INDUSTRY PROFILES AND ECONOMIC PERFORMANCES: A FIRM-DATA-BASED STUDY FOR ITALIAN INDUSTRIES

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Abstract. *In this paper, we analyse the performance of Italian firms, taking into account firms' specific characteristics and organisational capabilities in terms of investments, human capital and internationalisation strategies. A multilevel regression model, in particular a growth model, is estimated in order to detect the relationship between the firms' current level of productivity and a set of indicators representing human capital characteristics, organisational capabilities and investments over time.*

Keywords: *Growth model, Multilevel model, Productivity*

1. INTRODUCTION

During the past fifteen years, Italian firms have registered very slow growth in productivity, and this situation should spur them to set up complex strategies in order to maintain success in a strong globally competitive environment.

The role of entrepreneurs and managers, labour-force skills and talent, investments and internationalisation strategies are crucial for success in manufacturing products and providing services of high quality. This set of heterogeneous characteristics can be identified with the general definition of "firms' managerial practice.

Recently, the empirical economic literature has focused on the role of managerial practice in fostering firms' performance. Managerial practices are related to physical and human capital, as well as to organisation, good management and entrepreneurship (Audretsch *et al*., 2006). Market competition is closely

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connected to some aspects of the innovation and of the firms' organisation such as non-financial performance measures, innovative managerial practices, and workers' skills and training. Moreover, managerial practices are strongly associated with firms' level of productivity and play a significant cross-country role in market competition (Bloom and Van Reenen, 2007).

In Audretsch's study (2012), the same factors are stressed in relation to firms' growth. In particular, a firm's orientation towards international markets combined with prior international experience for the entrepreneur enhances the firm's growth performance; moreover, access to intellectual property is associated with high-growth firms, which have a greater propensity to hold intellectual property and intangible assets than do lower-growth firms. Finally, according to Chandler and Hanks (1994), high-human-capital employees facilitate firm growth by fostering management's and owners' efforts to implement the firm's growth and quality targets, as well as in terms of differentiation based on product and service quality.

Moreover, some authors (Onida, 2002; Guelpa, 1999), describing the causes of the declining Italian productivity that occurred during the last decade, have highlighted the scarce presence of skilled labour, as well as poor investments, above all in research and development (R&D). Human capital embodies knowledge, skills and experience; therefore, the knowledge held by individuals plays a crucial role in building the competitive advantage of a firm.

In this paper, we analyse the performance of Italian firms, taking into account some specific characteristics of firms, such as tendency towards investment, tendency to export and different mixes in human capital use. A multilevel regression model, in particular a growth model, is estimated in order to detect the relationship between the firms' current level of productivity and a set of indicators representing human capital characteristics, organisational capabilities and investments over time.

Multilevel modelling is a technique developed in the late 1980s, when computing resources significantly increased. Most of the literature on this approach is devoted to sociology and to educational performance measurements (Goldstein, 2010). Analyses of firms' performance are widely carried out in the economic literature, but are rarely implemented using a multilevel approach.

In Section 2, the data and a classification of the indicators proposed in the analysis are illustrated. Section 3 explains the applied growth model and shows the main results of model estimation. Finally, the last section is devoted to some concluding remarks.

2. DATA, CLASSIFICATION AND INDICATORS

2.1 DATA AND CLASSIFICATION

The economic data used in this paper comes from a firm-level panel conducted by ISTAT (Nardecchia *et al*., 2010), providing information for the years 1998–2007. The panel contains data concerning around 8,000 firms that are highly representative of Italian enterprises, each with at least 20 employees (Biffignandi *et al*., 2009).

Each firm, according to the characteristics of its main economic activity, is originally associated with an industry defined within the ATECO classification, which is a disaggregated version of the Eurostat NACE, Rev. 1 industry classification. In order to facilitate a high comparability of our results at the international level, industries are redefined according to the classification adopted with the purpose of detecting the high-technology (HT) intensity sectors for manufacturing and the knowledge-intensity sectors (KIS) for services[2]. This classification is designed to take into account the technology intensity and/or trade sensitivity of sectorial production activities.

For the purposes of this analysis, the technology-based criterion is particularly important, and the behaviour of firms with different technological intensity in terms of wage levels, production orientation, skill levels and productivity is highlighted. An HT-KIS classification is adopted in order to carry out the following analysis. The HT-KIS classification levels are presented in Table 1.

Table 1: HT-KIS classification.

Description	Label	NACE Rev.1.1 Sectors
High-tech manufacturing	MA_HIGH_TEC	30, 32 and 33
Medium-high-tech manufacturing	MA_MHIGH_TEC	24, 29, 31, 34, 35
Medium-low-tech manufacturing	MA_MLOW_TEC	23, 25 to 28
Low-tech manufacturing	MA_LOW_TEC	15 to 22, 37, 36
Knowledge-intensive high-tech services	SE_KIS_HT	64, 72, 73
Knowledge-intensive market services (excluding high-tech and financial services)	SE_KIS_MS	61, 62, 70, 71, 74
Other knowledge-intensive services	SE_KIS_OT	80, 85, 92
Low-knowledge-intensive market services	SE_LKIS_MS	50 to 52, 55, 60, 63

[2] HT_KIS is a classification of high-technology industries and knowledge-intensive services jointly developed by OECD-EUROSTAT.
(site http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/htec_esms.htm)

2.2 INDICATORS

We considered a set of indicators concerning firms' economic management, entrepreneurship and performance to analyse their behaviours during the period. In order to recognise the productivity and profitability path of Italian firms and their competitive advantage, as well as to assess the companies' international competitiveness level (measured by the share of exported turnover on total turnover) and the tendency to invest (measured by average investment per head), it is necessary to consider in a single framework the productivity ratios, profitability ratios and company organisational conditions. The profitability ratios measure how well a firm is performing given that they measure the ability of firms to achieve a minimum profit share level after covering costs. We used these ratios in order to assess the economic position of firms.

We considered the ratio of value added per number of employees (prod) as an indicator of labour productivity. With regard to the organisational indicators, we considered the white-collar (cwtot) labour cost incidence on total labour cost and the compensation per unit of labour (lcu). These indicators measure both the incidence of skilled workers and the specialised personnel for each firm.

We also considered two indicators for investment tendency in the form of tangible investment per head (invpe) and intangible investment per head (iinvpe), and finally an export tendency dummy (fexp) that discriminates between exporting and non-exporting firms. All indicators are listed in Table 2.

We calculated ratios according to the classification of economic activity HT-KIS described above.

Table 2: HT-KIS classification.

INDICATORS	DEFINITIONS
cwtot (white-collar labour cost incidence)	*White-collar labour cost proportion of total labour cost*
lcu (wage and salaries for unit of labour)	*Wages and salaries per employee*
prod (labour productivity)	*Value added per employee*
fexp (export dummy)	*Discriminates between export and non-export firms*
invpe (tangible investment per head)	*Tangible investment per employee*
iinvpe (intangible investment per head)	*Intangible investment per employee*

2.3 VARIABLES' TRENDS

Italian labour productivity experienced a period of slow increase starting in 1995, and stagnation since 1999. Figure 1 presents the trend of labour productivity since 1981.

The indices of the indicators (Figure 2) calculated by year on the panel data show a stagnation of enterprise productivity during the last part of the 1990s, then stagnation again and a decrease in the first decade of the twenty-first century. Only the indicator of personnel mix shows an opposite behaviour.

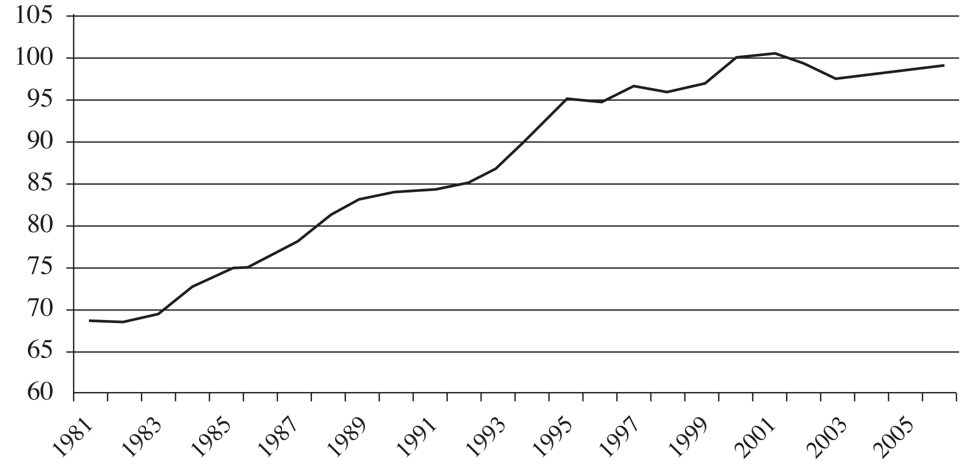

Figure 1: Italian labour productivity 1981–2006. (Source: Istat, 2007 – National Account data)

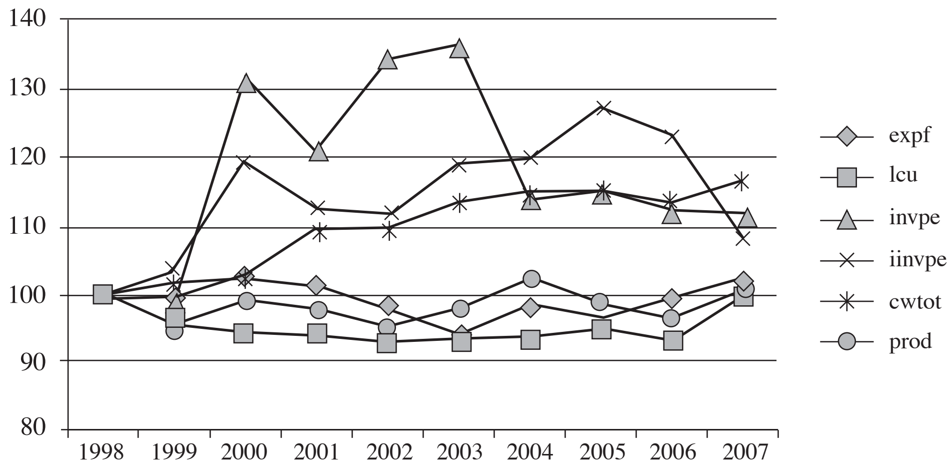

Figure 2: Index number of the indicators 1989–2007. (Source: Istat, 2012 – Panel data)

The white-collar labour cost incidence (cwtot) variable registers an increment that indicates the engagement of more skilled personnel; wage and salaries per unit of labour (lcu) have a quite constant shape that reveals a strong shift of the economy away from the secondary sectors to the tertiary ones. This does not always involve the employment of more skilled personnel.

The trend of average tangible investment (invpe) presents an accelerated increase in the first part of the decade, while intangible investment (invpe) increases in the last part of this period. Productivity (prod) presents, as shown above, a quite flat trend.

3. METHODOLOGY

3.1 MULTILEVEL MODEL FOR CHANGE

Multilevel modelling techniques allow us to assess variation in a dependent variable at several levels simultaneously; for example, we can assess how much productivity varies among industries and how much it varies among firms within the industries. Therefore, the multilevel model allows relationships to be simultaneously assessed at several levels (Singer and Willet, 2003; Snijders and Bosker, 2011).

The multilevel approach offers several advantages: information can be shared between groups and fewer parameters are needed; random variables are used in order to model the variation between groups; and it is more appropriate to represent the differences between the groups with respect to the use of an ordinary regression model.

When time is considered a first-order level, we obtain a multilevel growth model that allows us to estimate individual growth curves, displaying the nature of change over time for each firm or other statistical units in our data set. We can add some covariates to the model, and the explanatory variables in a multilevel regression growth model explain why individual units differ with respect to the change.

We estimated a growth model using the ISTAT panel for the years 1998–2007, where first-level units are the occasions (years) and second-level units are the firms, so the response is the productivity at the i-th occasion (year) for the j-th firm. We included the covariate time at the level-1 equation and the indicators described above as covariates at the level-2 equation.

We estimated the model first considering the firms themselves and then estimated it again using the sectors defined by HT-KIS classification. Hence, we have the following model:

$$prod_{ij} = \pi_{0j} + \pi_{1j}\, time_{ij} + \varepsilon_{ij} \qquad (1)$$

$$\pi_{0j} = \gamma_{00} + \gamma_{01}\, cwtot_j + \gamma_{02}\, iinvpe_j + \gamma_{03}\, fexp_j + \gamma_{04}\, lcu_j + \gamma_{05}\, invpe_j + \xi_{0j}$$

$$\pi_{1j} = \gamma_{10} + \gamma_{11}\, cwtot_j + \gamma_{12}\, iinvpe_j + \gamma_{13}\, fexp_j + \gamma_{14}\, lcu_j + \gamma_{15}\, invpe_j + \xi_{1j}$$

with $i = 1, \ldots, t \quad j = 1, \ldots, n$

where n is the number of firms, $\varepsilon_{ij} \sim N(0, \sigma^2_\varepsilon)$ are level-1 residuals, uncorrelated with level-1 predictor and time, and homoscedastic across occasions; $\xi_{0j} \sim N(0, \sigma^2_0)$ and $\xi_{1j} \sim N(0, \sigma^2_1)$ are level-2 residuals, representing those portions of initial status and rate of change that are unexplained at level-2, uncorrelated with level-2 predictors and homoscedastic across all values of predictors.

Collapsing the submodels together by substituting for π_{0j} and π_{1j} from the level-2 submodel into the first level-1 submodel yields the composite multilevel model for change:

$$prod_{ij} = \gamma_{00} + \gamma_{01}\, cwtot_j + \gamma_{02}\, iinvpe_j + \gamma_{03}\, fexp_j + \gamma_{04}\, lcu_j + \gamma_{05}\, invpe_j + \gamma_{10}\, time_{ij} + \gamma_{11}\, cwtot_j{*}time_{ij} + \gamma_{12}\, iinvpe_j{*}time_{ij} + \gamma_{13}\, fexp_j{*}time_{ij} + \gamma_{14}\, lcu_j{*}time_{ij} + \gamma_{15}\, invpe_j{*}time_{ij} + \xi_{0j} + \xi_{1j}\, time_{ij} + \varepsilon_{ij} \qquad (2)$$

with $i = 1, \ldots, t \; j = 1, \ldots, n$.

3.2 RESULTS

Statistical analyses are carried out in two steps: first, we estimated a linear regression model to check variables to be included in our models for change; second, we applied the growth models described above.

We followed the approach described in Singer (1998) (see in detail pp. 340-343) and in Singer and Willett (2003), using the PROX MIXED procedure supplied in the SAS package.

3.2.1 A PRELIMINARY ANALYSIS

We first estimate a simple OLS model in order to understand and verify the relationship between labour productivity and some covariates.

In this case, we regressed the variables' means over time. We estimated the following model:

$$prod_j = \beta_0 + \beta_1\, cwtot_j + \beta_2\, invpe_j + \beta_3\, expf_j + \beta_4\, lcu_j + \beta_5\, iinvpe_j + \varepsilon_j \qquad (3)$$

with $j = 1, \ldots, n$

where the covariate expf represents the export-to-turnover ratio. In Table 3, the estimation results are shown. All variables except export tendency present a high significance level, so we maintained all variables in estimating the multilevel model and replaced the export tendency with a simpler flag that indicates export activity or no export activity.

Table 3: OLS result of prod regression

Variables	Parameters etimate	Pr> |t|
intercept	-0.571	0.5555
cwtot	20.513	<0.0001
iinvpe	0.020	0.0022
expf	1.077	0.0421
lcu	1.233	<0.0001
invpe	0.580	<0.0001

3.2.2 MODELS ESTIMATION

Two groups of estimations are presented: for the first group, firms are considered the subject, while for the second one, the sectors are the subject, classified according to the technological intensity taxonomy. For each group, we first estimated the unconditional means model, and then the unconditional growth model and covariates were added.

All variables have been standardised before being entered into the model. Table 4 presents these results.

Firms-oriented analysis

The first estimated model (Model0) is the unconditional means model, with fixed effects (γ_{00}) for the outcome's great mean across all occasions and individuals.

Since it is not significant, this confirms that the average productivity is 0 (the variables are standardised). The analysis of variance components are revealed to be more interesting: the estimated within-individual variance, σ^2_ε, is 0.774, the estimated between-individual variance, σ^2_0, is 0.227, and both variances are highly significant. We conclude that the average firm's productivity varies over time and that firms differ from each other in terms of productivity. The proportion of variance due to differences among firms is approximately 22%.

The unconditional growth model (Model1) estimates fixed effects γ_{00} and γ_{10}: the starting point and the slope of the population change trajectory. Only the rate of change parameter is significant, and it registers a slight decrease over the period.

Comparing σ^2_ε in Model0 and in Model1, we find a decline of 0.189; therefore, we conclude that around 20% of firms' variation in productivity is associated with linear time.

Table 4: Results of prod regression on covariates

			firms as level-2 units			sectors as level-2 units		
	Parameter		**Model 0**	**Model 1**	**Model 2**	**Model 00**	**Model 3**	**Model 4**
Fixed effects								
Initial status	intercept	γ_{00}	0.000	0.018	0.008	-0.009	0.013	-0.011
	cwtot	γ_{01}			0.009 **			0.054 ***
	iinvpe	γ_{02}			0.203 ***			0.688 ***
	fexp	γ_{03}			0.026 **			0.040 ***
	lcu	γ_{04}			0.776 ***			0.778 ***
	invpe	γ_{05}			-0.030 ***			-0.054 ***
Rate of change	intercept/time	γ_{10}		-0.004 **	-0.009 ***		-0.005 **	-0.008 ***
	cwtot	γ_{11}			0.001			-0.001
	iinvpe	γ_{12}			-0.033 ***			-0.114 ***
	fexp	γ_{13}			0.004 ***			0.001
	lcu	γ_{14}			-0.028 ***			0.005 **
	invpe	γ_{15}			0.006 ***			0.019 ***
Variance components								
Level 1	Within subjects	σ^2_ε	0.774 ***	0.627 ***	0.167 ***	0.994	0.995 ***	0.367 ***
Level 2	In initial status	σ^2_0	0.227 ***	0.887 ***	0.287 ***	0.009	0.006 ***	0.005 **
	In rate of change	σ^2_1		0.016 ***	0.004 ***		$3.1*10^{-5}$	$6.31*10^{-6}$
	Covariance	σ_{01}		-0.108 ***	-0.022 ***		$3.42*10^{-4}$	$-1.93*10^{-6}$
	$\rho(\xi_{0j},\xi_{1j})$			-0.904	-0.652		0.814	-0.011
Pseudo R^2 Statistics								
	R^2_e			0.189	0.785		0.000	0.631
	R^2_0						0.397	0.478
	R^2_1				0.741			0.796

** p<0.05; ** p<0.01; *** p<0.001*

Since both variance parameters σ_0^2 and σ_1^2 differ from zero, we can add some covariates in order to try to explain these parts of the heterogeneity. The correlation coefficient between π_{0j} and π_{1j} is negative and high (–0.904), since there is a negative trend of productivity over the period. This means that there is a negative correlation between the value of initial status and the following trend of the firms. In other words, the higher the initial status, the lesser the loss of productivity over the period.

Finally, we add predictors linked to productivity in order to explain another part of the variance. In Model2, all covariates' parameters for the fixed effects, except investment per head, are highly significant with a positive sign. This means that all variables except investment have a positive effect on initial status of productivity. This result may appear intuitive if we think that the positive effects of investment may occur with lags in the future.

Many rates of change are highly significant as well, including the intercept, and this means that there is a slight decrease of productivity depending only on the time spent. The labour cost for unit of labour (lcu) and intangible investment per head have a negative sign, which means that their contribution to the curve slope is negative; i.e. they contribute (slightly) to the productivity decrease over time.

The export dummy (fexp), the personnel mix (cwtot) and the investment per head, on the contrary, have positive signs. This means that the positive influence on productivity by these variables is expressed also with lags over time even if cwtot is not significant. The costs of changes in production process, highlighted by change in the rate of investment and in modifications of personnel skills mix, have their effects in the future, possibly spread over the period.

A further increase of explained variance, from 0.627 to 0.167 (around 70%), is observed. Rejection of the null hypothesis for the other variance components, σ_0^2 and σ_1^2, suggests that there is further unpredicted variation in both initial status and rates of change, so we can introduce other predictors or classification variables in our model.

Sectors-oriented analysis

The same models have been elaborated considering the sector as second level subject. Model00 represents the unconditional means model, and in this case the intercept is, obviously, equal to 0. The variance components σ_ε^2 and σ_0^2 are highly significant. The within-variance is very high, representing around 99% of total variance. This means that the use of sectors as subjects explains only a small part of the variance with respect to the benchmark represented by Model0. In this case, we conclude that the average sector's productivity varies greatly over time but not very much from one sector to another.

The unconditional growth model (Model3) for sectors has no significant fixed effects and a poor significance level for rate of change, so initial status for sectors is, on average, around zero with a low and poorly significant variance. The within-variance continues to represent the larger source of heterogeneity for the model. Also in this case, we register a slight decrease of productivity over time.

The estimation of the complete model with the covariates yields the results presented under Model4. Again in this case, almost all parameters are highly significant for initial status, and the results can be interpreted in the same way they were in the case of the firms.

More attention must be devoted to covariates' rates of change that do not represent significant parameters for the personnel mix and for the export dummy, while average tangible investments and personnel costs show positive and significant signs. These results highlight how a change in production process may increase productivity in the long run.

The variance component σ_{ε}^{2} registers a sharp decrease with respect to the uncontrolled models, with a great gain in explained variance (around 60%). The differences in initial status, σ_{0}^{2}, are not very large but they have a certain significance, while the other components of variance are not significant. This means that the sectors have the same trajectories over time (parallel slopes), and therefore they can be ranked on the basis of their initial status. The negative value of the correlation coefficient $\rho(\xi_{0j},\xi_{1j})$ confirms that the higher the initial status, the lesser the loss of productivity over the period.

In general, we register a time effect but it is low and negative. The sectors seem to be worth little in explaining productivity change over the period, and the initial status of the single firm, which affects (positively) the subsequent productivity history of each firm, is more important.

Firms within sectors maintain a large variability following the history of their sectors, but without gaining a substantial advantage by belonging to an advanced sector or not.

In most cases, covariates have positive effects in ranking both firms and sectors in terms of productivity in the initial status, but they do not have the same effects in terms of rates of change, excepting the indicators of innovation in terms of product and/or process (lcu and invpe). This means that in a general framework of productivity stagnation, only the more-dynamic firms can counterbalance the tendency towards general decreasing productivity.

Model with sector dummy

The results suggest that we should reconsider the model proposed above. In particular, the estimations of the firm-oriented model including sectors of the HT-KIS classification as dummies are presented in Table 5.

The interpretation of the model is similar to the last firm-oriented model with covariates (Model2). All covariates except tangible investments (invpe) show significant and positive effects, while with regard to covariates' rate of change, only wages and salaries for unit of labour (lcu) and investments (invpe, iinvpe) are significant. Four dummies related to sectors are introduced: manht (firms belonging to high-tech manufactory), manlt (firms belonging to low-tech manufactory), serht (firms belonging to high-tech services), and serlt (firms belonging to low-tech services), with the benchmark being the other unclassified sectors (construction, mining).

Table 5: Results of prod regression on covariates. Model with sector dummies

Labour productivity as dependent variable			**Model with sector dummies**	
	Parameters		**Estimates**	
Fixed effects				
Initial status	intercept	γ_{00}	0.035	*
	cwtot	γ_{01}	0.010	**
	lcu	γ_{02}	0.776	***
	fexp	γ_{03}	0.023	*
	iinvpe	γ_{04}	0.202	***
	invpe	γ_{05}	-0.030	***
	manht	γ_{06}	-0.019	
	manlt	γ_{07}	-0.001	
	serht	γ_{08}	-0.114	***
	serlt	γ_{09}	-0.053	**
Rate of change				
	intercept/time	γ_{10}	-0.013	***
	cwtot	γ_{11}	0.001	
	lcu	γ_{12}	-0.028	***
	fexp	γ_{13}	0.001	
	iinvpe	γ_{14}	-0.033	***
	invpe	γ_{15}	0.006	***
	manht	γ_{16}	0.012	***
	manlt	γ_{17}	0.007	**
	serht	γ_{18}	0.008	**
	serlt	γ_{19}	0.003	
Variance components				
Level 1	Within subjects	σ^2_e	0.167	***
Level 2	In initial status	σ^2_0	0.286	***
	In rate of change	σ^2_1	0.004	***
	Covariance	σ^2_{01}	-0.023	***
	$\rho(\xi_0,\xi_1)$		-0.654	

* *p<0.05; ** p<0.01; *** p<0.001*

4. CONCLUDING REMARKS

The covariate of high-tech manufacturing (manht) has no effect on the initial status of firms' productivity, but with regard to the initial status for firms belonging to the services sector, this covariate registers a negative differential effect, so that discrimination between the industrial sector and the services sector is shown. The rate of change parameters indicate a positive and significant influence over time, especially in high-tech manufacturing but also in low-tech manufacturing and high-tech services.

The interpretation of random effects is the same. There is no increase of explained total variance as a consequence of the introduction of sector dummies.

The results presented above highlight an appropriate use of the growth model chosen to carry out this analysis. The residual variance decreases for all model formulations and most of the parameters register significant values, both in fixed and in random effects.

The results of the model show a stagnation of productivity with a slight decreasing trend over time (Bronwyn (*et al*.), 2007; Milana and Zeli, 2004; Milana (*et al*.), 2013). In general, firm growth does not present a common path, while there is no variability between sectors' growth paths (which are parallel over time).

The estimates of covariates' parameters are highly significant, which means that these variables have an effect, even positive, on productivity, both at initial status and in some cases also over time. Therefore, the experienced personnel mix indicator (lcu), investment tendency and export tendency are important for productivity improvement. We highlighted that the sector-oriented estimation yields more evidence in this direction.

Investment's relationship with future productivity is positive and affects the productivity and growth paths. The results show an immediate positive impact of intangible investments and a lag-distributed positive impact for tangible ones.

The estimation of the model with sector dummies confirms the results of the other model specifications; moreover, it highlights a positive influence on growth paths for firms belonging to the high-tech manufacturing and services sectors, and also for medium-low manufacturing with respect to the benchmark. This can explain the Italian productivity structure characterised by a few excellent high-tech firms and a wider group of medium-tech exporting enterprises.

The results of the fitted models show that on predicted productivity, there are positive effects of skilled personnel in the initial status, and weak negative effects in the rate of change (lcu in Model2), so that the overall effect on this prediction remains positive. This means that the higher the skills of personnel, the higher the productivity.

From the perspective of the operational business environment, the obtained results may be related to the importance of human resources management on employees' productivity, as shown by other authors (Youndt *et al*., 1996). In fact, according to Youndt *et al*. (1996), "*Given the consistent interactions between a quality manufacturing strategy and the human-capital-enhancing HR system as they relate to customer alignment, employee productivity, and equipment efficiency, we would argue that systematic efforts to enhance the skill levels of employees are especially important to firms trying to compete on quality*". To this, we can add: *and in international markets*. However, the decrease in productivity that occurred during the period of 1994–2003 seems to be largely due to non-innovating firms (Bronwyn *et al.,* 2007).

Moreover, the HR and innovation policies of firms is a context where firms should be spurred to synergistically develop more advanced internal organisations and to apply innovative processes, as well as innovative product technologies.

This study emphasises this context and the importance of employees' skills with regard to competitiveness, and illustrates the development paths and behaviours of Italian firms (grouped by knowledge-intensity process and high-tech process and products) over the last decade.

Italian firms need to continue on the path of reorganisation and of investment in new technologies and human capital, in order to see a recovery of their performance indicators.

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