International relocation of production and the growth of services: the case of the "Made in Italy" industries

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This article first presents a "systemic" approach to the international relocation of production, one that looks at local production systems as a whole, rather than at the activities of a single transnational corporation. This approach is used as the basis for an assessment of the effects of the international relocation of production on the local economy and specifically on the growth of service industries. The empirical application relates to "Made in Italy" industries (textiles, clothing and leather products). These have increasingly relocated parts of the production chain abroad over the past decade, with effects on the employment growth of those services that are located in the same local production system. The term "province" is chosen as a proxy for the latter and as the geographical unit of analysis in the empirical research. Overall, the empirical results show that the international relocation of production processes is associated with the growth of services. In particular, a high degree of internationalization is associated with a positive employment growth of the service sector as a whole and of its most traditional industries, such as trade, transport and financial services. However, a negative relationship has been found in the case of business services and, in particular, for the "science-based" industries (engineering, research and development, software industry). The conclusion is that the international

relocation of production processes seems to "pull" employment growth by way of increasing the outsourcing of the most traditional and downstream service industries. However, the international relocation of production also appears to crowd-out the most innovative and upstream service industries. There are policy implications from these results. The article concludes with a call for specific industrial and technology policies to enhance the growth of upstream and technologically advanced service industries, in order to preserve the competitive strength of the local production system as a whole.

Introduction

This article has two main aims. First, to present a systemic approach to internationalization; more specifically a systemic approach to the process of the international relocation of production (IRP). Second, to use this approach to evaluate the effects of IRP. In this context the article will explore the causal relationship between IRP and the growth of service industries in the provinces that specialize in the "Made in Italy" ("MiI") type of production.[1] The "MiI" industries include traditional manufacturing such as textiles and clothing, leather and shoes. The "MiI" is a very good arena of analysis, because firms operating in these sectors are part of well-integrated local production systems; moreover, they have experienced a great deal of relocation of production over the past decade.

Provinces are the chosen spatial unit of analysis. A "provincia" is one of the three territorial administrative units in Italy. The others are: "comune" and "regione". The "provincia" comprises several "comuni", that is, towns of various sizes including at least a large one. The whole of Italy comprises 103

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[1] For a review of various economic issues on the "Made in Italy" industries, see Becattini, 1979, 1991.

provinces grouped in 19 regions. The choice of province as the territorial unit of analysis assumes that the geographical boundaries of the local system of production specialized in the "MiI" sectors roughly coincide with those of the administrative province.[2]

The evaluation of effects (the second aim of the article) is made in relation to the effects of IRP on services in the provinces affected by the relocation. The article proceeds as follows. The following section deals with the theoretical approach underlying the analysis. The third section presents the empirical results and the final section briefly discusses the methodological implications of the approach adopted and draws some general policy implications from the empirical findings.

International relocation and the internationalization of production

The international relocation of production can be analyzed from various perspectives and in particular using the following approach (Buckley and Mucchielli, 1997):

(1)   Undertaking an assessment of the volume and pattern of international trade to which IRP gives rise.

(2)   The internal relocation by transnational corporations (TNCs) of production originally based in country (A) – whether the home or a host country – to another country (B). By internal relocation is meant the fact that the TNC has equity control over the unit (affiliate) where the output is relocated.

The relocation of production between different countries can take place internally to a particular TNC (as in point 2 above), but it can also take place externally to it or with various degrees of externalization; in other words a TNC can outsource the production relocated abroad. This is a third approach to the

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[2] The debate on the identification - and related measurement - issues related to the concept of local production system is large and includes issues of local system of innovation. For a review, see Breschi and Lissoni, 2001.

IRP and the one taken in this article. It is a wider view of the relocation process, one that has implications for the assessment of effects. By international relocation is therefore meant a shift of production from firms based in a given country (whether owned by nationals of that country or not) to other firms based abroad (again, not necessarily owned by nationals of the foreign country). Following the outsourcing of the production process, the output can be imported back into the country from which it was relocated by the TNC, most likely to be sold under that company's own brand name. In this case the IRP involves the outsourcing of parts of the value chain; the main TNC becomes involved in the final stages: marketing of the final product under its own brand name. The whole process has effects on the local economy of country A, in this case Italy.

This approach stems from the integration of two somewhat different approaches to the relocation issue. The first one is what we could call the international fragmentation of production approach (Arndt, 1997a, 1997b; Jones and Kierskowski, 1997; Baldone et al., 2000). It refers to the fact that the production process is decomposed and its parts are located in different countries. This line of research studies the phenomenon primarily from the point of view of the organization of production and the international division of labour (Jones and Kierkowsky, 1997). The second approach focuses on "outsourcing" on which concept Feenstra and Hanson write:

> *"…we adopt a more general definition of outsourcing, which in addition to imports by U.S. multinationals, includes all imported intermediate or final goods that are used in the production of, or sold under brand name of, an American firm"* (Feenstra and Hanson, 1996a, p. 92).

This wider approach to the IRP has, in our view, two main advantages:

(1)   It considers IRP as a unitary process independently of whether it involves direct investment and/or equity holdings.

(2)   It highlights the fact that the firms involved in the relocation process are in asymmetrical position as regards power and control.

Traditionally control has been considered in terms of legal control and thus in terms of equity control. This means that the power of the relocating firm has been analysed mainly when the relocation process takes the form of foreign direct investment (FDI) and direct international production. The approach here proposed aims to capture the following: a TNC that outsources internationally may not have equity control over the smaller foreign firm; however, it has a large degree of economic control (Cowling and Sugden, 1998). This includes control over product specification as well as over the market to which the output is directed.[3]

The approach of this article therefore goes beyond the analysis of TNCs as the one characterized by legal control over foreign assets. Such a definition is appropriate when one wants to analyze large firms. However, when the involvement of many small and very small firms in the international processes is considered, there is a need to look at the system as a whole to understand (i) how these small firms become involved; and (ii) how they are affected by the wider international activities. This means that the internationalization processes can best be understood by looking at the whole system and the wider relationships between firms involved in the production chain. It follows that the effects must also be evaluated by looking at the wider system and its implications. This is what is attempted in the following sections.

The "MiI" sector is a particularly interesting area of analysis for the application of this systemic approach, because it is characterized by the presence of small and very small firms

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[3] In the attempt to analyse the wider relationships between firms, some authors (Ietto-Gillies, 2001) have used the concept of "fuzzy boundaries" of the firm in general. What this article is saying is that though the boundaries of the single firm may be "fuzzy", the control that some firms have over others may be less uncertain. Fuzzy boundaries do not necessarily imply fuzzy control.

mostly organized in local production systems (districts). Moreover, the "MiI" sector implies the presence of a possible hierarchical and control relationship between the Italian and foreign firms. The services sector was chosen as a focus for the assessment of the effects because it is the one most affected by the reorganization of production following relocation. This is true in relation to the effects on TNCs and the relocating sector itself, as well as in relation to the overall local production system.

The empirical analysis

This section considers the effects of internationalization of "MiI" industries on the local economy and in particular on the growth of employment of the local service industries.[4] Specifically, the relationship between IRP processes in the "MiI" specialized provinces and the growth of services in the same provinces over the period of 1991-1996 is tested. The data used in the empirical analysis are drawn from the International Trade (ISTAT, 1995, 1998a) and the Italian Census of Manufacturing and Service Enterprises (ISTAT, 1998b) statistics. Two main dimensions are identified as having a potential effect on the growth of services: the degree of involvement in IRP and the level of specialization in the "MiI" industries. Accordingly, three groups of provinces are identified, which share a high level of specialization in the "MiI". The firms located in these provinces have different strategies of international relocation of production, so that the "MiI" specialized provinces have different average intensity of IRP.

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[4] The choice of employment rather than output or value added as an indicator of economic growth in services is due to different interrelated reasons. First of all, the use of employment growth allows us to capture potential compensation mechanisms operating at the local level between the "MiI" industries and the service industries. Moreover, the problems of conceptual definition of activities that produce and deliver intangible products raise issues of adequate output measurement, including those linked to the use of an appropriate deflator to quantify the added value of services (Griliches, 1992).

This section is divided into three subsections, the first of which identifies three groups of provinces on the basis of the IRP and the "MiI" specialization, drawing upon the results of previous studies (Schiattarella, 1999a, 1999b, 2001). The second subsection considers the employment growth in the service industries located in the three groups of provinces, in order to provide a preliminary picture of the relationship between the degree of international involvement in the "MiI" specialized provinces, and the growth of services. In the third subsection, a simple model is tested, which aims to capture the effects of IRP on the patterns of growth in different services sectors. In particular, the degree of involvement in IRP has been considered as an explanatory variable of the employment growth differentials across services. The model controls for the overall employment trend in the rest of the economy across provinces and for the level of specialization in the "MiI" branches, by including dummy variables which capture the effects of IRP within the three groups of provinces identified above.

Identification of the groups of provinces

Table 1 reports three groups of provinces, identified on the basis of the different degree of IRP involvement and the "MiI" specialization. The provinces reported in the table are considered to be specialized in the "MiI" industries, because the share of employees in these industries of the total manufacturing employment is higher than 25%. This percentage is, in fact, higher than the national average of the "MiI" in the total of manufacturing employment, which is less than 20%. The provinces chosen, though representing only a quarter of all Italian provinces, employ more than a half of the total "MiI" labour force.

The three groups of provinces in table 1 differ according to the degree of involvement in international relocation of production, measured by an International Relocation Index (IRI). The index – which is calculated for all the Italian provinces – is developed as follows.[5]:

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[5] See Schiattarella, 2001.

Table 1. Employment in "Made in Italy" sectors and international relocation of production index (IRI)
Provinces specialized in "Made in Italy" ("MiI") industries, 1996
(Percentage share)

Province	(a) Employment share in "Mil"	(b) IRI
Group 1		
Arezzo	35.12	1.57
Lecce	51.38	1.00
Padova	25.07	1.67
Pistoia	47.27	1.25
Treviso	25.49	2.01
Varese	26.75	1.32
Total	29.92	
Group 2		
Ascoli	59.67	0.56
Como	33.82	0.59
Firenze	35.38	0.72
Macerata	52.13	0.68
Mantova	30.55	0.69
Novara	25.12	0.90
Perugia	25.39	0.54
Prato	84.52	0.66
Teramo	46.02	0.66
Vercelli	27.52	0.68
Vicenza	28.31	0.79
Total	37.97	
Group 3		
Avellino	30.04	0.17
Bari	32.07	0.31
Benevento	31.05	0.14
Biella	72.39	0.28
Enna	27.19	0.00
Pescara	27.96	0.18
Pisa	43.47	0.27
Rovigo	37.63	0.01
Total	40.36	
Italy	18.99	

Sources: ISTAT, 1998a, 1998b.
(a) Share of employment in "Made in Italy" sectors (textiles, clothing and leather) in the whole manufacturing sector, by province. The provinces included have a share of employment of "MiI" higher than 25%.
(b) The groups of provinces have been identified according to the value of IRI: (group 1: IRI higher than 1; group 2: IRI between 0.5 and 1; group 3: IRI lower than 0.5).

$$\text{IRI} = \frac{\text{Province "MiI" import due to relocation/Italy "MiI" import due to relocation}}{\text{Province "MiI" employment / Italy "MiI" employment}}$$

The numerator is a ratio between the level of import due to relocation processes in each province, and the national level of import due to relocation processes. The denominator is a ratio between the employment in the "MiI" industry in each province and the total employment in the "MiI" industry in Italy. The index can therefore provide a rough measure of the relative importance of the international involvement of "MiI" in each province, weighted by the relative dimension of the "MiI" branch in the province, in comparison with the national average. In particular, Group 1 provinces show the highest degree of international involvement with an IRI higher than 1. In turn, provinces in Groups 2 and 3 show a medium and low international involvement (IRI between 0.5 and 1 and IRI lower than 0.5, respectively).

The identification of the three groups of provinces responds therefore to a twofold criterion of selecting local systems of production where: (a) the relative importance of the "MiI" industries is higher than the national average; and (b) the processes of internationalization represent a pervasive phenomenon within the local industrial environment.

The growth of services across groups of provinces

Tables 2 and 3 report the average annual rates of employment growth over the period 1991-1996 in services across the three groups of provinces and compare them to the national averages. Special attention has been devoted to the business service industries (table 2), both as a whole and for the three digit level branches, such as legal and accounting, engineering, technical consultancy, marketing, other business, security and cleaning services.

Table 2. Growth of employment in business and total services by sector and group of provinces, 1991-1996

(Per cent)

Province	(a) Legal & accounting	(b) Engineering	(c) Technical consulting	(d) Marketing	(e) Security	(f) Cleaning	(g) Other business services	(j) Total business services	(k) Total services
Group 1	4.0	6.7	20.0	-5.3	3.4	6.5	7.9	5.4	0.5
Group 2	3.8	6.6	3.2	-5.6	1.1	4.0	8.8	4.9	0.4
Group 3	4.3	6.9	4.0	-3.9	0.5	8.1	8.9	5.5	-0.4
Italy	4.2	3.7	-5.5	-6.9	-3.5	2.7	9.5	3.8	-0.6

Source: ISTAT, 1998b.
Note: Average annual rate of growth of number of employees.

Table 3. Growth of employment in ICT, R&D, financial, trade and transport services, by group of provinces, 1991-1996

(Per cent)

Province	(a) Computer & software	(b) R&D	(c) Financial services	(d) Transport & communication	(e) Trade & hotel restaurant
Group 1	2.4	-1.6	-0.3	0.1	-1.1
Group 2	2.1	-1.3	0.4	-0.6	-0.9
Group 3	0.8	12.0	0.7	-1.3	-2.3
Italy	1.9	-19.3	-0.7	-1.4	-1.7

Source: ISTAT, 1998b.
Note: Average annual rate of growth of number of employees.

Table 2 also reports the average annual growth rate of employment in the whole services sector (column k). A link emerges between the growth of employment in services and the international involvement of the "MiI" industries across the provinces in which they are located. The growth rate in the whole services sector in Group 1 provinces is higher than the rate for the other groups, as well as higher than the one for the national average. Over the period considered, in fact, the employment growth in the whole services sector is decreasing at the national level, though not so dramatically (-0.6%), whereas Groups 1

and 2 present a positive, though low rate of growth (respectively 0.5 and 0.4).

Looking at the other columns (a to g) in table 2, the following emerges. The "technical consultancy and security" branches grow faster in the first group of provinces, both compared to the other groups' averages and to the national average, which is negative for both branches. The case of technical consultancy is particularly striking: the branch's growth rate in the first group is 20%, whereas the other two groups show on average 3.5% and the national average growth is even negative (-5.5%). The selected "MiI" specialized provinces, regardless of the different propensity to internationally relocation, systematically show a positive services' employment growth compared to the national average.

Table 3 shows the average annual growth rate of employment, respectively, in ICT (computing, software and related activities in column a), R&D services (column b) and in the most traditional branches, such as financial services (column c), transport and communication (column d) and trade (column e). The trade industry includes trade and repair of motor vehicles, wholesale, retail trade and hotel and restaurants; transport includes land, sea, air transport and travel and transport agencies; finally, the financial services include banking, insurance and other financial services.

A relationship between growth rates of services and IRP across different groups emerges clearly as far as the ICT, R&D, financial and transport industries are concerned. In particular, the degree of internationalization (identified by the three groups) and service growth seem to be positively related for the ICT (2.4% in Group 1) and transport services (0.1% in Group 1), while it is negative for R&D (-1.6% in Group 1) and financial services (-0.3% in Group 1).

At first glance, it seems therefore that the services' growth performance and the international involvement of the "MiI" activities located in the same provinces are related. This is the case, for instance, for the software, technical consultancy,

security and transport services. Overall, all the groups show better employment trends as compared to the national average, regardless of both the specific sector and the degree of international involvement of "MiI".

This seems to suggest that for some service industries the driving factor for a positive employment growth performance, as compared to the national trend, might be related to other structural factors. It could be due to an overall positive employment growth rate of the whole economy (primary, manufacturing and services sectors) at the provincial level, and/ or to factors related to the industrial specialization of the province considered. In other words, services might grow better in the chosen provinces because the whole local economy has performed better compared to the national average. Conversely, the fact that a province is specialized in the "MiI" sectors, as is the case for the selected provinces, might boost services' employment performance, due to a strong sectoral interdependence between "MiI" and services located in the same province. Both factors will be controlled for when the presence of a structural association between IRP and service growth is tested through regression analysis.

IRP and the growth of services across groups of provinces

The empirical evidence presented in the previous sections shows that the average annual growth rate of employment in some of the service industries varies considerably across the three groups of provinces specialized in the "MiI". It is tested for whether the growth of these industries at the provincial level might be affected by the different propensity of the "MiI" sector to relocalize production internationally.

A model is here developed in order to test the extent to which a structural relationship exists between patterns of services growth and the international relocation of production in the "MiI" industries across Italian provinces. Econometric estimates have been carried out for all the 103 Italian provinces, in the attempt to isolate the effect of IRP processes on the growth of services.

The chosen specification for the model is the following:

$$[1] \qquad \dot{s}_i = \alpha + \beta \cdot \dot{irp}_i + \delta \cdot \left(\dot{e}_i - \dot{e}_N \right) + \sum_{j=1}^{3} (\chi_j \cdot D_j) + \varepsilon_i$$

where:

$\dot{s}_i$	**:** Average annual growth rate of employment in service sectors over the period 91-96 across provinces (SERV9196);
$\dot{irp}_i$	**:** Change of the value of the relocation index in the "MiI" branch over the period 91-96 by province (IRI);
$\left(\dot{e}_i - \dot{e}_N \right)$	**:** Difference between the provincial and the national average annual growth rate of employment of the total economy (that is, primary, manufacturing and services) (DTOTE9196);
D_j	**:** Dummy for provinces with a share of employees in the "MiI" of total manufacturing above 25% and value of International Relocation Index respectively: above 1, between 0.5 and 1, and below 0.5 (GROUP, with j = 1, 2, 3);
ε_i	: Error term for province i, where $\varepsilon_i \approx IN\left(0, \sigma^2\right)$

and:

α is the constant; β, δ and χ_j are the parameters to be estimated.[6]

Table 4 lists the variables to be entered in a traditional ordinary-least square regression with robust standard errors. The variable IRI is the change in the value of the relocation index discussed above and is included as a proxy of the changes in the propensity to internationalization of the "MiI" industries across provinces. The dummy variables (GROUP$_1$, GROUP$_2$, GROUP$_3$) are meant to capture the effects of different degrees of propensity to internationalization in the "MiI" jointly with a high level of specialization in these industries, that is within the three groups of provinces identified in the previous subsections.

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[6] For the sake of simplicity, from now the indices i and j will be implied and no longer explicitly indicated.

The variable DTOTE9196 is the difference between the employment growth of the total economy in the province and in Italy. This allows control for the relative position of each province with respect to the national average in relation to total employment. In other words, the variable DTOTE9196 controls for cyclical effects, because it repositions each province in relation to the national average in terms of employment trends. Moreover, the use of a difference variable allows us, from an econometric point of view, to avoid problems of identification inherent in the particular specification of the model.

Table 4. List of variables used in the model

Dependent variables[a] **Acronym**	**Proxy**
ENG9196	Engineering
LEG9196	Legal and accounting
OTHB9196	Other business services
RD9196	Research and development
SOFT9196	Computer, software and related
TBUS9196	Total business services (legal, engineering, technical consultancy, marketing, training, security, cleaning and other business services)
TECH9196	Technical consultancy
TFIN9196	Total financial services (banking, insurance, other financial services)
TTRACO9196	Total transport and communication (land, air, sea transport, travel agencies and post and telecommunication)
TTRADE9196	Total trade services (trade and repair of motorvehicles, retail, wholesale trade and hotel and restaurants)
TSER9196	Total services
Explanatory variables[b]	
IRI	Change of the value of the relocation index by province, 1991-1996
GROUP1	Dummy for provinces with IRI above 1 and share of employees in "MiI" above 25%
GROUP2	Dummy for provinces with IRI between 0.5 and 1 and share of employees in "MiI" above 25%
GROUP3	Dummy for provinces with IRI below 0.5 and share of employees in "MiI" above 25%
DTOTE9196	Difference between the provincial and the national average annual growth rate of employment in total economy

Source: Author's calculation.
[a] All variables are standardized average annual growth rates of employement 1991-1996.
[b] All variables are standardized values.

Equation [1] is tested separately for each dependent variable reported in table 4. These variables are constructed as an average annual growth rate of employment of different services and for the services sector as a whole. As the variables have been standardized, the parameters can be interpreted as elasticity of the employment growth rates of services with respect to IRI and DTOTE9196.

It is worth noting that the series of explanatory variables are quite heterogeneous, though a preliminary check of the correlation among them has been performed to control for multicollinearity. Therefore it is expected that the variable DTOTE9196 will capture most of the variance to be explained. This allows the isolation of the effects of the variable IRI, by formulating quite a conservative specification, such as the one proposed above. However, this also makes the econometric exercise quite risky, for the variables related to the intensity of the international involvement and the "MiI" specialization are likely to have quite a low explicative power, when compared to the DTOTE9196 variable.

The results of the regression estimates are reported in table 5. The first equation refers to the average annual growth rate of the whole services sector. The estimated relationship seems to be quite effective in capturing the variance of the dependent variable, as the value of the adjusted R-squared is quite high (over 73%). The internationalization of the "MiI" branches has a significant and positive impact on the growth performance of the whole service sector located within the same province. As expected, most of the variance is explained by the variable DTOTE9196, which proxies the relative position of each province in terms of growth of the whole economy. The results of the estimates also show that internationalization in the "MiI" has an impact *per se* on service growth, regardless of the level of "MiI" specialization of each province.

The following equations test the effects of the explanatory variables included in the model respectively on the most traditional branches of services, that is trade, transport and

finance, as well as for R&D and software industry. Moreover, the regressions have also been run on some of the business services disaggregated at the three-digit level (engineering, legal, technical consultancy in the last three rows of table 5), as well as for the whole business services industry (TBUS9196). This selection allows us to explore whether the most innovative and high-growth services over the last decades have been affected by the process of international relocation carried out by the "MiI" branches.

Table 5. Relationship between the growth of services and international relocalization of production

Dependent variable	Explanatory variable						N° Obs.	Adj. R-Squared
	CONST.	IRI	GROUP1	GROUP2	GROUP3	DTOTE9196		
TSER9196	.002 [.04]	.10** [2.32]	.008 [.04]	.06 [.46]	-.13 [-.53]	.818** [10.03]	103	.732
TTRADE9196	.004 [.07]	.110** [1.92]	-.04 [-.26]	.139 [.82]	-.217 [-.69]	.773** [8.97]	103	.675
TTRACO9196	.001 [.01]	.098* [1.50]	.190 [.42]	-.162 [-.57]	.06 [.20]	.378** [3.11]	103	.175
TFIN9196	-.043 [-.40]	.151** [2.78]	-.102 [-.31]	.139 [.61]	.451 [1.46]	.323** [3.05]	103	.160
RD9196	.087 [.75]	.062 [.72]	-.656** [-2.18]	-.583** [-2.18]	.133 [.33]	-.134 [-1.10]	99	.080
SOFT9196	.104 [.95]	-.072 [-.85]	-.240* [-1.50]	-.223 [-.81]	-.862 [-1.70]	.195* [1.68]	103	.092
TBUS9196	.073 [.67]	-.170 [-1.30]	-.287 [-.88]	-.325 [-1.29]	-.285 [-.60]	.319** [2.44]	103	.112
ENG9196	-.006 [-.05]	-.153* [-1.65]	.063 [.26]	.055 [.17]	-.040 [-.23]	-.092 [-.95]	103	.040
LEG9196	.086 [.75]	-.207** [-2.93]	-.351** [-2.12]	-.420* [-1.71]	-.273 [-.72]	.210** [2.09]	103	.090
TECH9196	-.073 [-.69]	-.143* [-1.52]	1.34** [2.56]	-.163 [-.68]	.156 [-.69]	.246** [2.01]	101	.160

Source: author's calculation.
Notes: OLS estimates with robust standard errors in square brackets.
* significant at 10%.
** significant at 5%.

The results show that the IRP processes significantly affect the growth patterns of most of the service industries considered. In particular, the variable IRI has a positive impact on the growth patterns of the traditional service industries (first six rows of table 5). Conversely, the estimated coefficient of IRI is negative in the cases of the business services, both considered as a whole and for most of the single branches, such as engineering and legal services. However, the level of specialization in the "MiI" does affect the growth of employment in the case of technical consultancy, as the value of the coefficient of the variable GROUP1 is positive and significant (1.34). This confirms, as emerged in the previous section, that in some cases it is the joint presence of strong specialization and high propensity to internationalize that affects services' employment growth.

As expected, the coefficient of the variable DTOTE9196 is positive and statistically significant in most of the estimates. This confirms that the employment trend of services is strongly associated with the overall trend of the total economy at the provincial level.

Summary and implications

This article has developed a systemic approach to internationalization and has used it to analyse the effects of the international relocation of production (IRP) in the Italian provinces specialized in the "Made in Italy" ("MiI") industries. The analysis of this article has aimed therefore to give content and dimension to the notion of *systemic* effects of the IRP. By using the word "systemic", attention is drawn to the fact that IRPs have an impact on those firms and industries that are not necessarily directly involved in the IRPs. Their indirect involvement is connected to the fact that they belong to the same production chain and are located in the same local area (province).

The effects of IRPs on the system are assessed through econometric estimates of the growth of services in the relevant Italian provinces. Overall, the results of the empirical analysis

presented in this work show that IRPs carried out by "MiI" firms have considerable effects on the growth patterns of services in the chosen provinces. In particular, the more internationally involved a province, the higher the employment growth in the services sector as a whole. Such a positive relationship occurs for the most traditional branches like trade, transport and financial services. Conversely, a negative relationship emerges in the case of business services and, in particular, for the science-based industries (engineering, R&D, software industry). From these results it can therefore be inferred that IRPs – which involve major changes in the organization of production – seem to pull the growth of traditional branches of services. However, IRP processes seem also to crowd out the growth of science-based business service industries.

This suggests that the structural change in the organization of production represented by IRPs is associated with (and possibly drives) further organizational changes aimed at internalizing the most innovative service functions within the relocalizing firm. In other words, the higher the international involvement, the higher the demand for innovative service functions: the choice of internalizing rather than outsourcing them in the case of the"MiI", would explain the negative impact of IRPs on the most innovative and upstream services industries.[7]

There are policy implications from these findings. The positive overall employment impact of IRPs on service industries has to be complemented and further reinforced by specific policy actions, aiming at sustaining the growth of the most technologically advanced and upstream service industries. These sectors seem rather to be penalized by the processes of IRPs occurring at the local level, most probably due to the choice of internalizing rather than outsourcing the most innovative service functions carried out by the "MiI" firms. The results may justify policy interventions aiming at affecting the structural composition of services – in favour of those service industries

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[7] See also the empirical findings presented in Rossetti and Schiattarella, 2003.

that are science-based and high in value added – in the context
of an increasing internationalization of production of some
manufacturing industries. It is crucial therefore to create the
conditions for a virtuous circle between increasing
internationalization, innovation and the changing composition
of the industrial structure towards technologically advanced
services. ■

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