in this way the similarity in sectoral composition of export and DFI from the USA. Since he strongly believed in the HOS, he could not accept a complementarity justified on communality of dynamic competitive factors. Consequently he also interpreted the American DFI and export similarity as the proof that the former was anti-trade oriented.

country in the host-country, the higher the export share pertaining to the investing country in that specific market (Lipsey and Weiss 1981 and 1984).[21]

If there is some evidence of a true correlation between export and DFI, the possibility that the causality may run from export to DFI cannot be immediately ruled out, though relatively less attention has been paid to this latter possibility. For example, the product cycle model seems to suggest that export precedes DFI,[22] though the sequence is mainly due to common determinants, and furthermore their relation is inverse.

Nonetheless, a further observation on export determining DFI is inspired by what Vernon (1979) himself observed when revising his theory in view of the global changing environment. He argued that the explanatory power of his approach had been declining over time, but it was still relevant when applied to smaller firms rather than to real multinationals, which he saw as 'global scanners'.

To some extent, the idea that export may determine DFI in the case of smaller enterprises (while in the case of proper oligopolistic multinationals the other way round is more likely) can be strongly backed taking an evolutionary perspective in explaining enterprise behaviour (as for example Nelson and Winter 1982).

Particularly in the field of management studies, the causal link from export to DFI, or at least the fact that export precedes DFI, is quite acknowledged by the so-called theories of the 'stages of internationalisation' (Welch and Luostarinen, 1985). In these theories, international commitments have *per se* a higher degree of management-intensity compared to domestic transactions. Furthermore, also the various forms by which an enterprise may internationalise present a varying degree of management-intensity: the lowest degree being found in indirect export (that is export through intermediaries), while the highest is in fully-owned DFI. The idea is that an enterprise will experience gradually the various stages of interna-

[21] Part of the correlation may be spurious. The list of latent variables that may determine a spurious correlation is very long, and includes the size of the country, the region to which the country belongs, the structure of the demand, various extra-economic factors, transaction costs, etc.

[22] This goes back to a more general problem: whether, and to what extent, we can interpret the temporal sequence as revealing the direction of causality between variables. In econometrics this problem is tackled by the Granger test, which has also been used to ascertain how the causality runs between DFI and export or DFI and growth. Nonetheless, the question of how genuine or spurious the relation between export and DFI is, in a model like the product cycle, remains open. For instance, how exogenous or endogenous is the maturing of the product with respect to export?

tionalisation: each stage will allow the enterprise to accumulate the necessary experience and learning-by-doing, so as to pass to the next, and more difficult, stage.

It is finally interesting to observe that the evolutionary perspective in general, and the evolutionary perspective towards internationalisation in particular, is more applicable to SMEs than to big enterprises. This finding descends from both the theoretic and the empirical literature on the SMEs[23]. SMEs as opposite to big enterprises are less involved in DFI, since this kind of activity is management-intensive, uncertain and risky. Yet, the involvement of the SMEs in easier and less risky forms of internationalisation (such as export) may allow the acquisition of information and of experience which can be in turn useful for undertaking more committing initiatives as DFI. In this regard, information and experience can be seen as one of the best antidotes to the uncertainty and the risk associated with DFI (Arrow 1972; Mutinelli 1997). Thus, the gradual and progressive involvement in international initiatives appears as an efficient way of acquiring the necessary experience that eventually may allow the undertaking of DFI initiatives by part of the SMEs.

If we combine this consideration with the fact that, instead, the positive DFI impact on export is more plausible in the case of big enterprises (because, for example, of the relevance of oligopolistic competition, on one side, and of the low significance of 'experience' or learning effects, on the other), it follows that the kind of interaction existing between export and DFI is not independent from a structural characteristic like the enterprise size, but, on the contrary, it may be strongly influenced by it.

2.6. Summing up on the relation DFI-Export

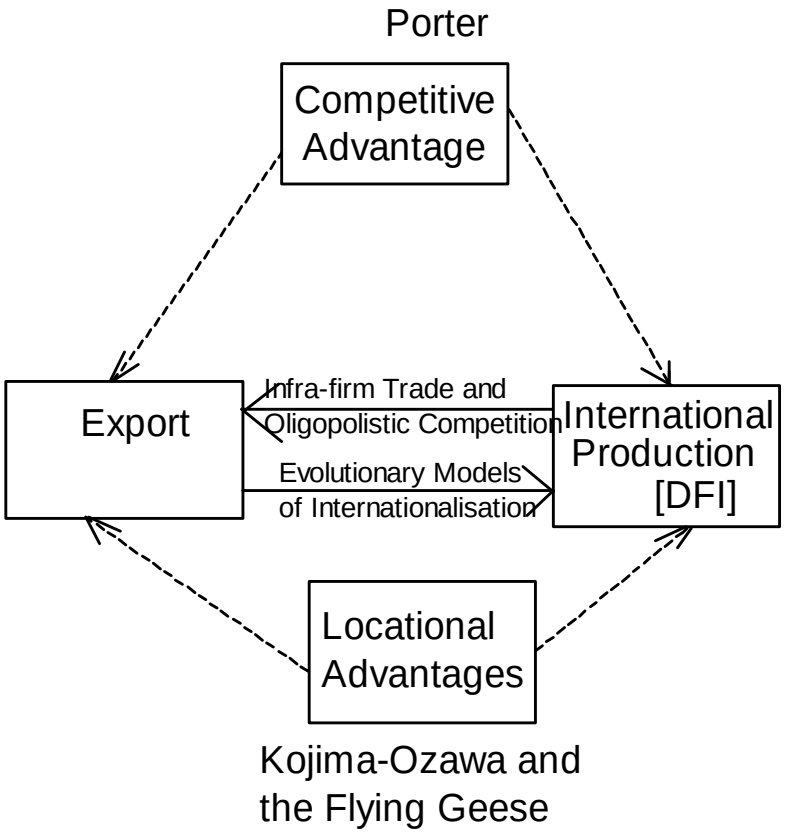
As discussed at length in the preceding sections, export and DFI may be linked in different, but not mutually exclusive, ways, as summarised in Figure 2.1 below. Yet, as already stressed, in principle the parallel influence of common factors on both export and DFI, whether identified in the dynamic factors of competition *à la* Porter or in the traditional factor endowment, should be conceptually distinguished from a proper causal link (of microeconomic nature) between the two phenomena.

[23] For the internationalisation of the SMEs see also par. 2.8. and chapter 4.

Now, the problem with this reasoning is that, since the competitive advantage is not exogenous (as is the case for the 'superior production functions' of Kojima), but rather it is, in turn, influenced by micro-economic factors, it is difficult to distinguish the sources of the complementarity between trade and DFI. In other words, do micro-economic factors make DFI and trade complementary directly or through a positive influence of the competitive advantage?

A case in point is the oligopolistic competition. Assuming a Schumpeterian view, oligopoly has a positive impact on innovation, and hence on the competitive advantage. At the same time, oligopolistic DFI may influence export in a positive and direct way, for example through infra-firm trade.

Figure 2.1.: Relation between Export and DFI



*Arrows indicate the direction of causality

To some extent, the complementarity between American DFI and export found across different countries (Lipsey and Weiss 1981, 1984) should highlight more the direct and micro-economic linkages between the two phenomena. Besides, cross-industry similarities between DFI and export should emphasise the common origin of the phenomena, especially if the latter also appear correlated with factors in their turn related to the country's competitiveness. Nonetheless, it is very likely that both complementarities tend to reinforce each other.[24]

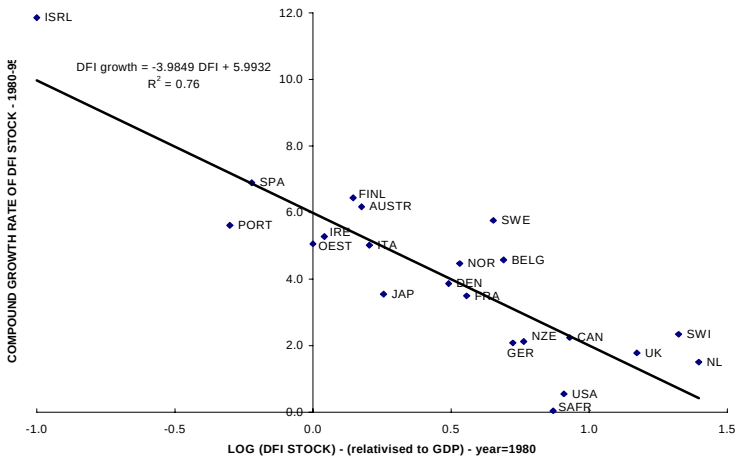
2.7. The Spread of DFI Outflows: Is DFI Growth Complementary to Export?

What is quite clear in the global economy is the increasing number of countries involved in investing abroad. While in the 50s DFI outflows were a typical American phenomenon, already in the 70s new investing countries were emerging (i.e. Germany and Japan) (Dunning 1979), though the spreading of DFI outflows has become particularly diffused among developed countries only in the 80s and early 90s, as indicated by Figure 2.2. On average, the countries which exhibited lower levels of DFI stock in 1980 were those which, instead, experienced the highest growth during the period 1980-95. The process of convergence in the level of DFI stock among developed countries is demonstrated by the inverse relation holding between levels and growth rates, highly significant and well fitted in econometric terms[25].

[24] Furthermore, not only the plurality of linkages between export and DFI casts doubts on how genuine or spurious the correlation between the two phenomena is, and on how the causality runs, but also substitution effects, though empirically overwhelmed by complementarity effects, may or may not be hidden at different levels, making it more difficult to ascertain the strength of the complementarity relation, if substitution influences had not been there.

[25] The t-statistics for the slope coefficient and the constant are, respectively, -7.96 and 16.43. Both coefficients are significant well above the 1% level.

Figure 2.2: Compound growth rate of DFI stock (1980-95) and DFI stock (1980) (log) – developed countries - values relativised by GDP



Source: elaboration from Unctad (1996) and Unctad (1997)

Another way at looking at this phenomenon is to compare the world shares of both export and DFI (Tab. 2.2.). It appears clearly that, overall, the various countries are converging towards a more similar balance between these two forms of international involvement in the period from 1980 to 1995. The countries' distribution of the normalised ratio between DFI and export has decreased its variability (the standard deviation lowering from 1.04 to 0.75) and its skewness (with the median approaching the average).

It seems therefore confirmed that, overall, development itself represents the long-term determinant of a country's involvement in DFI: while developed countries seem to converge towards a comparable level of DFI, developing countries display a modest propensity towards this kind of international expansion.[26] Moreover, the spread of DFI outflows across developed countries has brought about a more similar and balanced pattern between these two forms of international expansion. In particular, the convergence in the DFI flows seems to have been attained thanks to a very dynamic growth in DFI coupled with a more stable performance of exports. Furthermore, in spite of being relatively stable, the export shares across countries do vary, and (on average) in the same direction as the DFI shares

[26] Developing countries' interest for DFI concentrates on the inflows, whereas DFI outflows still account for more than 90% (Table 2). Furthermore, the minority share of DFI corresponding to developing countries is to be related for a significant part to the NICs, which cannot be properly considered as developing countries.

(fig. 2.3.)[27], thus suggesting an overall relation of complementarity between the two phenomena.[28] In other words, the growth of DFI does not appear, *ceteris paribus*, to have affected negatively the export performance; this would suggest that DFI can be an additional, and not an export-substituting, form of internationalisation.

Tab. 2.2: Comparison between world shares of DFI and export - developed countries - years 1980 and 1995

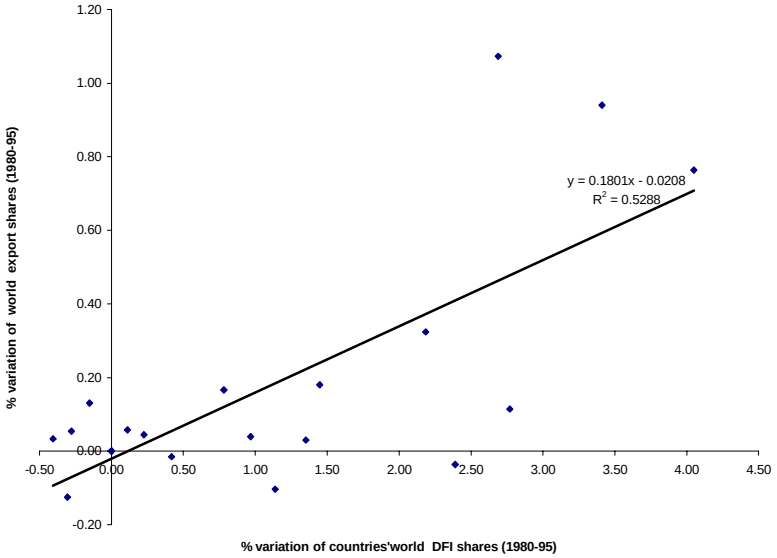
	1980			1995		
	DFI share (a)	Export share (b)	(a)/(b)	DFI Share (a)	Export share (b)	(a)/(b)
Austria	0.14	0.86	0.17	0.46	1.14	0.40
Belgium/Lux.	1.16	3.19	0.36	2.29	3.32	0.69
Denmark	0.40	0.83	0.48	0.71	0.97	0.73
Finland	0.14	0.70	0.20	0.54	0.78	0.69
France	4.55	5.74	0.79	6.45	5.65	1.14
Germany	8.31	9.54	0.87	9.24	10.08	0.92
Ireland	0.04	0.42	0.09	0.14	0.86	0.17
Italy	1.41	3.86	0.37	3.45	4.56	0.76
Netherlands	8.12	3.66	2.22	5.86	3.85	1.52
Portugal	0.02	0.23	0.10	0.10	0.44	0.22
Spain	0.24	1.02	0.23	1.19	1.81	0.66
Sweden	1.08	1.53	0.71	2.54	1.57	1.62
UK	15.50	5.45	2.85	10.77	4.76	2.26
Norway	0.37	0.92	0.41	0.80	0.82	0.97
Switzerland	4.14	1.47	2.83	5.08	1.53	3.32
Canada	4.35	3.35	1.30	3.69	3.79	0.97
USA	42.43	11.15	3.80	25.23	11.52	2.19
Australia	0.44	1.09	0.40	1.48	1.05	1.41
Israel	0.01	0.27	0.02	0.15	0.37	0.39
Japan	3.63	6.45	0.56	10.91	8.73	1.25
New Zealand	0.25	0.27	0.94	0.25	0.27	0.94
S. Africa	1.10	1.26	0.87	0.36	0.55	0.65
Total	97.84	63.24	1.55	91.70	68.44	1.34
Simple average			0.94			1.09
Median			0.52			0.93
Stand. Deviation			1.04			0.75

Source: elaboration from Unctad (1996) and Unctad (1997)

[27] The t-statistics for the slope coefficient and the constant are, respectively, 4.94 and 0.93. While the constant coefficient is not significant (this is a quite reasonable result since we are dealing with the variation in the DFI and export shares), the slope coefficient is highly significant (above 1%).

[28] If DFI would substitute for export, then the convergence in the balance between export and DFI should be even stronger and faster, because also the export change would contribute to it.

Figure 2.3: Comparison between the % variation in the world shares of DFI and in those of export - developed countries* - years 1980 and 1995



Source: elaboration from Unctad (1996) and Unctad (1997)

* Israel excluded as outlier (see also Figure 2.2)

By looking at DFI as a way of exploiting a country's competitive advantage, it becomes clear that this kind of exploitation arises only at a rather mature stage of development; hence export precedes DFI as a form of international involvement. At the same time, not only export 'reveals' the sort of competitive advantage of a country, but it probably provides some valuable experience for further international deepening under DFI. If we assume that DFI requires a dynamic competitive advantage, it is very unlikely that its growth is coupled with a deteriorating export performance: the latter would instead represent the manifestation of a declining competitive advantage.

Although the aggregate level of the data would not allow to support rigorously the hypothesis of the DFI-export complementarity as a key-path for the DFI convergence,[29] sectorally disaggregated data (Dunning 1979) showed that, at least partially, already in the 70s the industrial

[29] Theoretically, the complementarity between export and DFI found at aggregate level is still compatible with a sectoral dynamics of export and DFI *á la* Kojima: declining industries substituting DFI for export and growing industries improving their export performance. Thus, in order to analyse rigorously the complementarity relation between export and DFI, one should possess a detailed sectoral breakdown of the two variables.

composition of DFI was following, with the exception of Japan,[30] that of export (though taking industry-specific factors into due account). Such an evidence has been reinforced by more recent studies on the similarity of the determinants of DFI and export at cross-industry level.(Zhu 1992)

What instead is less convincingly explained is not so much the phenomenon of convergence in itself, but rather the reasons why countries get involved in DFI at different times and, despite the convergence, with a different intensity. To deal with this problem, Dunning (1979 and 1981) related the three basic variables of his eclectic approach to development and explained the expansion of DFI at the advanced stage of development as the combined effect of the worsening in the domestic locational conditions and of the improvement in the ownership and internalisation advantages.

Although his reasoning could well explain the structural differences in the international involvement between developing (only export) and developed countries (export and DFI), Dunning himself (1979) realised that the stage of development was only one of the various factors explaining the export/DFI ratio of a country or, more simply, its absolute DFI propensity, given that countries at a comparable (and high) stage of development still showed a very different internationalisation pattern. In the end, Dunning admitted that DFI has a high margin of unpredictability, possibly due to a great number of extra-economic, and to some extent non-measurable conditions, such as political, historical, cultural and even psychological factors.

2.8. DFI, Exports and the Internationalisation of the SMEs: Some Implications at Country level

Among the various factors that may influence the internationalisation pattern of a country, scarce attention has been paid, so far, to the impact of enterprise size. Cross-country comparisons and country-level studies have rarely addressed the question that the differences

[30] With respect to DFI, the Japanese model has been less antithetic to the American model than Kojima (1978) and Ozawa (1985) suggested. Though it is true that, for some time, DFI flows had been relatively more abundant in labour-intensive and mature industries (i.e. textile, sundries and simple electric appliances) and relatively less abundant in capital-intensive industry (i.e. cars), the situation changed radically in the 80s, so that also in the case of Japan the export and DFI sectoral composition have become more similar.

in the internationalisation pattern may be due to the enterprise size[31] and, consequently, to the industrial

organisation prevalent in a country.[32]

To some extent, the enterprise size, though widely analysed in micro-economic studies relative to export and DFI, has not been properly considered or fully understood as a country specific characteristic *per se*, rather than as the obvious result of other 'deeper' economic variables, such as domestic market size, nature of market competition, stage of development, sectoral composition of the economy, etc. Moreover, since social, historical, cultural and institutional factors[33] also influence strongly the industrial organisation, conventional economic explanations cannot fully grasp the systematic difference in enterprise size across countries.

Overall, the enterprise size is a factor which enjoys quite a considerable degree of variability and specificity across countries; hence it deserves an independent and particular attention, given the complexity of the variables which influence it. This comes especially true in analysing the internationalisation pattern of a country, a pattern which cannot but reflect the industrial predominance of a certain enterprise size, with its own characteristic path towards international involvement.

A convenient way of looking at the influence of the enterprise size on the international involvement is to distinguish between SMEs and big enterprises. In this regard, from the early 80s onwards, the theoretical and empirical literature, while placing a renewed interest on the role of SMEs in general, has also emphasised the significance of their role beyond local or national boundaries. As a result, the excellent world export performance of SMEs in

[31] The enterprise size in a country should not be seen just in terms of the average size (i.e. employees, turnover, assets, etc) of the country's enterprises or of the corresponding plants, but more subtle aspects pertaining to the industrial organisation should also be considered, such as, for example, the power of big enterprises to influence the decisions of the small ones.

[32] A case in point are also the cited works of Dunning (1979 and 1981).

[33] Examples of these latter factors are the individual propensity towards risk and initiatives, the availability of latent entrepreneurship, the family ties, the attitude towards the hierarchy, etc.

certain industries has been a proof that also smaller productive units can achieve a true international competitive advantage.[34]

On the other hand, empirical evidence, until recently, has been very clear about the low propensity of SMEs for productive internationalisation, at least in the traditional form of fully-owned DFI (Horst 1972).[35] Thus, in general, it is quite straightforward to conclude that, given a certain country's competitive advantage, the more the latter is spread among - and due to - SMEs (instead of being concentrated in few big firms), the higher is the country propensity to exporting rather than making recourse to DFI.

While the previous assertion may help explain the lower propensity to DFI in countries with a high incidence of SMEs, it also opens a more interesting field of analysis. It seems in fact that the emergent global business environment offers new opportunities, as well as exerting new pressures, on SMEs in view of a greater and deeper degree of internationalisation. If big enterprises are now moving towards the acquisition of the typical sources of SMEs' competitiveness (i.e. flexibility, active participation of labour force, greater integration with the local environment, etc; cf. Becattini and Rullani 1993), SMEs are also moving onto a typical terrain of the big enterprises, namely towards more advanced forms of internationalisation.

In this regard, fresher evidence suggests a still modest but growing involvement of SMEs in DFI (Unctad 1993, Mutinelli 1997),[36] a phenomenon which might also contribute to explaining why certain developed countries with high incidence of SMEs and low level of DFI, and especially with low DFI/export ratios, are now catching up with the others.

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[34] The innovative capacity and the competitive advantage (that is one of the main prerequisites of DFI) of SMEs appear to have been largely understated, given also a misconceived notion of innovation, which limits it to formal R&D and patent.

[35] This evidence has been justified on several grounds, like scarcity of managerial and financial resources, limited information and rationality, risk aversion. Although most of these factors have been deemed related to the modest absolute size of the enterprise, also the relative size of the enterprise with respect to its own industry, and hence the lack of monopolistic or oligopolistic power, may be relevant in explaining the modest involvement of SMEs in DFI.

[36] The greater involvement has been deemed beneficial not only for the investing but also for the host countries (White and Campos 1986). Particularly for low- and middle-income countries the greater involvement of SMEs in productive internationalisation (DFI or other forms of technology transfer) carries the benefits of lower bargaining power compared to proper multinationals, transfer of more appropriate technologies (small-scale, labour-intensive and employment-creating, easy for assimilation, etc.), as well as promotion of a SME-based development model (Unctad 1994).

Furthermore, scattered evidence indicates a marked preference by part of SMEs for non-equity forms of productive internationalisation.[37] These forms of productive internationalisation not only may bring about similar effects as DFI, but they also demonstrate the existence of some of the pre-conditions required for the eventual growth of DFI itself.

Since these non-equity forms of productive internationalisation can influence DFI and/or be influenced by it, they can be seen as a 'surrogate' for DFI. Yet, from a dynamic and evolutionary perspective, they may as well exert a positive influence on it,[38] as even DFI may be subject to a process of 'cumulative causation' within certain limits.[39]

To conclude, it must be stressed once again that the analysis of DFI should be better dealt with a general approach towards internationalisation, that is, within the same framework which involves export, DFI and other forms of productive internationalisation. This comes to be even more relevant in the case of SMEs, because of the following reasons.

First, export can be interpreted as an indicator of the technological and intangible assets that SMEs may potentially exploit, also through DFI and productive internationalisation. In general, given the level of export, the less are SMEs already involved in productive internationalisation, the higher should be their opportunities to do so.[40] Though the validity of this hypothesis is at the moment still difficult to verify, the whole set of arguments on the

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[37] Unfortunately the data relative to these forms of productive internationalisation are scarce and come only from limited enterprise surveys. Thus, the empirical analysis, at least at macro- and meso-level, is bound to take DFI as the only reliable indicator of productive internationalisation.
If the focus on traditional DFI is extended to all forms of productive internationalisation and involvement in international production, the role played by SMEs in the global production may appear more important. The broadening of the focus may be justified by the fact that these alternative forms of productive internationalisation may be equivalent to DFI in many respect, with the difference that they are less risky and less intensive in terms of financial and managerial committment.

[38] As in the case of the relation between export and DFI, the plurality of the possible linkages between non-equity forms of productive internationalisation and DFI makes the whole relationship undetermined, unless one assumes the prevalence of certain linkages over others.

[39] Only within certain limits, otherwise it would be difficult to account for the DFI convergence. On the other hand, if we confine the process of cumulative causation to a certain phase of DFI growth, that is the DFI 'take-off', then this process accelerates the convergence. Dunning (1979) used a similar logic when he discussed the catching up of new investing countries with the USA. He argued that DFI may have to reach a sort of critical mass, beyond which psychological and physical barriers start to fall, so that the whole process tends to become a virtuous circle for some time. This can be one of the various reasons why countries undertake DFI at different times and display an apparent contradiction between their high level of development - or of 'competitive advantage' - and their low level of DFI.

[40] Yet, it remains unclear to what extent there exist exogenous or endogenous changes that make the undertaking of DFI a concrete option in SMEs' internationalisation strategy.

complementarity between export and DFI, and on the convergence of the latter, tend indeed to support it.

Second, export may provide the necessary experience for productive internationalisation. This implication, less relevant in the case of big and already multinationalised firms, appears to be instead more significant for SMEs, which are facing their first experiences with productive internationalisation.

Third, increasingly relevant seems to be the *continuum* existing between certain forms of productive internationalisation and DFI, a *continuum* that becomes even more central in the case of SMEs. In fact, a relevant part of the DFI carried out by SMEs seems to be justifiable more by market failures rather than by oligopolistic strategies in the proper sense (see for example the high incidence of joint-ventures). In this respect, the non-equity forms of productive internationalisation, such as sub-contracting, technological partnerships or firm networks, may really arise from motivations similar to those that justify DFI, whereas the effects tend to be the same[41]

2.9. Summary and Conclusions

If a key-word had to be chosen for summarising this chapter, "convergence" would be it. Four inter-connected convergences have in fact been identified.

First, there is a structural convergence between the theoretical explanation of export (or more generally international trade) and DFI.

Second, there is an empirical convergence as DFI and export have been claimed to be structurally (industry- and country-wise) complementary.

Third, a further convergence derives from the empirical observation that developed countries move towards more similar levels of DFI, and consequently a more similar balance emerges between DFI and export. This rather 'dynamic' convergence can perhaps be explained with the help of the above points.

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[41] Given that DFI flows are studied for their productive, rather than financial, dimension, it does not seem justified to exclude from the analysis the other forms of productive internationalisation. Their inclusion could indeed represent a remedy for the discrasy existing between the object of the analysis (DFI) and its correspondent tool of analysis (international production).Unfortunately, their exclusion in most empirical analyses is often dictated by the lack of reliable and systematic data. In this regard, see for instance Grandinetti (1993), who talked about the 'hidden internationalisation' ('*internazionalizzazione nascosta*') of the Italian SMEs.

Fourth, the final, and probably the weakest, convergence is found in the pattern of internationalisation of SMEs, a pattern which is getting more similar to the one of big enterprises. Indeed, it seems that SMEs are moving towards DFI and, more importantly, towards other forms of productive internationalisation. To the extent that a country displays a high incidence of SMEs, its whole internationalisation pattern will reflect this situation.

3. EMPIRICAL EVIDENCE

3.1. Introduction

The present chapter attempts to uncover and interpret some peculiar characteristics of Italian DFI by focusing on the comparison between DFI and export.

With this aim in mind, the perspective of the analysis will reflect the conceptual framework exposed in chapter 2. As seen above, such a framework is built on various and heterogeneous ideas which, however, find one of their major conceptual convergences in quite a straightforward proposition, namely that DFI and export should be complementary and hence they should show a similar sectoral composition. This hypothesis, which has to be seen as an exploratory device rather than a rigorously argued proposition, does not apply completely to the Italian case. The Italian industry displays a number of dissimilarities between the sectoral composition of export and that of DFI. Such dissimilarities can be interpreted as important symptoms which reveal crucial and peculiar aspects of Italian DFI and its recent evolution. For this reason they represent the analytic core of the present chapter.

More specifically, this chapter is organised as follows. After presenting some peculiarities of Italian DFI in section 3.2, in sections 3.3 and 3.4 we will verify the sectoral similarity between DFI and export within the Italian industry: in 3.3 a comparison with other investing countries will be made, while in 3.4. we will deepen the sectoral analysis within the Italian industry itself, with a particular regard for its export specialisation. Subsequently, section 3.5 will attempt to explain and justify the eventual lack of similarity between export and DFI by focusing on the unique influence played by SMEs in Italian industry.

3.2. Some Characteristics and Peculiarities of the Italian DFI

When looking at the Italian DFI or multinational involvement, the most evident characteristic is its modest level. This level, compared to that relative to other industrialised

countries, has been extremely low until the early 80s. Only recently (and only partially) the fast DFI growth experienced during the last 10-15 years has reduced the 'multinational gap' of Italy with respect to other developed countries, thus balancing the international involvement of the country, an involvement traditionally more export- rather than investment-based.

In 1980 the world share of Italian DFI (measured as financial stock and including all of the economic activities: primary, secondary and tertiary) amounted to 1.41%, in contrast with an export world share of 3.86%, while in 1995 DFI and export accounted for, respectively, a share of 3.45% and 4.56%, hence a much more balanced situation compared to the previous one, though still relatively export-biased. Typically, developed countries display a relatively higher involvement in DFI than in export: in 1995 developed countries altogether (including Italy) exhibited a DFI world share of 91.70%, which contrasted with an export world share of 68.44%.

Concentrating our attention specifically on industrial DFI,[42] and measuring it in terms of employment in the Italian affiliates abroad, the modest but fast growing level of DFI emerges quite clearly.

Tab. 3.1. below shows the main indicators that give a quantification of industrial DFI. It is quite immediate to observe that the growth rate of DFI cannot be second to any reasonable increase in most macro-economic indicators, a fact that witnesses the progressive intensification of the multinational involvement of Italian industry.

[42] Most of the evidence provided in this chapter is based on data on Italian industrial affiliates abroad and it refers to the database (R&P) held and regularly updated at the Dipartimento di Economia e Produzione at the Politecnico of Milano (see Cominotti and Mariotti 1997). The use of this database is preferable with respect to the use of the data on DFI financial flows compiled by the Banca d'Italia (Central Bank of Italy). Compared to the latter, the former can in fact be considered more reliable and more detailed, though it is limited only to industrial activities.The use of the data on affiliates (mainly regarding employees) is also preferable from a theoretical point of view, since most of the theories on DFI are actually theories of international production rather than theories of capital movements. In the course of this chapter we will use the term 'DFI' for the sake of brevity, though we basically deal with the data on affiliates abroad.

Tab. 3.1.: Italian affiliates abroad - some indicators

	1986	1988	1990	1992	1994	1996	Aver. growth rate (%)
Number of Affiliates	671	811	1033	1321	1600	1842	9.6
Employees (abroad)	238601	358712	430172	543682	577053	595547	8.7
Turnover (billions of liras)	42439	56454	77542	105434	137963	156841	12.6

Source: Cominotti and Mariotti (1997)

As a result of this consistent increase in the multinational involvement, in 1991, for the first time in the history, the number of employees in Italian affiliates abroad outpaced the number of employees in foreign affiliates in Italy (Cominotti and Mariotti 1992).[43]

Nonetheless, despite its dynamic growth, the involvement of Italian industry in DFI could still be considered low, if internationally compared: the employment in the affiliates abroad as ratio to domestic employment was only slightly more than 10% even in 1991 (the same year of the "historic transition" towards the status of net employment-exporter). On the contrary, countries with a comparable economic size, such as France, Germany or United Kingdom, all displayed ratios above 20%. Out of the selected countries in Tab. 3.2. below, only Japan[44] and Norway (in 1981) exhibited a foreign to domestic employment ratio which was lower than the one relative to Italy.

[43] The condition of becoming a net exporter of employment or investment is considered to be in line with the development stage of advanced industrialisation (Dunning 1981) or post-industrialisation.

[44] Nonetheless, it must also be considered that Japan has a bigger economic size and a wider domestic market compared to Italy. *Ceteris paribus*, smaller countries are by definition less open to both international trade and DFI. Consequently, the Japanese DFI involvement can be considered higher than the Italian one. If we look at the export/DFI ratio, this was about 225600 US$ per foreign employee in Japan in 1990, and 317300 US$ in Italy in 1991.

Tab. 3.2.: Employment in affiliates abroad - a comparison among some major investing countries

Home Country	Year	Employment in Foreign Affiliates (as % share of total domestic employment in manufacturing)
Austria	1982	34.1
Finland	1988	36.7
France	1992	30.1
Germany	1992	24.0
Italy	1991	10.8
Japan	1991	8.1
Netherlands	1987	60.5
Norway	1981	2.5
Sweden	1990	47.0
Switzerland	1992	95.5
United Kingdom	1981	22.9
United States	1991	20.8

Source: UNCTAD (1994)

Overall, the low and late DFI involvement that characterises the Italian industry requires further investigation.

In this respect, Onida and Viesti (1988) mention five possible reasons (summarised below) that might account for the modest level of DFI in the specific Italian case;[45] four of these reasons are structural and somehow permanent characteristics of Italian economy, while the fifth refers to policy-related factors, whose direct influences disappeared in the eighties.

1) Enterprise small size. Enterprise size is negatively correlated with DFI involvement; this relation, at least in the past, has proved to be strong and significant (see also section 2.9). In this regard, Italian industry is really characterised by an average enterprise size which is very small: according to the 1991 Industrial Census data, the average enterprise size is 9.54 employees, while industrial enterprises under 500 employees account for 81.8% of total employment.[46] Compared to the other OECD countries, the average size of Italian enterprises is also one of the smallest (Onida and Viesti 1988).

[45] It must be observed that Italy is not the sole developed country displaying simultaneously a low but fast-growing level of DFI (see chapter 1). Yet, it is difficult to ascertain to what extent this is due to common characteristics of the countries in question and/or to more general changes in world economy. In any case, there are certain aspects of Italian industry that appear to have strongly influenced its relatively low involvement in DFI.

[46] Italy is famous for its small enterprises, which are often geographically and sectorally clustered. This phenomenon has become known in the industrial literature under expressions such as Third Italy, industrial district, flexible specialisation (see also par. 4.2.).

2) Industry specialisation. The Italian industry has a marked specialisation in traditional sectors. It is sometimes claimed that these sectors do have in general a lower degree of multinationalisation, also independently from the relatively smaller size of the enterprises which belong to these sectors.[47]

3) Technological inferiority. Italian industry can be depicted as a 'follower' with respect to innovation. In fact, Italian industry has proved to be quite successful in assimilating and mastering new imported technologies, and also in developing minor or incremental innovations, but not in producing proper radical innovations.

In this respect, the low DFI involvement of Italian industry can be due to a lack of competitive advantage, if - and to the extent in which - the latter is related to the capability of carrying out major and radical innovatory activities. Again, also this explanation is not independent from the previous ones. The relative disadvantage of Italy in producing radical innovations can be related both to the small size of its enterprises, given that R&D is risky and scale-intensive, and to the specialisation in traditional industries, where competitiveness is quite independent from basic R&D.

4) Internal development differences. Italy is characterised by a significant economic and industrial development gap between the North and the South. Given its limited industrial development, the south is little involved in DFI. Furthermore, it can also be hypothesised that the south exerts a sort of crowding-out or diversion effect on the DFI flowing from the north, so that a part of the potential DFI from the north is actually diverted and turned into

[47] It is difficult to prove this assessment from an empirical point of view, and even the World Investment Report by UNCTAD does not offer a satisfactory sectoral breakdown for this kind of analysis.

domestic investment in the south.[48]

5) Past monetary and exchange rate policy. Macro-economic policies until the end-70s brought to frequent devaluations and, despite the relatively high inflation rate, to sustaining a rather weak exchange rate, also in real terms. This situation, coupled by various foreign exchange restrictions and bureaucratic red tape in capital outflows as well, might have encouraged export instead of DFI, by lowering the cost of investing and producing domestically as compared to the cost of investing and producing abroad.[49]

If the low level seems to be the most evident characteristic of the country's multinational involvement, there are also other features that contribute to outline this peculiar pattern of internationalisation.

To begin with, the Italian industrial affiliates exhibit a relative concentration in low- and middle-income countries. In 1985 the employment of Italian affiliates abroad was almost equally shared between developing and developed countries (table 3.3.). In the early 80s, with the exclusion of Japan[50] which showed a breakdown similar to Italy's, the other major investing countries displayed a much higher propensity to invest or to own productive activities in the developed rather than in the developing world. For these investing countries,

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[48] Overall, it is difficult to assess to what extent this effect has to be deemed relevant in explaining the low level of Italian DFI. Among the various reasons, some considerations suggest the limited relevance of this effect:

- the very persistence of under-investment problem in the south;
- the possibility that crowding-out effect occurs mainly with respect to the domestic investment in the north and not with respect to the DFI from the north to third countries;
- the demand- and market-oriented nature of the Italian DFI, and hence the non-fungibility of areas as host countries;
- the fact that the level of Italian DFI was, and still is, particularly low in high-income countries, but less so in low- and middle-income countries, namely the same countries which could be penalised by the possibility of investing in the south of Italy.

To some extent, however, past policies based on a generous and untargeted set of investment incentives (Cassa per il Mezzogiorno) probably exerted some influence, as they also attracted some DFI from other countries. Yet, the present policy trends (Banca d'Italia 1998:19), based more on the flexibilisation of the labour market and less on the unconditioned and unselected granting of investments incentives (i.e. '*patti territoriali*' and '*contratti di area*', which are agreements among local institutions, so as to create the conditions for investing in a certain area), have started to be implemented only recently and their impact on attracting investment flows is still unknown.

[49] Here there could also be scope for applying the argument put forward by Aliber (1971) about capital market imperfections and interest rate differentials as an explanation for DFI flows from countries characterised by strong currencies to those characterised by weak currencies.

[50] Apart from the propensity towards developing countries, there are interesting similarities between the Japanese and the Italian DFI (i.e. increasing but relatively low level, critical role of the SMEs and of the traditional sectors). These similarities are perhaps not only accidental but they might be due to some common characteristics of the two countries.

the share of DFI in developed countries was ranging from the 66% of the USA to the 87% of Sweden.

Tab. 3.3.: Developed and Developing countries breakdown of affiliates or DFI stock – Major investing countries

Home Countries	DCs	LDCs	Indicator used for measuring DFI
Italy	51	49	Employees in affiliates (1985)
USA	66	34	Employees in affiliates (1982)
Germany	71	29	Employees in affiliates (1986)
Japan	50	50	Stock of DFI (1984)
Sweden	87	13	Cumulative Flows of DFI (1977-85)
France	75	25	Cumulative Flows of DFI (1978-83)
United Kingdom	78	22	Stock of DFI (1981)

Source: Onida and Viesti (1988)

The relatively high propensity of Italian affiliates towards lower income countries can also be verified for the most recent period.[51] About a half of the employment relative to Italian affiliates is still located in low- or middle-income areas (either developing or transition economies) (Table 3.4.).

Tab. 3.4.: Geographical Breakdown of the Employment in Italian Affiliate abroad - 1996

	TRADITIONAL	SCALE INTENSIVE	SPECIALISTIC	SCIENCE-BASED	ALL SECTORS
Western Europe	31.0	45.9	36.4	35.9	41.9
North America	11.4	5.1	13.4	21.7	8.2
Latin America	6.1	20.6	17.4	8.2	17.1
Eastern Europe	36.4	13.1	16.3	6.4	16.4
Asia Pacific	5.1	3.3	8.3	15.7	5.0
Rest of the World	10.1	12.0	8.2	12.2	11.4
Total	100.0	100.0	100.0	100.0	100.0

Source: Cominotti and Mariotti (1997)

[51] There are various waves in the geographical orientation of Italian industrial DFI: traditionally there has always been a projection towards Latin America. Only during the second half of the 80s this orientation seemed to shift partially, mainly because of major investments undertaken in the European Union (then European Community - 12) also in view of the progressive integration of the European market in 1992. Again, in the 90s, the relative share of employment in low- and middle-income countries has risen substantially, mainly because of the opening of Central and Eastern Europe, complemented also by a new wave of investments towards Latin America.

Overall, this relatively high propensity to invest in lower-income countries does not find an easy and non *ad hoc* explanation. Certainly, the historic link with some Latin American countries plays a role in explaining this propensity (Onida and Viesti 1988). Yet, it must be also considered that Italy, contrary to other major investing countries, has not inherited, from the colonial time, relevant economic links with developing areas.

More generally, it may that some of the home country-specific factors, which tend to constrain the total level of Italian DFI, do exert a stronger (negative) influence on the productive initiatives in developed countries than on those in developing areas.[52] This might be due to the fact that technologically the Italian industry is a follower, to the generalised small size of its enterprises, as well as to the monetary and financial weaknesses that characterised the Italian macro-economic context in the past.

On the contrary, the sectoral specialisation of Italian industry towards traditional sectors did not exert, in the past, the expected influence in favour of productive activities in developing areas: the DFI from traditional sectors was low in general and not particularly concentrated in developing countries. Yet, the situation in this regard seems to have changed recently. Looking back to table 3.4., the recent concentration in Eastern Europe of Italian DFI from traditional sectors is quite evident.

Finally, one of the most critical and controversial point about the Italian multinational activities refers to the size of the investing enterprises and the role that SMEs play or might play in the whole process of internationalisation.

On the one hand, the number and weight of SMEs in total DFI or affiliates abroad appears to be rather high, if internationally compared. Unfortunately, the cross-country evidence in this regard is rather scattered. The impression, though, is that Italian SMEs, compared to the SMEs of most investing countries, account for a relatively significant weight in total DFI or affiliates. Only Japanese SMEs appear to be outstanding with their multinational initiatives: in the total number of Japanese affiliates, SMEs (defined as enterprises up to 300 employees) accounted for a share ranging from 34.7% to 45% during the late 80s and early

[52] A noteworthy characteristic of Italian DFI was also the high incidence of minority or 50-50 joint ventures in the total DFI. This peculiarity has also been interpreted as a further manifestation of the Italian weakness in DFI (Onida and Viesti 1988).

90s (Mutinelli 1997).

On the other hand, if we shift our comparison from an international to a domestic perspective, the impression about the significant role of SMEs in DFI does not seem to be fully justified. In fact, given such a high weight of SMEs in the domestic economy, their position in DFI appears somehow under-represented: SMEs (under 500 employees) account for 81.8% of the total domestic employment and for 12.9% of the total employment corresponding to the Italian affiliates abroad. As already stressed earlier, the high incidence of SMEs in the overall economy, and in general the small size of industrial enterprises, are rather seen as a major cause for the limited DFI involvement of the Italian industry.

Yet, the changes in the global business environment and also the changes in the domestic industry suggest the partial relaxing of the enterprise size as a prohibitive constrain to a multinational growth, so that, in a future perspective, SMEs may potentially account for a significant portion of DFI growth[53].

In this respect, recent trends suggest a growing involvement of SMEs in DFI. Especially during the early 90s, SMEs (conventionally enterprises up to 500 employees) increased the number of affiliates, even reaching a peak of more than 50% of total new affiliates in 1993 (see table 3.5). Also the SMEs' share in affiliates employment in 1996, though not high (12.9%), was the result of an increasing trend: in 1986 the same ratio was only 8.7% (Cominotti and Mariotti 1997, Mutinelli 1997).[54]

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[53] It should not be forgotten that SMEs account for more than 4/5 of industrial domestic employment and that they play a significant role in the most competitive segments of the Italian industry.

[54] This trend is, with all probability, underestimated, due to the presumably high number of DFI initiatives escaping the survey. As admitted by the authors of the source of data here currently used, the data on affiliates have in principle a universal coverage (like a census), but when the size of foreign operation is small the probability of escaping the statistical record is relatively high. This fact is also confirmed by other surveys (e.g. Cavalieri 1995), which found various cases of DFI carried out by SMEs and not reported in the database here used.

Furthermore, some empirical studies on SMEs and DFI also underline the necessity of analysing this phenomenon as a part of a more general process of productive internationalisation. Some non-equity operations such as international sub-contracting are often seen by the SMEs as almost equivalent to DFI, in terms of effects, motivations and strategic aims.

Tab. 3.5.: Italian Affiliates: by year of establishment and by size of the investing enterprises

	up to 500 employees	500-4999 employees	more than 4999 employees	Total Investors	Total (absolute numbers)
1986	12.8	23.4	63.8	100.0	94
1987	20.0	22.3	57.7	100.0	130
1988	19.1	32.9	48.0	100.0	152
1989	20.1	26.6	53.3	100.0	169
1990	29.4	22.1	48.5	100.0	204
1991	30.4	33.9	35.7	100.0	224
1992	39.1	15.0	45.9	100.0	327
1993	53.7	20.5	25.9	100.0	205
1994	39.3	25.3	35.4	100.0	229
1995	34.8	37.4	27.8	100.0	187
Total	32.4	25.3	42.3	100.0	1921
Total (absolute numbers)	622.0	486.0	813.0	1921.0	

Source: Cominotti and Mariotti (1997)

3.3. The Sectoral Composition of DFI and Export: A Cross-country Comparison

When we look at the sectoral distribution of Italian affiliates, the most striking feature is its dissimilarity from the sectoral composition of both the domestic industry (i.e. in terms of employment) and the industrial export.

Particularly, in 1986 most of the Italian DFI was concentrated in scale-intensive sectors:[55] transport equipment, rubber, wires and cables, metals and chemicals were the sectors in which Italy most invested abroad. This sectoral composition of DFI, however, contrasted with the industrial and export specialisation, which was markedly based on traditional and supplier-specialised sectors.

In 1986, traditional and specialised supplier sectors accounted for about the 9% of DFI altogether, but they weighed on the domestic industrial employment for a percentage of, respectively, 39% and 28%, while their export share was cumulatively bigger than 60%.

[55] As in other recent studies on industry, we will make use of the taxonomy put forward by Pavitt (1984). This classification, drawn according to technological criteria, divides the industrial sectors into four groups: traditional, specialised supplier, scale-intensive and science-based.

After 1986, given the intense multinational growth in both traditional and specialised-supplier sectors, Italian industries resulted with a DFI share more in line with their economic weight (however measured). Conversely, scale-intensive and science-based industries, though overall increasing their absolute level of multinationalisation, were growing at a slower speed. As a result of these DFI growth differentials among sectors, scale-intensive industries saw a decrease in their DFI share from about 75% in 1986 to slightly more than 60% in 1996.

Tab. 3.6.: Employment in the Italian Industrial Affiliates Abroad by Sectors: A Comparison with Domestic Employment and Export

	Domestic Employment	Export	Employment in Italian Affiliates		
	1991	1991	1986	1996	Compound growth rate (1986-96)
Textiles	7.74	5.69	2.50	2.67	10.30
Clothing	7.82	7.12	1.62	4.03	20.07
Leather and Footwear	4.60	5.80	0.78	1.49	16.85
Wood products (except furniture)	3.51	0.44	1.31	1.10	7.65
Printing & Publishing	3.73	0.65	0.12	0.88	34.09
Glass	0.95	0.39	0.19	0.82	27.18
Other non metallic minerals	4.89	3.50	2.30	4.49	17.15
Other manufactured products	5.93	8.00	0.25	1.66	32.43
Traditional	**39.17**	**31.59**	**9.07**	**17.14**	**16.79**
Processed and basic food	7.89	5.37	4.78	12.39	20.53
Beverages	0.89	1.14	1.19	0.16	-10.35
Tobacco	0.36	0.13	0.00	0.00	0.00
Paper	1.65	1.43	2.57	2.91	10.95
Petroleum and Misc.	0.78	2.41	4.70	3.00	4.78
Ind. Chemicals	4.66	4.45	7.14	5.91	7.54
Rubber Products	0.97	1.05	12.97	3.24	-4.61
Metals	3.24	4.48	8.67	6.59	6.61
Electric household appliances	0.99	2.18	0.83	3.38	26.05
Wires and Cables	0.33	0.38	12.96	2.07	-8.77
Cars, motorcycles and bicycles	3.40	5.82	13.94	15.77	10.94
Mechanical components for cars	1.22	2.51	5.06	5.48	10.46
Scale-intensive	**26.36**	**31.32**	**74.82**	**60.93**	**7.35**
Fabricated Metal Products	11.50	3.96	0.95	1.62	15.56
Machinery (except electrical)	9.24	16.91	5.40	7.45	13.16
Electr. Machinery	3.63	4.99	1.84	4.77	20.49
Plastic Products	2.48	3.58	0.80	0.97	11.72
Ship-building and railways	1.03	0.44	0.05	0.22	27.41
Specialised supplier	**27.88**	**29.87**	**9.04**	**15.02**	**15.28**
Office machines	0.83	2.61	3.25	1.24	-0.46
Electronics and Telecommunication	2.60	1.08	2.87	3.36	11.30
Precision Instruments	2.24	1.90	0.96	2.00	17.96
Airplanes	0.92	1.62	0.00	0.31	-
Science-based	**6.59**	**7.21**	**7.07**	**6.91**	**9.32**
Total	**100.00**	**100.00**	**100.00**	**100.00**	**9.58**

Source: Cominotti and Mariotti (1997), United Nations (1995), ISTAT (1994)

By reclassifying and aggregating the various industries, it is possible to compare the Italian sectoral composition of affiliates with the one relative to other investing countries (tab. 3.7 below).

While each of the considered countries displays its own characteristic specialisation in DFI (e.g. chemicals for Germany, electrical equipment and light manufacturing for Japan, beverages & tobacco and chemicals for the USA, rubber for Italy), it is interesting to observe that most of the multinational activities in all these countries stem from scale-intensive and/or science based sectors, and Italy, with its DFI specialisation in scale-intensive sectors, is no exception to this rule.

For the 80s, the sum of three sectors such as chemicals, electric equipment and motor vehicles, which include a considerable part of scale-intensive industries, accounts for about the half of DFI from all of the four investing countries.

Conversely, the traditional sectors do not account for large DFI shares in the investing countries here considered. It is noteworthy, though, that the lowest DFI share corresponding to traditional sectors can be found in Italy in 1986. The meaning and the importance of this observation can be grasped if one looks at the export sectoral composition (table 3.8 below) which refers to the same countries and displays the same sectoral breakdown used for the DFI comparison. From the comparison with the other countries, the specialisation of Italian export in traditional sectors emerges clearly: Italy, when compared to the other investing countries, presents much higher export shares in textile, leather and clothing, non-metallic mineral products and other manufacturing.

The comparison provided by table 3.8. can also be read in terms of despecialisation of the Italian export in scale-intensive and science-based industries, namely chemicals, motor vehicles and electric equipment,[56] which overall represent a relevant part of the scale-intensive and science-based sectors. In such sectors, Italy displays a cumulative export share of only 25.9%, in net contrast with Germany, Japan and the USA, whose export shares amount to, respectively, 43.9%, 59.6% and 41.9%.

[56] Given these three sectors, each of the three other investing countries under survey seems to specialise in (at least) two of them: Germany in chemicals and motor vehicles, Japan in electrical equipment and motor vehicles, and USA in electrical equipment and chemicals.

Overall, it is easy to conclude that the unique features of the sectoral specialisation of Italian export do not correspond much to an analogous specialisation in the sectoral composition of DFI. The comparison with the other three investing countries has in fact emphasised the peculiarity of the Italian export pattern, as well as its lack of complementarity with DFI; this fact has been particularly evident until the mid-80s.

To some extent, the situation changed over the 90s, when Italy started to produce a DFI pattern which was more in line with its own economic structure, and particularly with its export sectoral specialisation. The sectoral composition of DFI became less polarised, with an increasing share in beverages, textile, leather and clothing, non-metallic mineral products, mechanical equipment, other manufacturing, and a decreasing share in rubber product and electrical equipment.

It is interesting to observe that, in 1996, traditional sectors already accounted for a higher DFI share than the one found in the other investing countries (cf. tab. 3.7 above).

Tab. 3.7. : Percentage composition of DFI stock (employment in affiliates abroad) – An international comparison

	GERMANY		JAPAN		USA		ITALY		
	1983	1991	1982	1990	1982	1991	1986	1991*	1996
Food, beverages, tobacco	2.7	2.9	2.5	2.5	11.8	13.9	6.0	8.9	12.6
Textile, leather clothing	5.5	5.7	13.8	7.5	1.5	1.4	4.9	6.0	8.2
Paper	2.7	2.9	3.8	1.3	4.4	5.6	2.6	2.1	2.9
Chemicals	27.4	21.4	7.5	6.3	13.2	15.3	7.1	5.3	5.9
Coal and petroleum products	1.4	1.4	-	-	2.9	5.6	5.5	4.7	4.0
Rubber products	1.4	2.9	-	-	2.9	1.4	13.0	5.4	3.2
Non-metallic mineral prod	2.7	4.3	-	-	4.4	4.2	2.5	2.1	5.3
Metals	5.5	5.7	11.3	5.0	5.9	1.4	9.6	8.0	8.2
Mechanical equipment	9.6	10.0			11.8	13.9	6.4	7.5	9.4
Electrical equipment	17.8	21.4	36.3	41.3	14.7	9.7	21.8	19.5	14.8
Motor vehicles	17.8	20.0			19.1	16.7	19.0	23.6	21.3
Other transport equipment	0.0	0.0	13.8	18.8	1.5	4.2	0.0	0.5	0.5
Other manufacturing	5.5	1.4	11.3	17.5	5.9	6.9	1.7	6.4	3.6
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD (1994b); Cominotti and Mariotti (1997)

Tab. 3.8. : Percentage composition of export by sector - Comparison between Italy and other industrialised countries

	GERMANY		JAPAN		USA		ITALY		
	1983	1991	1982	1990	1982	1991	1986	1991	1994
Food, beverages, tobacco	5.4	5.3	0.9	0.5	15.8	10.1	7.3	6.7	6.6
Textile, leather, clothing	5.4	5.7	5.2	4.2	1.9	2.4	19.7	18.3	18.2
Paper	1.8	2.2	0.6	0.7	1.5	1.7	1.2	1.5	1.5
Chemicals	14.0	13.0	4.8	5.5	11.6	10.7	8.7	6.6	7.5
Coal and petroleum products	3.6	1.4	0.3	0.5	5.6	3.4	4.9	2.4	1.7
Rubber products	0.9	0.9	1.3	1.3	0.5	0.6	1.1	1.1	1.1
Non-metallic mineral products	1.9	1.7	1.5	1.2	1.2	1.3	3.6	3.9	4.1
Metals	10.9	8.9	12.8	7.0	4.1	4.6	9.6	8.6	8.7
Mechanical equipment	14.4	15.6	10.6	12.7	10.8	10.1	14.2	17.2	16.9
Electrical equipment	13.1	15.1	27.5	34.0	21.8	24.9	10.3	11.4	11.8
Motor vehicles	16.8	16.1	27.3	25.7	8.5	8.9	6.3	8.4	7.8
Other transport equipment	3.1	3.7			8.0	10.0	1.9	2.1	1.7
Other manufacturing	8.8	10.3	7.4	6.7	8.5	11.4	11.2	11.8	12.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: United Nations (1986; 1995)

The marked asymmetry in the sectoral composition of DFI and export during the 80s, and the subsequent partial convergence of DFI towards the industrial specialisation of export, can be further observed by looking at the normalised export/DFI ratios (tab 3.9.).

Tab. 3.9. : Normalised export/DFI ratios[1] by sector - Comparison between Italy and other industrialised countries

	GERMANY		JAPAN		USA		ITALY		
	1983	1991	1982	1990	1982	1991	1986	1991	1996[2]
Food, beverages and tobacco	2.0	1.8	0.4	0.2	1.3	0.7	1.2	0.8	0.5
Textile, leather and clothing	1.0	1.0	0.5	0.6	1.3	1.7	4.0	3.1	2.2
Paper	0.7	0.8	0.2	0.6	0.3	0.3	0.5	0.7	0.5
Chemicals	0.5	0.6	0.8	0.9	0.9	0.7	1.2	1.3	1.3
Coal and petroleum products	2.6	1.0			1.9	0.6	0.9	0.5	0.4
Rubber products	0.7	0.3			0.2	0.5	0.1	0.2	0.3
Non-metallic mineral products	0.7	0.4			0.3	0.3	1.5	1.9	0.8
Metals	2.0	1.6	1.4	1.4	0.7	3.3	1.0	1.1	1.1
Mechanical equipment	1.5	1.6			0.9	0.7	2.2	2.3	1.8
Electrical equipment	0.7	0.7	0.9	0.8	1.5	2.6	0.5	0.6	0.8
Motor vehicles	0.9	0.8	2.5	1.4	0.4	0.5	0.3	0.4	0.4
Other transport equipment	-	-			5.4	2.4	39.1	4.3	3.1
Other manufacturing	1.6	7.2	0.8	0.4	1.5	1.6	6.7	1.9	3.4

Source: United Nations (1986; 1995); UNCTAD (1994b), Cominotti and Mariotti (1997)
(1) For each sector the % export share is divided by the correspondent % DFI share.
(2) export refers to the year 1994

The asymmetry between export and DFI is reflected in the cross-sector variability in the export/DFI ratios. This variability is in fact higher for Italy than for the other investing countries, if we consider the situation in 1986. In this regard, noteworthy are the low ratios in the industries of rubber, motor vehicles and electrical equipment and the high ratios in industries like other transport equipment, textile, leather and clothing, other manufacturing and mechanical equipment. It is also interesting to observe that export/DFI ratios tend to be high just in those sectors in which Italy records a relatively high export specialisation (see tables 3.9. and 3.8. together). Though, admittedly, there could be an intrinsic bias for the export/DFI ratio to be high when export is 'high', this phenomenon emerges very evidently from the Italian case. The same phenomenon does not emerge instead from the German and the American case, whose export and DFI structures look much more similar and complementary.

Again, the change in the composition of Italian DFI between 1991 and 1996 can also be noted in the export/DFI ratios: the previous asymmetries have reduced, so that in 1996 the

export/DFI differences observed for Italy are not much more pronounced than those displayed by the other investing countries.[57]

A related hypothesis, that can be investigated through the comparison made in table 3.9, is whether there are systematic sectoral differences holding independently from the home countries to which the sectors belong. Incidentally, these eventual differences might partially justify the marked variations in the Italian export/DFI ratios and the general low DFI propensity of the Italian industry.[58]

Overall, only few sectors display a clear balance in favour of either export or DFI: for example, only rubber and paper display a ratio lower than 1, while no sector exhibits a ratio higher than 1 in all of the four investing countries. Concentrating the attention on the sectors in which Italy presented high export/DFI ratios in 1986, it must be noted that the same sectors displayed much lower export/DFI ratios in the other investing countries (i.e. textile, leather and clothing in Germany and Japan exhibited, respectively, ratios of 1 and 0.5; non-metallic mineral products displayed a ratio of 0.7 in Germany and a ratio of 0.3 in the USA; other manufacturing presented a ratio of 0.8 in Japan). To conclude, these high differences in the export/DFI ratios seem difficult to justify by sector-specific features.

Furthermore, for the countries and the sectors considered so far, it is interesting to compare the absolute export/DFI ratios (tab. 3.10). These ratios reflect not only the relative distribution and sectoral specialisation of export, as opposed to the one of DFI, but also the country's general balance between these two forms of internationalisation. The most evident observation is that the countries here considered display remarkable differences in their total export/DFI ratios. These differences are so wide that highly multinationalised economies such as United States show comparatively low export/DFI ratios even in the sectors in which their DFI is relatively despecialised.

Conversely, a modestly multinationalised economy like Italy does not display a particularly low export/DFI even in the sectors of its highest DFI specialisation, while in the remaining sectors the export/DFI ratios result incomparably high if contrasted with those of

[57] Actually, the other countries have not shown any tendency towards a further similarity, a tendency that instead Italy has shown quite clearly.
[58] See again section 3.2. on the impact of industry specialisation on the low DFI level.

the other investing countries.

Given this consideration, the whole phenomenon of the asymmetric distribution of Italian DFI with respect to export seems to be correctly interpreted only if the low DFI level is properly accounted for, a fact that is also stressed by the comparison with other investing countries[59] and by the same DFI growth which occurred in Italy during the last decade and which was convergent towards the export sectoral composition.

Tab. 3.10. : Absolute export(1)/DFI(2) ratios by sector - Comparison between Italy and other industrialised countries

	GERMANY		JAPAN		USA		ITALY		
	1983	1991	1982	1990	1982	1991	1986	1991	1996(3)
Food, beverages and tobacco	263.3	425.4	70.8	46.7	49.9	54.1	391.4	240.7	162.4
Textile, leather and clothing	133.2	231.0	76.4	127.1	48.8	129.9	1283.4	966.1	683.2
Paper	90.0	181.9	33.0	129.7	12.6	22.3	144.1	214.7	162.5
Chemicals	68.7	140.2	128.9	198.7	32.5	52.0	389.3	398.5	387.5
Coal and petroleum products	354.8	225.8	-	-	71.3	45.2	281.5	164.9	128.9
Rubber products	88.2	73.0	-	-	6.9	33.9	26.5	62.0	103.2
Non-metallic mineral products	91.1	92.7	-	-	10.4	23.2	464.1	607.7	236.4
Metals	266.5	359.6	231.9	315.5	26.2	247.1	316.7	338.6	327
Mechanical equipment	201.7	361.3	-	-	34.3	54.3	711.1	726.1	548.4
Electrical equipment	99.1	162.8	154.2	186.0	55.2	190.8	151.2	185.3	243.9
Motor vehicles	126.8	186.5	404.0	308.9	16.5	40.0	105.0	113.6	113.3
Other transport equipment	-	-			202.6	179.7	12469.2	1368.9	958.9
Other manufacturing	214.7	1665.7	133.0	86.1	54.1	122.4	2133.1	585.8	1041.4
	134.4	231.1	203.4	225.6	37.2	74.6	318.5	317.3	306.8

Source: United Nations (1986; 1995); UNCTAD (1994b); Cominotti and Mariotti (1997)
(1) current US$ thousands
(2) employees in foreign affiliates
(3) export refers to the year 1994

To sum up, Italy can be seen as a rather interesting case of DFI or more in general of internationalisation.

The peculiarity of the Italian DFI, especially until the mid-80s, has to be perceived not so much in its own sectoral composition but rather in its dissimilarity with respect to the

[59] Given the low absolute DFI level, the lack of sectors, which can be clearly defined as DFI-oriented, makes difficult to consider the Italian patter of internationalisation as a proper case of export/DFI fungibility *à* la Kojima (1978), a case in which the sectors are either export- or DFI-oriented. Furthermore, contrary to the Kojima's case, in Italy the least DFI-oriented sectors were the labour-intensive ones (i.e. the traditional industries).

Italian export sectoral composition, which is in turn quite atypical if compared to other developed countries.

Yet, the recent DFI growth has brought about a partial convergence of the DFI sectoral composition towards the one of export. Hence the Italian situation in 1996 seems to be less unbalanced and less asymmetric with respect to the situation of the other three investing countries examined, whose DFI involvement is more intense and consolidated.

Overall, this initial divergence and the subsequent partial convergence after an intense period of growth suggest a link between the DFI level and its composition. In this respect, the comparison with the other investing countries confirms the Italian specificity, given that the latter neither displayed such a DFI/export initial divergence nor they exhibit a similar pattern of DFI growth and convergence.

Still, despite the interesting (but expected) result, the limitations of such a comparison have to be kept in mind. First, only four investing countries (including Italy) have been considered. Second, the disaggregation is limited to 11 sectors, and for Japan only to 8 sectors. Third, the limited emergence of sector-specific influences (independently from the home country) in the export/DFI ratios is somehow a suspicious result; this finding may well reflect the deep differences in the industrial organisation and in the internationalisation profile among the countries considered, but it may again depend on the limitations of the data used.

3.4. DFI, export and competitiveness: further disaggregations and further considerations

Though the degree of sectoral disaggregation of the data was very limited, the previous comparison has shown that Italy, with respect to other investing countries, has been characterised by a rather peculiar pattern of internationalisation, with DFI and export being asymmetrically distributed across sectors.

This peculiarity of the Italian pattern of internationalisation has been associated with the low level of DFI involvement, so that DFI could represent a small and ‘biased’ sample of the Italian industry and its competitive advantage. The fact that, from 1986 onwards, the growth of DFI has been accompanied by its convergence towards the export pattern confirms

indirectly, for the Italian case, the importance of the fact that the DFI level and its composition are related to each other.

The divergence between DFI and export can be clearly shown in figure 3.1: on average, the more competitive is an industry, the higher is its export/DFI ratio. This confirms that, for most industries, the export specialisation does not correspond much to the DFI specialisation and vice versa.

Though it is not the most appropriate tool for the analysis undertaken here, the regression between the revealed comparative advantage index[60] and the export/DFI shows a positive and significant cross-sectoral correlation between the two variables. More importantly, though, the shape of the plotting in figure 3.1. discloses the existence of two well distinguished clusters[61] or groups of industries. One cluster coincides with the top-right quadrant of the figure and it contains almost all competitive industries, all of them displaying high export/DFI ratios (above the average). Most of these industries are traditional (clothing, textile, leather and footwear, non-mineral products, printing & publishing, other manufacturing), while the remaining ones are specialised-supplier such as mechanical equipment, metal products, plastic products. Only two industries can be considered to be scale-intensive (electric household appliances and beverages). None of them is science-based.

The other cluster includes sectors which can be considered less competitive. Overall, these latter sectors, which are mostly science-based and scale-intensive (electronics and telecommunication, office machines, precision instruments, chemicals, all kinds of transport

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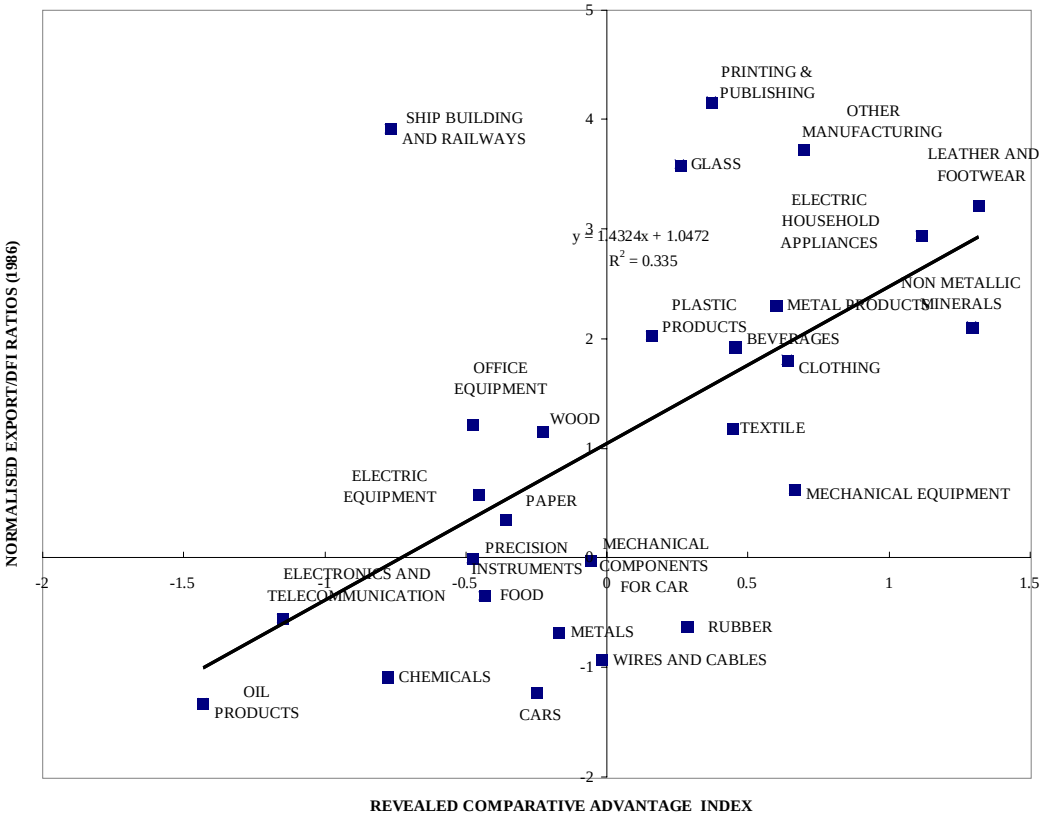
[60] The "Revealed Comparative Advantage" of Bela Balassa (1965) is an index that shows the export specialisation of a country. This index is calculated by the ratio between the share in a country's export of a certain goods (or sector) and the corresponding share in the world export of the same good (or sector). The word 'comparative' is here a bit disturbing, since it could recall the principle of comparative advantage formulated by HOS (which Balassa was also sticking to). A relevant part of the implications of this study are based on the concept of the competitive (and not of the comparative) advantage. On the contrary, if the basic tenets of HOS would hold, the whole analysis carried out here about the complementarity and the convergence between DFI and export would not make any sense (see chapter 2).

[61] Unfortunately, the word 'cluster' may give rise to some confusion, because of its various meanings in different contexts. Here, with 'cluster' we intend a set of observations which are similar to each other. The implicit reference is directed towards the clustering analysis which is statistical technique aiming at grouping observations according to their reciprocal distance in the multi-dimensional space.
On the contrary, in industrial economics or economic geography, one can find the expressions 'cluster of enterprises' with the meaning of a geographical or local concentration of enterprises whose productive activity is relatively homogenous (UNCTAD 1994). Finally, Porter (1990) uses the expression 'cluster of industries' in the sense of a group of industries which is vertically or horizontally inter-connected.

equipment, wires and cables), display on average lower export/DFI ratios. It is noteworthy, though, that not all of them are contained in the bottom-left quadrant; on the contrary, a number of them is located in the top-left quadrant, and hence there is a partial overlapping, on the vertical axis, of the two clusters. This suggests a significant[62] but not purely biunivocal relationship between competitiveness and export/DFI ratio: all competitive sectors but one (rubber) display high export/DFI ratios and all sectors (but rubber, again) with low export/DFI are non competitive; however, not all of the non-competitive sectors (ship-building and railways, office equipment, electric equipment, wood, paper) display low export/DFI ratios. In this regard, it can be also observed that the number of sectors with low export/DFI ratios is smaller than the number of those with high export/DFI, a fact that reflects the polarisation of DFI in few and relatively non competitive sectors.

[62] The T-statistics are 3.78 and 3.55, respectively, for the constant and the slope coefficient. The level of significance for the slope coefficient is 0.16%.

Figure 3.1. : Export/DFI ratios in 1986 and revealed comparative advantage index - by sector – natural logarithms



Source: Cominotti and Mariotti (1997), United Nations (1988)

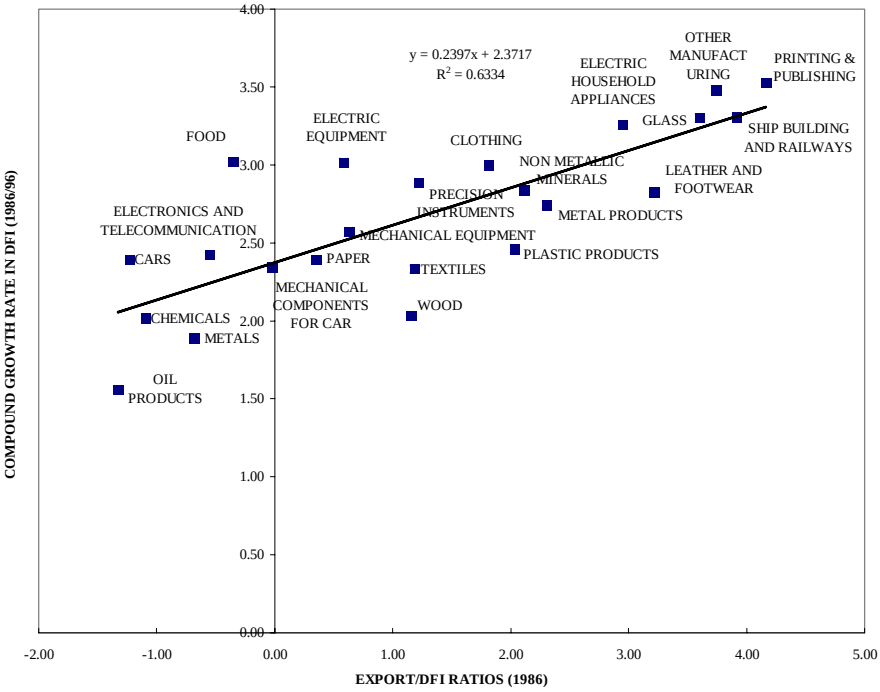
The peculiar pattern of DFI that characterised the Italian industry until the mid-80s has been changing from then onwards. The extreme uneven distribution of DFI has been smoothing down as a result of a dynamic growth in the DFI level, a growth that has been more pronounced just in those sectors characterised by high export/DFI ratios.

Fig. 3.2. witnesses quite well the process of convergence in the DFI involvement across sectors, with DFI growth[63] being positively correlated to export/DFI ratios.[64] The more competitive and the less multinationalised was an industry in 1986, the higher has been its DFI growth during the following 10 years. In this respect, traditional and specialised-

[63] Unfortunately, a logarithmic transformation of the data has been necessary in order to normalise the data distribution, thus linearising the relation. Because of this logarithmic transformation, the four observations (wires and cables, rubber, office equipment and beverages) with negative growth rate had to be dropped. In any case, all these sectors displayed low export/DFI ratios in 1986 and/or belonged to the non competitive cluster (see figure 3.1.).

supplier sectors have been showing a higher DFI growth compared to the one displayed by most scale-intensive and science-based industries.

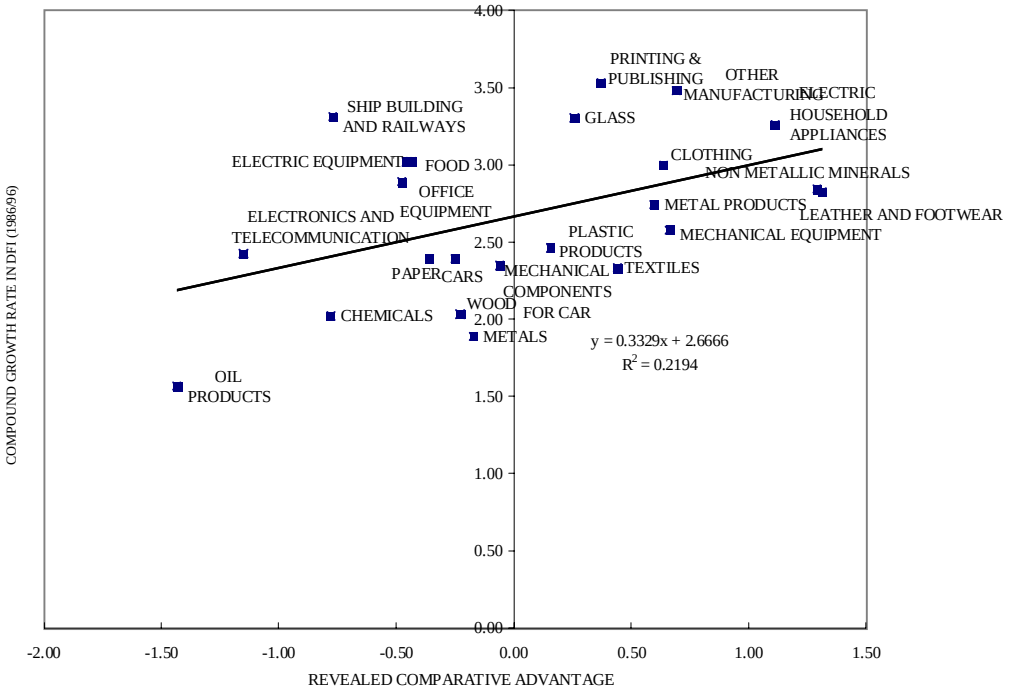
Figure 3.2. : DFI growth 1986/1996 and export/DFI ratios in 1986 - by sector – natural logs



Source: Cominotti and Mariotti (1997), United Nations (1988)

[64] The T-statistics are 27.8 and 6.0, respectively, for the constant and the slope coefficient. Hence, the level of significance for the slope coefficient is very high (0.00%).

Figure 3.3.: DFI growth 1986/96 and revealed comparative advantage index – natural logs



Source: Cominotti and Mariotti (1997), United Nations (1995)

Furthermore, to some extent the export-convergent growth of DFI has meant a more intense DFI growth in the most competitive sectors of the Italian industry.

Figure 3.3. shows that the DFI growth was on average higher in the competitive than in the less competitive sectors. Yet, this relation appears to be much less explicative and less significant[65] than the previous one, seen in figure 3.2. This is quite a crucial point for an overall interpretation of the whole process of DFI growth, which can be interpreted as a convergence in the export/DFI ratios rather than as a simple DFI growth driven by the most competitive sectors of the Italian industry. As a result of this process, the picture in 1996 is in some respect different from the one in 1986 (figure 3.4.).

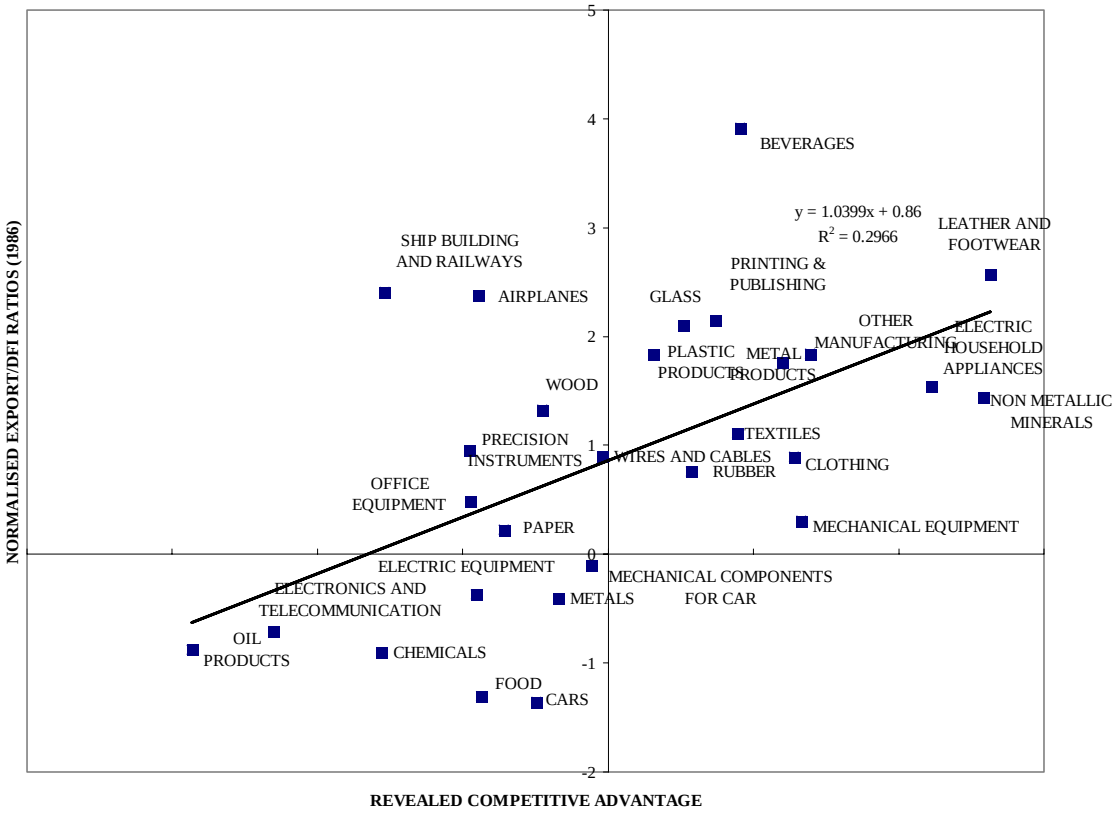
The variability in the export/DFI ratios has decreased and the two clusters of industries identified before are now much nearer and less distinguished than they were in 1986.

[65] The T-statistics are 26.7 and 2.5, respectively, for the constant and the slope coefficient. The level of significance for the slope coefficient is 2.42%.

Yet, despite the export-converging DFI growth, the regression in 1996 still shows a positive correlation[66] between the export/DFI ratios and the revealed comparative advantage index.

It must be noted, though, that the slope of the regression line for the year 1996 is much less steep (note that the vertical axis is being measured through a bigger scale in figure 3.4. as compared to figure 3.1.) than it was in 1986, a fact probably due to the reduced variability in the export/DFI ratios and hence to the narrowing of the distance between the two clusters, which can be less and less seen as such.

Figure 3.4.: Export/DFI ratios in 1996* and revealed comparative advantage index (1991)- by sector – natural logs



Source: Cominotti and Mariotti (1997), United Nations (1995)
* export refers to the year 1994

[66] Actually, if three outliers were removed (ship-building and railways, beverages, and airplanes; the latter by the way could not be included in the 1986 regression), the fit in 1996 would have been even better than the one in 1986. In any case, the T-statistics are high: 4.03 and 3.31, respectively, for the constant and the slope coefficient. The level of significance for the slope coefficient is 0.27%.

3.5. DFI and Export: The Reasons for the Imbalance and the Impact of the Enterprise Size

So far the attention has been mainly placed on describing both the low and non-representative multinational involvement that characterised the Italian industry until the mid-80s, as well as how this pattern has progressively changed, grown and converged towards a level and a sectoral composition which are more in line with the productive and export structure of the industry itself.

The explanation of this latter phenomenon is open to various interpretations, among which the influence of domestic and country-specific factors seems particularly relevant, though we must not neglect also the influence of a number of accidental and unaccountable factors.[67]

As already observed, the role of small enterprises in the Italian industry seems to be crucial, in that SMEs represent a major share of the Italian industry. In this regard, two other aspects are noteworthy. First, and not unexpectedly, the SMEs' distribution across sectors is not uniform: most sectors display in fact an industrial organisation which can be truly defined as SME-based, while the remaining ones present either a more balanced situation between SMEs and big enterprises, or a leading role of these latter.

Second, a very important peculiarity of Italian industry is that the presence of SMEs in a sector seems to be positively correlated with the competitiveness of the sector itself. In other words, industrial competitiveness and export performance are not sector-wise independent from the kind of industrial organisation prevalent in each sector, particularly with reference to the enterprise size.[68]

Tab. 3.11. shows quite clearly that the export share of SMEs varies across sectors, ranging from traditional sectors, in which SMEs account for an export share much above 50% (92.2% in footwear and 90.5% in furniture), to some scale-intensive or science-based

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[67] Furthermore, it must be recalled that the whole idea of a balance between DFI and export is based on the hypothesis that these two forms of internationalisation are more complements than substitutes. This hypothesis appears to be quite reasonable, but it is not so rigorously funded. On the contrary, it is in open contrast with analytically coherent models to international trade, such as HOS.

[68] It must be observed that Italy is probably one of the few countries in the world where export is negatively correlated with enterprise size. Though we are not going now to support this affirmation with micro-economic evidence, it is certainly true that, at aggregate level, SMEs do account for a larger share of export with respect to big enterprises.

sectors, in which the SMEs' export contribution is lower than the one given by big enterprises (i.e. rubber, office equipment, ferrous metals, transport equipment and oil products).

Table 3.11.: Export breakdown by enterprise export turnover (billions of Italian liras) - year 1982

	(a) 0-25	25-100	(b) over 100	occasional exporters	total
Footwear	92.2	3.6	0.0	4.2	100
Leather	87.0	8.8	0.2	3.9	100
Furniture	90.5	3.7	0.3	5.4	100
Clothing	77.5	16.0	3.1	3.3	100
Textiles	82.6	11.5	3.8	2.2	100
Building materials	69.4	11.3	17.0	2.4	100
Food	66.9	26.4	4.1	2.6	100
Mechanical engineering	57.6	20.7	19.8	1.7	100
Fine chemicals	51.9	22.1	23.5	2.4	100
Basic chemicals	48.9	13.9	35.6	1.8	100
Rubber	40.7	3.9	53.1	2.0	100
Office equipment	40.7	4.4	53.2	1.7	100
Ferrous metals	30.1	20.0	48.5	1.5	100
Transport equipment	25.5	13.4	59.6	1.5	100
Oil products	9.0	21.1	69.3	0.6	100
Total	53.7	17.3	28.0	2.9	100

Source: Onida and Viesti (1988)

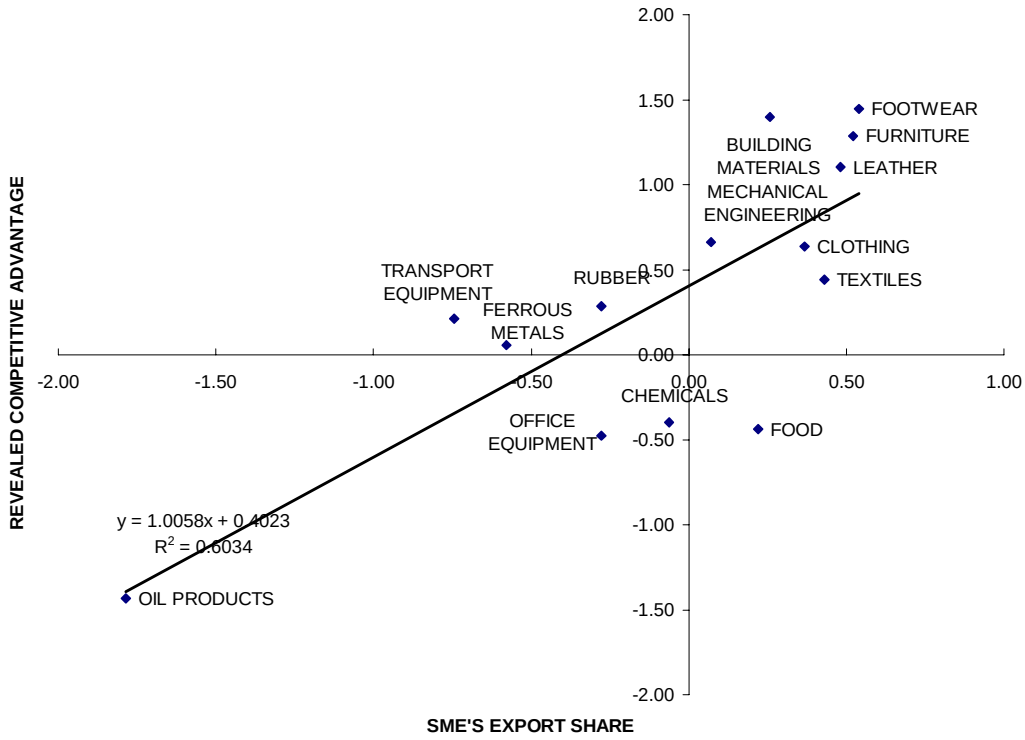
Very importantly, it can be shown that the SME's export share is particularly high in the same sectors in which Italy enjoys a competitive advantage and an export specialisation.

Figure 3.5. provides the mapping of some sectors with respect to both the export share accounted for by SMEs and the Revealed Comparative Advantage index. Here it is rather evident that the most competitive sectors of the Italian industry are those in which SMEs exhibit the most significant export shares (almost all of the traditional sectors, such as footwear, leather, furniture, building materials[69], textiles, clothing, with the exclusion of mechanical engineering). On the contrary, the sectors in which the export share of SMEs is less important are either not competitive (office equipment, chemicals and oil products) or

[69] In Italy, these sectors include a number of products typically produced mainly by SMEs, i.e. the ceramic tiles of Sassuolo and the marble of Carrara.

slightly above the competitiveness threshold (rubber, transport equipment and ferrous metals).[70]

Fig 3.5.: Revealed comparative advantage index and SMEs' export share – by sectors



Source: Onida and Viesti (1988), United Nations (1995)

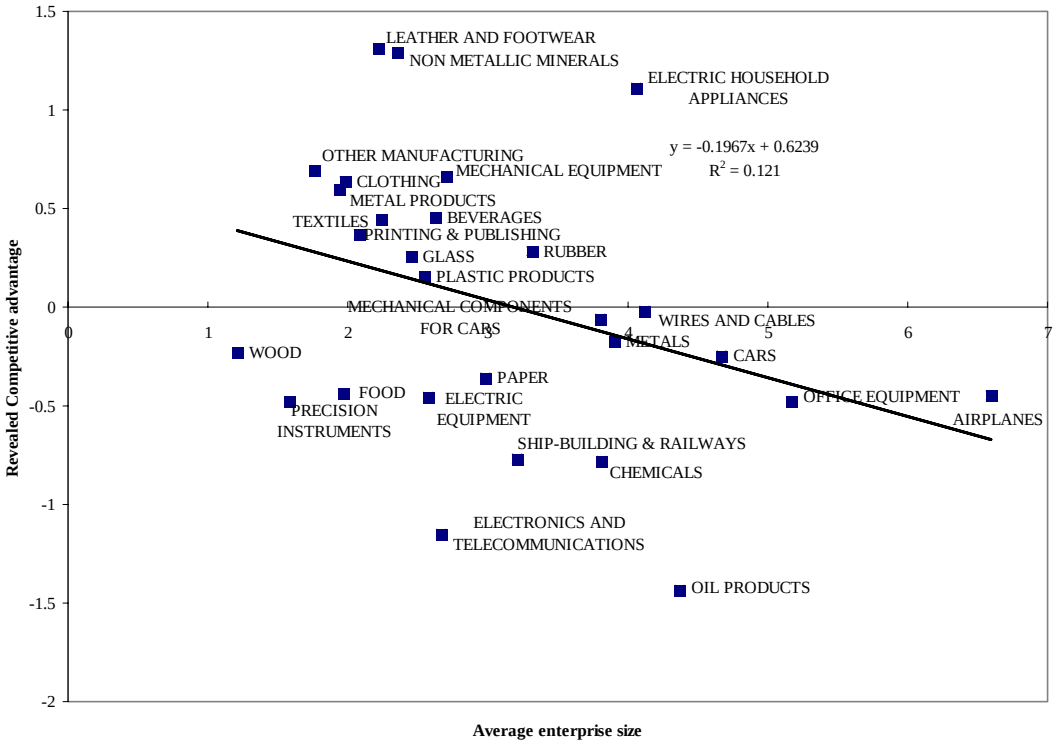
In the absence of a more disaggregated and more recent evidence on export contribution of SMEs by sector, a further attempt to look at the relation between competitiveness and SMEs consists in comparing the revealed comparative advantage index and the average enterprise size for each sector (figure 3.6.). The evidence does not appear as strong as the previous one,[71] but it is still possible to identify a negative cross-sectoral relation between competitiveness and enterprise size. More importantly, the cluster formed by the industries

[70] This relation appears to be rather strong, despite the small size of the sample here considered. Not only the R^2 is above 60% (figure 3.5.), but T-statistics indicates the high significance of the estimated slope coefficient (a value of 4.27 which corresponds to a significance level of 0.11%).

[71] The T-statistics for the constant and the slope coefficient are respectively 1.84 and –1.89. These values correspond to rather low significance levels: 6.97% for the slope coefficient.

which are both competitive and SME-based is still recognisable on the top-left quadrant in figure 3.6.[72]

Figure 3.6.: Revealed comparative advantage and average enterprise size* - by industries – 1991



Source: Cominotti and Mariotti (1997), United Nations (1995), ISTAT (1994)
* The number of employees divided by the number of enterprises.

Overall, the significant - and at the same time competitive - position of SMEs in Italy may explain the peculiarity of the internationalisation pattern of the country and its high propensity towards export rather than towards DFI.

Particularly, the influence of the Italian SMEs on the export/DFI balance can be deemed very important, since the SMEs contribute significantly to the export performance of

[72] The relation is not so clear also because there are a number of relatively non competitive industries which are characterised by a rather low average enterprise size. In any case, the purpose of the analysis does not consist so much in an explanation of the determinants of industrial competitiveness in Italy, but rather in showing that most of the competitive sectors in the Italian industry are characterised by a small enterprise size.

the whole industry, without having however developed a parallel DFI expansion, and thereby maintaining an internationalisation profile of a mainly commercial nature.

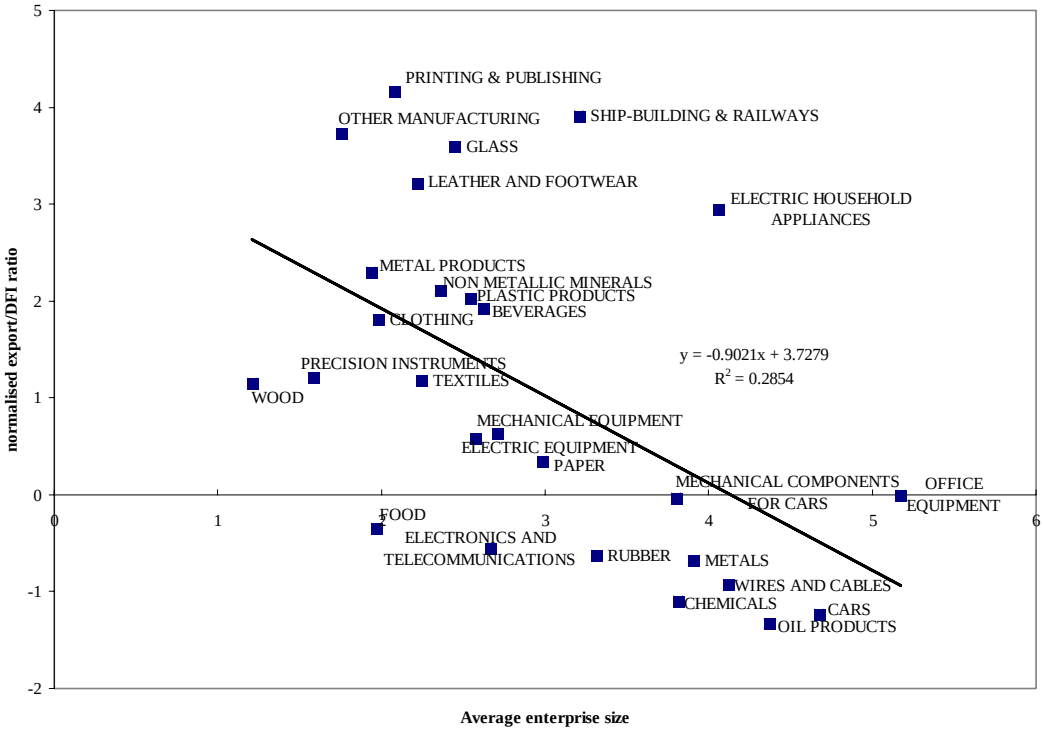
In the case at hand, the influence of the SMEs on the export/DFI balance can also be verified at sectoral level by checking if the SME-based industries do indeed sustain higher export/DFI ratios.

Fig. 3.7. plots the sectoral export/DFI ratios in 1986 on the average enterprise size in each sector. Though the average enterprise size is rather imperfect as an indicator, its influence seems to be negative and significant[73].

This finding confirms the thesis that the export/DFI sectoral dissimilarity and the low DFI level are related to the significant role of SMEs in the Italian industry, as well as to the dualistic nature of industry itself. We can in fact argue that the Italian industry is characterised on the one side by competitive sectors with a high incidence of SMEs, and on the other side by a number of relatively less competitive sectors with a higher incidence of big enterprises. In other words, the lack of the coincidence, at sectoral level, between the two fundamental prerequisites for undertaking DFI (that is, the possession of the competitive advantage and the big size of the enterprises), can be seen as one of the major explanations for both the modest level of DFI and its non-representative pattern.

[73] The T-statistics for the constant and for the slope coefficient are respectively 4.25 and –3.16. This latter corresponds to a 0.41% level of significance.

Figure 3.7.: Normalised Export/DFI Ratios and Average Enterprise Size - by Industries - 1986

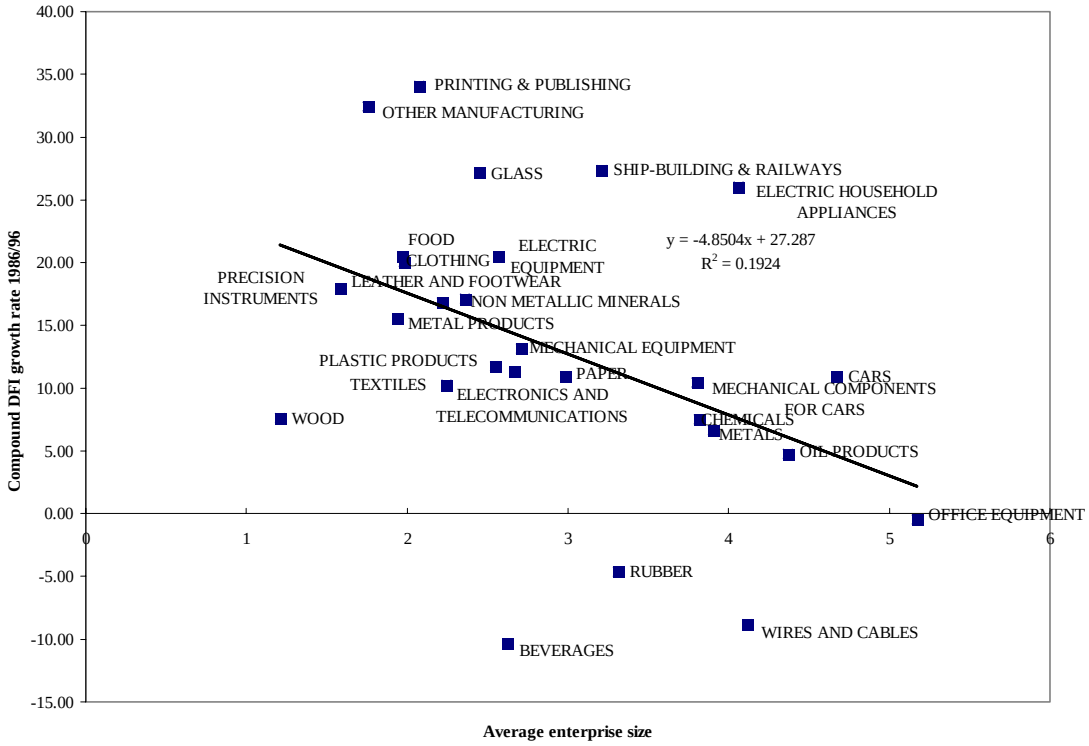


Source: Cominotti and Mariotti (1997), United Nations (1988), ISTAT (1994)

Although the balance between export and DFI was negatively influenced, at both general and sectoral level, by the enterprise size, it is interesting to observe that in the period between 1986 and 1996 the DFI growth was, instead, more intense just in the very sectors characterised by a smaller enterprise size,[74] an evolution that has to be interpreted within the framework of the convergence of the sectoral composition of DFI and export.

[74] The relation in figure 3.8. shows rather significant results. The T-statistics for the constant and the slope coefficient are, respectively, 4.47 and –2.44. This latter corresponds to a significance level of 2.21%.

Figure 3.8.: Compound DFI Growth Rates 1986/96 and Average Enterprise Size - by Industries

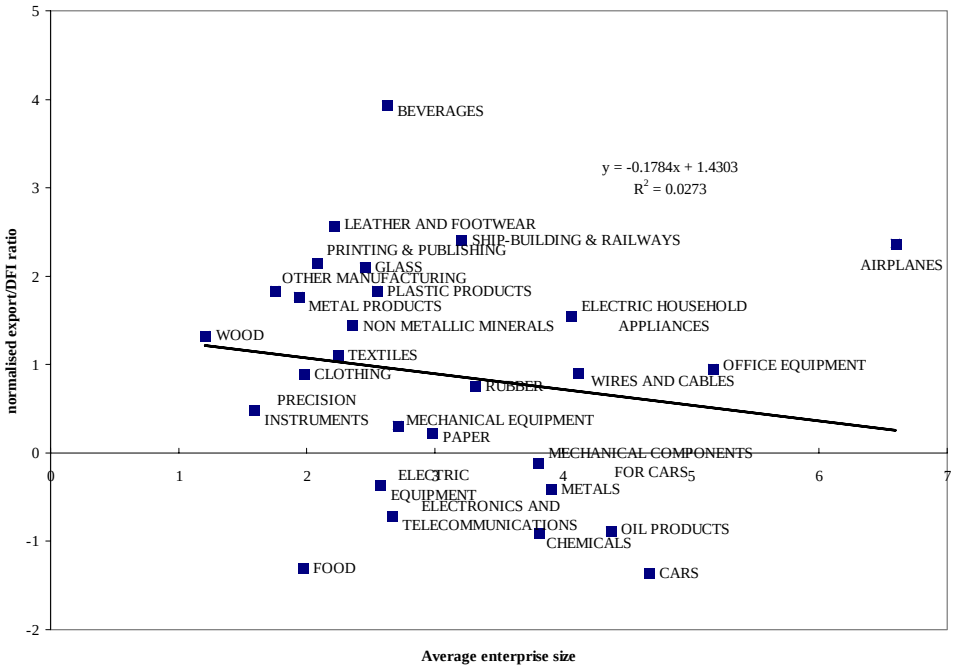


Source: Cominotti and Mariotti (1997), ISTAT (1994)

As a result of this higher DFI growth in the SME-based sectors, the relation between the sectoral export/DFI ratios and the enterprise size loses its significance.[75] In 1996 this relation seems in fact much less clear than it was in 1986, though the SME-based and export-oriented industries can still be found on the top half of the figure.

[75] The T-statistics of the constant and the slope coefficient are respectively 2.10 and –0.85. This latter is therefore clearly insignificant.

Figure 3.9.: Normalised Export/DFI Ratios and Average Enterprise Size - by Industries - 1996



Source: Cominotti and Mariotti (1997), United Nations (1995), ISTAT (1994)

Given the influence exerted by the sectoral differences in the enterprise size, it is finally interesting to verify which is the effective DFI contribution corresponding to the SMEs in each sector. Tab. 3.12 clearly shows a high cross-sectoral variance in DFI share of the SMEs: the highest shares can be found in leather and footwear (89.7%) and wood products (86.7%) and the lowest, near or equal to 0, in some non traditional industries. Overall, the highest incidence of the SMEs in DFI is displayed by the traditional and specialised-supplier sectors and the lowest in scale-intensive sectors. Science-based sectors exhibit an intermediate situation with a SMEs' contribution in the DFI which is close to their average share (12.9%). This variation in the DFI share of the SMEs reflects the differences in the enterprise size across sectors: SME-based sectors do coherently display a higher SMEs' incidence in DFI, while the opposite holds for sectors characterised by big enterprises. It must be admitted, though, that, apart from leather and footwear and wood, the DFI share of big enterprises is always significant, even in the sectors in which the weight of these enterprises is

small (i.e. textile, clothing and other manufacturing). This suggests that the few big enterprises which operate in these SME-dominated (and competitive) sectors are quite involved in DFI initiatives,[76] and that the internationalisation of the SME-based sectors coincides only partially with the internationalisation of the SMEs themselves. Therefore, we can conclude that the SMEs direct involvement in DFI, though growing, explains only partially the recent convergence emerged so far from the DFI sectoral analysis.

[76] Incidentally, this result fits well with our assumption that the big enterprise size and the possession of a competitive advantage are the two fundamental and perhaps sufficient prerequisites for DFI. Some of these big enterprises in the SMEs-based sectors were in fact able to exploit the local competitive advantage and complement it with the advantages of a global strategy. A typical case in point is represented by Benetton.

Tab. 3.12.: Employment in Italian Affiliates: compositions and share of the SMEs' employment

	Employment in all Italian Affiliates	Empl. in the Affiliates owned by Italian SMEs	% of SMEs' Affiliates Employment over the total
Basic food products	3.6	4.0	14.2
Textiles	2.7	6.7	32.5
Wearing Appar.(except footwear)	4.0	15.3	48.8
Leather products and Footwear	1.5	10.4	89.7
Wood products(except furniture)	1.1	7.4	86.7
Glass and prod.	0.8	1.3	20.3
Other non metallic minerals	4.5	2.8	8.0
Printing & Publishing	0.9	0.4	6.4
Other manufactured products	1.7	5.4	42.2
Traditional	**20.7**	**53.7**	**33.3**
Processed food products	8.8	2.5	3.7
Beverages	0.2	0.4	33.4
Tobacco	0.0	0.0	0.0
Paper	2.9	1.3	5.5
Petroleum and Misc.	3.0	0.0	0.0
Ind. Chemicals	2.1	1.7	10.4
Soap	1.0	1.0	13.6
Artificial Fibres	1.4	0.1	1.3
Rubber Products	3.2	0.5	2.1
Metals	6.6	7.8	15.3
Electric household appliances	3.4	0.2	0.6
Wires and Cables	2.1	0.1	0.5
Electric components for cars	2.9	0.0	0.1
Other electric products	0.6	0.5	11.7
Cars, motorcycles and bicycles	15.8	1.0	0.8
Mechanical components for cars	5.5	1.5	3.6
Scale Intensive sectors	**59.3**	**18.7**	**4.1**
Plastic Products	1.0	1.6	20.5
Fabricated Metal Products	1.6	4.0	31.6
Machinery (except electrical)	7.4	11.9	20.6
Electr. Machinery	1.3	1.0	9.6
Ship-building and railways	0.2	0.0	0.0
Specialised Suppliers	**11.6**	**18.4**	**20.5**
Chemical Derivatives	0.3	1.3	47.3
Farmaceutical Products	1.1	1.8	20.5
Computers and office machines	1.2	0.1	1.4
Electronics and Telecommunication	3.4	0.7	2.8
Precision Instruments	2.0	5.2	33.5
Airplanes	0.3	0.0	0.0
Science Based	**8.4**	**9.1**	**14.0**
Total	100.0	100.0	12.9

Source: Mutinelli (1997)

4. ASSESSMENT AND CONCLUSIONS

4.1. General Assessment

The DFI growth and the multinational catching up that has taken place in the Italian industry from the eighties onwards has been seen as welcome by both the business and the institutional environment in Italy. This phenomenon has in fact been interpreted as a normalisation of the international position of the country, and hence it has been seen as a positive sign. Unlike other developed countries, in Italy the fears of the 'dark side' of globalisation - namely the delocalisation of production, industrial decline and loss of jobs - have been overwhelmed by the enthusiasm for the new opportunities offered by the global business strategies.

Indeed, the analysis carried out here has given a peculiar interpretation of this process of normalisation or convergence. The international involvement of the Italian industry is still biased in favour of export rather than DFI; furthermore, from a sectoral point of view, the recent DFI growth has mostly relied on sectors which neither have a high weight in the DFI of the other developed countries, nor they had it in the past Italian pattern of DFI. This qualitative shift in the sectoral composition of DFI actually reflects the emergence, also in this form of internationalisation, of the new pattern in the exploitation of the competitive advantage of the Italian industry, a pattern which is quite different with respect to other developed countries and which is strongly influenced by the significant role played by SMEs.

In this regard, the sectoral comparison between DFI and export is illuminating. Theoretically, it was argued that, despite the limitation of the state of the art and the lack of integration between the DFI and the international trade theory, there are several arguments which imply, at sectoral level, a complementarity and a reasonable balance between export and DFI. In this respect, the analysis of the Italian case has been very stimulating. On the one hand, the sectoral composition of export and that of DFI were rather different from each other until the mid-80s, so that, if the hypothesis of complementarity between DFI and export were correct, then Italy would represent one exception. On the other hand, the recent DFI growth may signify a convergence of the DFI sectoral composition towards that of export. In other words, the Italian industry has 'normalised' its DFI involvement by generating

a level and a sectoral composition of DFI which is more representative of its own industrial and competitive pattern.

Notwithstanding the recent normalisation in its level, the Italian DFI increasingly shows some peculiar characteristics which deserve a special attention. It appears in fact that DFI, by reflecting more and more the country's industrial competitive structure, is acquiring a rather different pattern than that of other developed countries. With respect to these latter, three interconnected and unique characteristics distinguish in fact the competitive edge of the Italian industry: a significant weight of the traditional sectors, a high importance of the SMEs, and a mode of production that can be broadly described as flexible specialisation.

Overall, it is however difficult to foresee whether the recent trend in DFI, with its significant growth and particularly with its convergent pattern, can continue in the future.

If we assume the competitive advantage to be a long-term determinant of DFI, the perspectives for future DFI growth in big-enterprise-dominated and non typical sectors are not so promising. Recent trends confirm that the competitiveness of Italian industry sticks to its consolidated pattern based on traditional and (some) specialised-supplier sectors. Contrary to other developed countries such as France, U.K. and Germany, Italy has never shifted its export structure and its competitiveness towards other sectors. Particularly disappointing is indeed the performance of Italian industry in science-based sectors, a fact that is not fortuitous but reflects the lack of public and private investment in R&D and the insufficient level of human capital in the scientific field. The absence of any improvement in these preconditions is not a good sign in view of enhancing the competitiveness in all the science-based and technology-related industries in Italy. Consequently, a significant DFI growth from these sectors appears to be rather unlikely.

Yet, even if potentially more promising, the DFI growth in SME-based and competitive sectors is also quite uncertain; it depends in fact on a number of internal changes which may either influence the behaviour of the SMEs towards internationalisation or even determine an increase in the number of big and leading enterprises operating in these sectors. Especially for the SMEs, domestic and local policies aimed at promoting internationalisation may be influential, but so, or more, are exogenous factors, such as opportunities and favourable policies in the host countries, as well as global competitive pressures.

4.2. DFI growth and Internationalisation in Italy: Some Implications in the SME-based sectors

The internationalisation of SME-based and competitive sectors deserves a major attention. Although the DFI in these sectors has grown very rapidly in the recent period, and it is expected to continue in the future, there is a number of critical factors related to the DFI involvement in these sectors and, more generally, to the whole process of productive internationalisation in its various forms.

The small size of the enterprises in these sectors is often connected to a very peculiar industrial organisation, which is commonly referred to as industrial districts (Marshallian or not), flexible specialisation, local systems of enterprises, clusters of enterprises, etc. Very broadly speaking, this industrial organisation can be described through the following stylised characteristics:[77]

- geographic concentration of enterprises and productive process, as well as local containment of the value added chain for specific productions;
- specialisation of the enterprises in various phases of the productive cycle which becomes both vertically and horizontally fragmented;
- relevance of local external economies (Hirschman's linkages, human capital, technological spill-overs, etc.);
- institutional and social local mechanisms which regulate the working of this industrial organisation, with all its various and interdependent actors, and make it sustainable over the long run.

Analytically, dealing with the impact and the implications of DFI and productive internationalisation on this kind of industrial organisation is still at its pioneering stage. Though the following considerations are rather tentative, it seems important to analyse the phenomenon of DFI and productive internationalisation beyond the logic of the single enterprise (whether small or big), thus taking into account the industrial environment which

[77] We are not going now to deal rigorously and in detail with the fast growing literature on the Industrial District. Yet, some recent references from which the mentioned characteristics can be found are: Krugman (1991), Pyke *et al*. (1990), UNCTAD (1994).

strongly influences the enterprise.

Simply stated, the problem is to understand whether and how these systems may open their quite closed local productive network and achieve a different balance in the local/global mix (Bramanti and Maggioni 1997). The move to a more global productive perspective presents several obstacles intrinsic to the very nature of these systems. In fact, this kind of industrial organisation is characterised by a centripetal force due to the presence of external economies and to the difficulty of transferring and exploiting elsewhere the sources of the local competitive advantage, such as the know-how which is often diffused, tacit and embodied in the local people and institutions. [78] Furthermore, the transfer of the local know-how implies its codification and its adaptation to a different environment, activities which are new for this industrial environment and which require therefore a considerable effort and an innovative attitude.

Hence, it is difficult to foresee to what extent these systems may open their local productive network and also which means will be mostly used to achieve this task. Various scenarios can be depicted in this regard. To begin with, a growing number of SMEs might escape the gravity force of the local environment and undertake DFI initiatives or alternatively non-equity forms of productive internationalisation, such as international subcontracting, licences and other productive agreements. A different scenario may instead imply a more influential role of the big enterprises, which might increase in number and importance and become the main actors in DFI, thereby playing the role of an interface between the global and the local with all its SMEs. This latter scenario would also imply major transformations within the local systems, and certainly a shift towards a less balanced and less equitable power structure among the various local actors and institutions.

Overall, the situation is anyway still very open to any outcome, including a spurious combination of the two scenarios discussed above. The past evidence suggests a low but growing DFI involvement of the SMEs in all sectors, and especially in the traditional ones. In this respect some influence may be also played by undertaking appropriate policies, as will be discussed in par. 4.4..

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[78] The problem of transferring certain aspects of the Italian know-how was already observed by Boon (1980) in its comparative study on the shoe-making industry in developing and developed countries.

4.3. Implications for the host countries

In general, the benefits attributed to DFI in the host countries are various: technology transfer, human capital formation, financial capital inflow, export promotion, etc.[79]

Given the positive impact generally associated with DFI, one can ask if Italian DFI may determine a different influence with respect to other investing countries.

Some characteristics of the Italian DFI are worth to consider here. First, one half of Italian DFI is directed towards low- and middle-income countries, even more than half in the case of the traditional and supplier-specialised sectors which have experienced the most dynamic DFI growth from the mid-80s onwards. Second, particularly the DFI growth and the productive internationalisation of these sectors imply the spreading of a quite peculiar kind of investors, that is the SMEs, as well as a more general diffusion of an Italian mode of production.[80] With respect to the SMEs, various authors and organisations have emphasised their positive impact in carrying out DFI initiatives[81], or more in general operations of productive internationalisation or technology transfer, especially in developing countries.

White and Campos (1986) as well as Niosi and Rivard (1990) have claimed that the productive internationalisation conducted by SMEs may be more beneficial than the one carried out by bigger enterprises for various reasons. First, SMEs, as opposed to big enterprises, may transfer more appropriate technologies.[82] Second, the lobbying and bargaining power of SMEs is much lower compared to the one of big enterprises; this may lower the risk that the DFI operations undertaken by SMEs may negatively influence the policy objectives of the local and national institutions or contrast with the interests of the local partner, in case of a

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[79] Overall, the view that the benefits outweigh the costs of DFI has become so dominant that, in both developing and developed countries, policies have become increasingly friendly towards DFI.

[80] Furthermore, even when bigger enterprises participate in this process, the mode of production in these sectors reflects flexible paradigms of industrial organisation, with a very intense networking and sub-contracting with the SMEs themselves.

[81] Furthermore, ideally and abstractly speaking, a deeper internationalisation of SMEs may counterbalance the threats of a globalisation process whose main actors are the multinationals and the big firms. Some authors (like Amin and Robins 1991) argue that big enterprises have partially acquired a more flexible organisation and mode of production (i.e. increasing outsourcing) with respect to the past, and this has reduced the advantage of flexibility that typically characterises SMEs. A parallel move of the SMEs towards a deeper internationalisation could compensate this adverse change.

[82] Appropriate technologies are usually identified as small-scale, labour-intensive, basic-needs-oriented, etc. (see Schumacher 1973 and Stewart 1977). In the development debate of the 70s the introduction of appropriate technologies in LDCs was seen as very beneficial especially for solving the problems of hidden unemployment and under-employment, as well as for enhancing a more equitable and efficient pattern of development.

joint-venture (i.e. as concerns the critical conditions related to the local learning and technological assimilation).

Furthermore, also the Japanese school, represented by authors like Kojima (1978) and Ozawa (1979 and 1985), has considered the DFI of the SMEs as the most beneficial one. Contrary to the big western enterprises which are seen, by Kojima and Ozawa, as oligopolistic exploiters and rent-seekers, the Japanese SMEs are claimed to be the proper vehicles for the transfer of appropriate and superior technologies as well as flexible management techniques.

Finally, in various instances, UNCTAD[83] has expressed a real interest on the potential role of SMEs in DFI, suggesting the existence of the already mentioned advantages and also the possibility that the DFI and the productive internationalisation of the SMEs may particularly contribute at promoting a parallel SME-based development in LDCs. This development would be particularly desirable, given the progressive informalisation of many developing economies and the spreading of small-scale marginal activities on the one side, and the possibilities of turning a part of these marginal activities into a more advanced small-scale mode of production on the other side (UNCTAD 1994). The example of the Italian industrial districts, once poor and informal local economies and nowadays aggressive international competitors, witnesses the potential achievement intrinsic to a SME-based and flexible industrial organisation, and the existence of more than 'one best way of production'.

4.4. Policy Recommendations

The Italian industry with its competitive SMEs and with its peculiar mode of production represents a new but significant opportunity for the spreading of DFI and other forms of productive internationalisation. The scope for this international development is stressed by the potential benefits brought about by DFI in both Italy and the host countries, especially in the developing and transitional ones, as well as by the recent multinational growth that has occurred just in the SME-based sectors of the Italian industry. Yet, the still

[83] UNCTAD co-ordinated and financed a number of studies which still represent the most important researches available on productive internationalisation and DFI conducted by SMEs, including the already cited studies of White and Campos (1986) and Ozawa (1985). The report of the 1993 on the transnational SMEs (UNCTAD 1993) probably still represents the most extensive publication on this subject.

low DFI level in these sectors witnesses the various obstacles which limit this kind of initiatives, obstacles (i.e. capital constrains, risk aversion, lack of information, lack of human resources) that are mostly related to the small enterprise size, as pointed out also by the literature on the internationalisation of the SMEs (Buckley 1993, UNCTAD 1993, Mutinelli 1997).

More positively, though, it has been argued that some of the limitations caused by the small enterprise size can be partly overcome by means of an appropriate set of policies which encourage the initial experiences of the SMEs in the field of productive internationalisation and, more in general, which strengthen the international experience of these enterprises. Overall, it appears that the DFI of the SMEs would require a policy intervention, not only in the host countries (as it is typically the case when one deals with the promotion of DFI), but also in the investing countries. In this respect, the promotion of the productive internationalisation of the SMEs can be carried out through a financial support and, more importantly, through the provision of a number of real services[84] (information, guidance, assistance, consultation, intermediation, etc.), which support the managing of the internationalisation initiatives of the SMEs. These services, whose adequate provision is often hampered by market failures[85], may compensate for the lack of experience and resources within the enterprises themselves. Hence, a public intervention in this area is particularly necessary.

According to the kind of institutions and organisations involved in the promotion of DFI, we can identify three different levels – local, national, international - at which policies and interventions can be undertaken.

Local policies. Given the organisation of the Italian industry, interventions at local level are probably the most effective ones. Typically, the industrial district model, characterised by a geographic concentration of sectorally specialised activities, offers the best chances of success for local interventions, which may be based on the creation of agencies or

[84] We use the expression 'real services', as in Brusco (1992), to distinguish conceptually the provision of these services from any other policy related to the financial side (i.e. incentives and grants). Brusco uses this expression mainly with the meaning of a local and public provision of non-financial services to the SMEs in industrial districts.

[85] The applied studies on the services for the internationalisation of the SMEs (Bonaccorsi, Dalli and Varaldo 1990) have underlined the difficulty in the spontaneous development of their provision through the market. Informative gaps and other market imperfections bring to a situation of under-supply.

other institutions. There are in fact numerous positive experiences of local institutions which provide various services, including those related to internationalisation, to the local SMEs. These institutions are often not totally public but they involve an active participation of entrepreneurs, giving rise to cooperative organisations such as *consortia* (Cavalieri 1995).

Generally speaking, these agencies benefit from an integration with the local industrial environment, so that they are able to target their services and initiatives to the specific needs that emerge locally. Yet, the excessive local projection and the small size of these agencies may limit the scope of their international initiatives. The performance of these local agencies depends critically on their ability to balance properly their knowledge and their action between the local and the international business environment. Effective international networking, also with bigger institutions, can constitute an instrument for overcoming the obvious limitations of a small local agency when it is involved internationally.

National policies. An adequate policy and institutional framework at national level could be particularly beneficial for the promotion of DFI. An encouraging experience is the Japanese one. In Japan, the DFI and the productive internationalisation of the SMEs was strongly supported by a favourable domestic environment, to the establishment of which the national policies[86] contributed significantly[87]. In Italy, on the contrary, the organisational and institutional context does not appear to be very favourable for an effective supportive action at national level. To some extent, at least as concerns the provision of real services, decentralised and local interventions can be more appropriate than the supply of these services on a national basis. Notwithstanding, the success of local initiatives is not independent from the national support. Actually, national policies should complement and reinforce the local initiatives by providing them with the necessary coordination, assistance, external visibility, as well as funding. In this respect, it should prove essential to speed up and deepen the reforms already underway on the national institutions responsible for international cooperation and foreign trade. These national institutions should gradually improve their performance and achieve a higher degree of institutional and policy coordination.

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[86] A number of measures were undertaken: provision of information, consultation, training of personnel about to expatriate, granting of financial incentives and subsidised loans (Ozawa 1985).

International Policies. At international level, it is important to draw the attention of the policy-makers on the largely unexploited opportunities of the SMEs' DFI. In particular, UNCTAD, has been advocating a more intense internationalisation process of the SMEs for many years, by stressing the mutual benefits that could accrue to both developing and developed countries. Though it is difficult to judge whether policies towards DFI have become more favourable for the SMEs in the recent years, there is an overall tendency to consider seriously the opportunities offered by SME-based development in general, and by the SME-based international cooperation in particular.

An encouraging and concrete positive sign of a policy shift can be also found at the level of the European Union with the pursuit of programmes such as ECIP and JOPP, which provide facilities for the establishment of joint-ventures between European SMEs and enterprises, respectively, in ACP countries and in the transition economies in Eastern Europe. Noteworthy is also the recent extension of these facilities, so as to include the promotion of joint-ventures even between two SMEs within the European Union.

Though the concrete interventions for the promotion of SMEs' DFI should be probably revised,[88] the current policy trend witnesses the growing awareness, among policy-makers, especially at European level, of the importance of promoting the internationalisation of SMEs as a strategy that may fulfil many purposes, including north-south and east-west industrial and commercial cooperation, a deeper economic integration and cooperation within the European Union and the general reinforcement of the competitiveness of the SMEs themselves.

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[87] Various public institutions intervened in favour of the productive internationalisation of the SMEs (i.e. the Ministry of International Trade and Industry (MITI), the Japan External Trade Organisation (JETRO), the Japan Small Business Corporation), as well as private institutions such as the Trade Companies.

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[88] For example, the facilities provided by the European Union may require certain formal requirements which represent serious obstacles for the rather informal SMEs of the Italian industrial districts (Cavalieri 1995).

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