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Oltre le crisi: Rinnovamento, Ricostruzione e Sviluppo dei Territori

Can Immaterial assets like Culture promote Firms' Performance?

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1. Theoretical background (1)

The literature has long recognized that a firm's ability to innovate and perform well depends on various different drivers. **Until recently culture was not considered as a driver** since it was seen too vague to be analyzed. Nevertheless, in the last years there have been **several studies aimed to measure the cultural sector** - referring to cultural industries - both at a European level (KEA, 2009) and in Italy (Ministero per i Beni Culturali-Unioncamere-Istituto G. Tagliacarne, 2009; Fondazione Symbola-Unioncamere, 2019).

A new approach developed in introducing culturally-based explanation into economics phenomena since the role attributed to cultural industries in fostering innovation, growth, cohesion and well-being of society (European Commission, 2018; Council of the European Union, 2018; UNESCO, 2012).

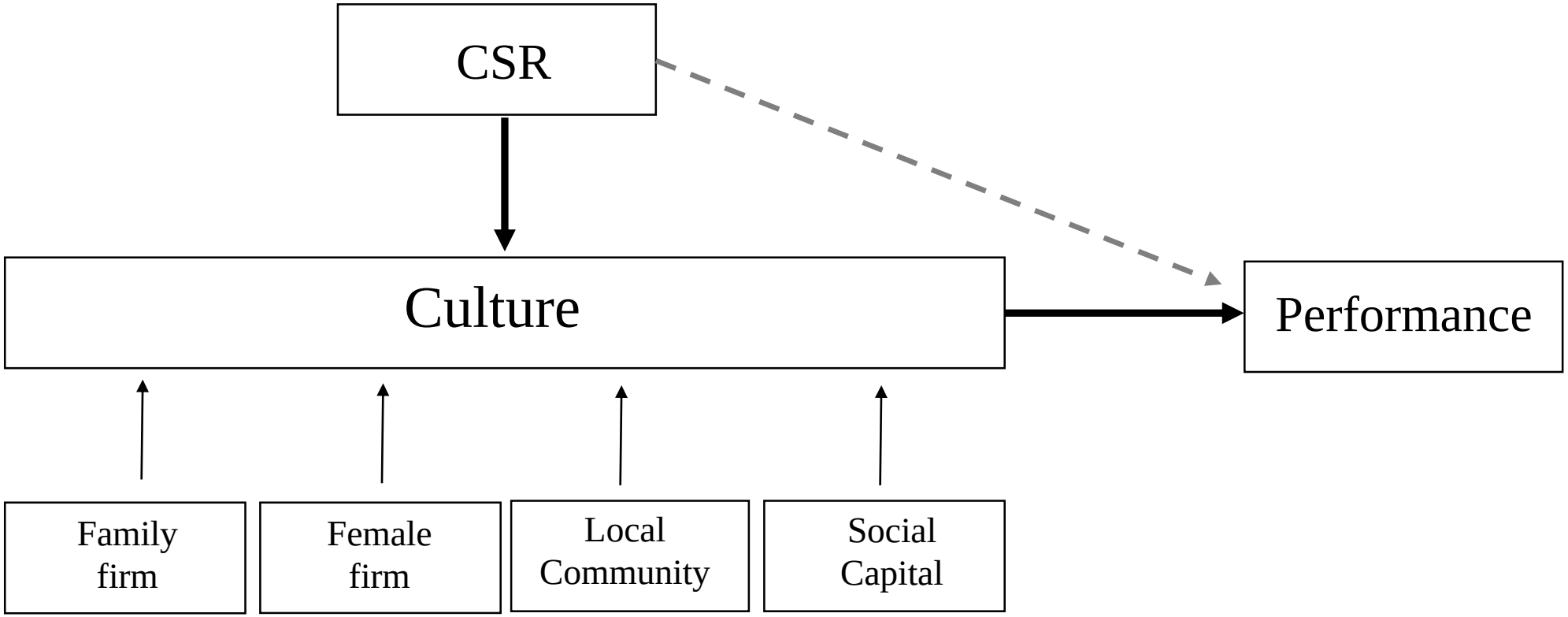
In the current post-materialism, the production-based capitalism economy is being turned in a economy defined as economy of signs (Lash & Urry, 1994) or knowledge-based economy, network society, information society: in all cases reflecting the **relation between culture, society and economy**. In this context the **cultural exchanges boosts economic development and capital flows** (Chantepie, Becuţ, & Raţiu, 2015), also because cultural industries are determinant in providing education or intellectual and professional development, social distinction, value sharing, socialization (Chantepie et al., 2015).

Indeed a new term was coined: the **"culturalization of the economy"** (e.g., Gay, 1997; Eillmer, 2003): the cultural content shapes the production **converting culture resource into economic advantages** also through the **collaboration between businesses and creative and cultural sectors**. This culturalization increases the competitiveness also through enriching the firm's image and reputation, in turn positively affecting the consumers' purchase intentions (Chang, 2013).

So, moving beyond the traditional approach, where the production function just includes generic capital and labor, new visions try to identify how a firm can promote itself through fruitful interactions with its stakeholders and operational environment in a way **to generate knowledge and innovative ability**. Such interactions are expected to **empower soft capabilities** able to engender favorable **spillovers for the firm**.

1. Theoretical background (2)

Thus, we may presume that **when a firm is engaged in cultural activities**, directly or indirectly, it **gains access to specific knowledge and innovative inspiration affecting its performances**. At the same time, we cannot rule out that investing in culture is also a proxy for the firm entertaining other types of interactions able to promote soft capabilities. In other words, **Culture might be the front runner for a series of other contextual factors, such as social capital, local social structure** (e.g., Brucks, 1985), etc.



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2. Research questions

RQ1. Does Culture engagement positively affect firm's performance?

If such a relationship exists, the sub-research question is:

RQ1bis. Is Culture engagement endogenous in influencing firm's performance?

RQ2. Is Culture engagement influenced by Corporate Social Responsibility?

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3. Variables description (1)

Conceptualization of Culture and CSR

Culture engagement

- Sponsorship
- Partnership with cultural institutions (mid-long term economic support, co-branding, co-design, co-production)
- Promotion and direct realization of cultural initiatives

CSR

Consistent with the definition of CSR in WBCSD (1999, 2000) and the Stakeholder Theory (Freeman, 1984)

Relationship with stakeholders (Ferri, Rinaldi & Pini, 2018; Ferri & Pini, 2019):

- internal: employees (e.g., corporate welfare, skills upgrading, co-innovation)
- external: other firms, universities, and research centers; institutions; banks and trade associations; no-profit organizations; customers

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3. Variables description (2)

Variable	Definition
Performance	Dummy variable: 1 if the firm states turnover increase in 2018
Culture engagement	Dummy variable: 1 if the firm is engaged in cultural activities (sponsorship; partnership with cultural institutions; promotion and direct realization of cultural initiatives)
CSR	Continuous variable: Average (0-1) of the six dummy variables related to relationship with: (i) Employees; (ii) other firms, university, and research centers; (iii) institutions; (iv) banks and trade associations; (v) non-profit organizations; (vi) customers
Firm controls	
Age	Continuous variable: Number of years since inception
HC	Continuous variable: Share of employees with a university degree
HT	Dummy variable: 1 if the firm belongs to a medium-high/high technology intensive sector
Size	Continuous variable: Number of employees (logarithm)
North-East	Dummy variable: 1 if the firm is located in the North-East
Center	Dummy variable: 1 if the firm is located in the Centre
South	Dummy variable: 1 if the firm is located in the South
Export	Dummy variable: 1 if the firm exports
Product_innov	Dummy variable: 1 if the firm introduced product innovation in 2015-2017

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3. Variables description (3)

Variable	Definition
Instrumental variables	
Family	Dummy variable: 1 if the firm is controlled by an individual or a family
Female	Dummy variable: 1 if the firm is controlled by female individual/s
Territory	Dummy variable: 1 if the firm has a strong connection with the local community
Social capital(*)	Continuous variable: Average voter turnout at the province level for all the referenda in the period between 1946 and 2016

(*****) Social capital, source: Ministry of the Interior. All other variables were derived from the survey questionnaire.

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4. Summary statistics

Variable	Mean	Std. Dev.	Min	Max
Performance	0.268	0.443	0	1
Culture engagement	0.267	0.442	0	1
CSR	0.270	0.247	0	1
Age	35.401	12.851	3	118
HC	6.088	12.561	0	90
HT	0.188	0.390	0	1
Size	37.306	81.019	4.520	2.372.18
North-East	0.322	0.467	0	1
Center	0.196	0.397	0	1
South	0.147	0.354	0	1
Export	0.427	0.495	0	1
Product_innov	0.525	0.499	0	1
Family	0.708	0.455	0	1
Female	0.220	0.414	0	1
Territory	0.683	0.465	0	1
Social capital	0.581	0.066	0.273	0.678

5. Data and Method (1)

DATA

The firm-level data used correspond to a survey carried out by Unioncamere (Italian Union of Chambers of Commerce) in early 2018. The data refer to a statistically representative sample of 3,000 Italian manufacturing firms with at least 5 employees.

METHOD

Since each dependent variable takes values 1 and 0 probit models were used.

$$\mathrm{P}(Performance_i = 1|Culture\ engagement_i, S_i) = \mathrm{P}(\beta_0 + \beta_1 Culture\ engagement_i + \beta_2 S_i + \varepsilon_i > 0) = \Phi(\beta_0 + \beta_1 Culture\ engagement_i + \beta_2 S_i + \varepsilon_i) \quad (1)$$

$$\mathrm{P}(Culture\ engagement_i = 1|CSR_i, S_i) = \mathrm{P}(\beta_0 + \beta_1 CSR_i + \beta_2 S_i + \varepsilon_i > 0) = \Phi(\beta_0 + \beta_1 CSR_i + \beta_2 S_i + \varepsilon_i) \quad (2)$$

where:

Performance indicates if the firm states turnover increase in 2018

Culture Engagement indicates if the firm is engaged in cultural activities (sponsorship; partnership with cultural institutions; promotion and direct realization of cultural initiatives)

S_i is a vector of all other explanatory variables regarding firm controls

Φ denotes the standard normal cumulative distribution function

ε_i is the normally distributed random error

Stata version 15 was used for all estimations.

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5. Data and Method (2)

We control for potential endogeneity of Culture engagement. We have a binary outcome (1= if the firm states turnover increase in 2018) with binary endogenous variables (1= if the firm is engaged in cultural activities). For this case, it is widely acknowledged, both theoretical and empirical point of view, that simultaneous likelihood estimations are superior to classic two-stage instrumental variable procedures (e.g., Wooldridge 2010; Bhattacharya et al. 2006; Freedman and Sekhon, 2010).

So, following other studies (e.g., Minetti et al., 2019, 2015; Minetti & Zhu, 2011; Arbués & Villanúa, 2016) we adopted a recursive bivariate probit model (Maddala 1983; Greene 2002; Wooldridge 2010). We consider the follow bivariate probit model composed of model (1) and the follows:

$$\mathrm{P}(Culture\ engagement_i = 1|S_i, I_i) = \mathrm{P}(\beta_0 + \beta_1 S_i + \beta_2 I_i + \mu_i > 0) = \Phi(\beta_0 + \beta_1 S_i + \beta_2 I_i + \mu_i) \quad (4)$$

where $Culture\ engagement_i$ may be endogenous and the vector I_i includes variables *Family*, *Female*, *Territory*, *Social Capital* (see Variables description) treated as instrumental variables of $Culture\ engagement$.

We may assume that instrumental variables affect $Culture$ which in turn influence the firm performance. S_i includes exogenous variables in the equation (1).
ε_i and μ_i are random error terms assumed to be independent of S and bivariate normal distributed, with zero mean and unit variance.
Eqs. (1) and (4) constitute a recursive bivariate probit model.

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6. Results (1): CULTURE EFFECT ON PERFORMANCE

Dependent variable: *Performance*

	Probit (A)		Probit (B)		Bivariate probit (C)	
Culture engagement	0.063***	(0.017)	0.051***	(0.018)	0.057***	(0.007)
Age	-0.001	(0.001)	-0.001	(0.001)	0.000	(0.000)
HC	0.003***	(0.001)	0.002***	(0.001)	0.001***	(0.000)
HT	-0.001	(0.021)	-0.005	(0.020)	-0.009*	(0.005)
Log(Size)	0.101***	(0.017)	0.058***	(0.018)	0.021***	(0.005)
North-East	0.014	(0.020)	0.017	(0.020)	-0.005	(0.005)
Center	-0.045**	(0.023)	-0.040*	(0.022)	-0.003	(0.006)
Southern	-0.075***	(0.024)	-0.066***	(0.024)	-0.001	(0.007)
Export			0.096***	(0.018)	0.024***	(0.006)
Innov_prod			0.062***	(0.016)	0.024***	(0.005)
Instruments						
Family					0.012***	(0.004)
Female					0.022***	(0.004)
Territory					0.012***	(0.004)
Social Capital					0.093**	(0.004)
Obs.	3,007		3,007			
Pseudo R^2	0.042		0.056			

The table displays marginal effects (AME). The coefficients of instruments are from the probit equation of Culture engagement on the instruments and firm controls. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Wald test of ρ=0 chi-square: 9.296*** rejects the Hp of exogeneity of Culture engagement. Overidentification test (Wooldridge's robust score test) chi-square: 3.476 does not reject the Hp of exogeneity of instruments. Robust F-test: 12.227. *F*-value > 10 means to reject the Hp of irrelevance of the instrumental variables (Stock & Yogo, 2005). Overidentification and F-test calculated on IV-2SLS. Variance Inflation Factor excludes multicollinearity problems since all values are less than 10 (mean VIF: 1.21 in Model A), values over this threshold indicate problems (Yoo et al., 2014).

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6. Results (2)

CSR EFFECT ON CULTURE ENGAGEMENT

Dependent variable: *Culture engagement*

	Probit (A)		Probit (B)	
CSR	0.536***	(0.029)	0.531***	(0.029)
Age	0.001*	(0.001)	0.001*	(0.001)
HC	0.003***	(0.001)	0.003***	(0.001)
HT	-0.049**	(0.020)	-0.041**	(0.020)
Log(Size)	-0.002	(0.017)	0.001	(0.017)
North-East	-0.029	(0.018)	-0.039	(0.019)
Center	0.024	(0.022)	0.019	(0.021)
Southern	0.005	(0.024)	0.049*	(0.029)
Family			0.010	(0.017)
Female			0.119***	(0.017)
Territory			0.024	(0.016)
Social Capital			0.384**	(0.157)
Obs.	3,007		3,007	3,007
Pseudo R^2	0.123		0.139	

The table displays marginal effects (AME). Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
We controlled for endogeneity of CSR: Wald test of exogeneity on IV-probit is not significant, thus we do not reject the Hp of exogeneity of CSR.

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6. Results (3)

Robustness check: the relationship between CSR and Culture engagement

Dependent variable: *Performance*

	Probit (A)		Bivariate Probit (B)	
Culture engagement	0.035**	(0.018)	0.047***	(0.009)
CSR	0.102***	(0.036)		
+ controls				
Instruments				
Family			0.002	(0.004)
Female			0.029***	(0.004)
Territory			0.006	(0.004)
Social Capital			0.093**	(0.039)
CSR			0.127***	(0.010)
Obs.	3,007		3,007	
Pseudo R^2	0.059			

The table displays marginal effects (AME). The coefficients of instruments are from the probit equation of Culture engagement on the instruments and firm controls. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Wald test of ρ=0 chi-square: 10.157*** rejects the Hp of exogeneity of Culture engagement. Overidentification test (Wooldridge's robust score test) chi-square: 6.299 does not reject the Hp of exogeneity of instruments. Robust F-test: 62.482. *F*-value > 10 means to reject the Hp of irrelevance of the instrumental variables (Stock & Yogo, 2005). Overidentification and F-test calculated on IV-2SLS.

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7. Policy implications

- Acknowledging the value of culture as a pro-competitive factor within the National and International Industrial Policies strategies.
- Spreading the awareness among the entrepreneurial system about the important role of culture for competitiveness upgrading.
- Supporting the firms in understanding how to incorporate culture in their strategies.
- Facilitating the cross-sectoral cooperation between non-cultural firms and cultural industries to foster the culturalization of the economy.
- Promoting international cooperation to strengthen this new approach to economic growth.
- Possibly, our country stands to gain greatly by promoting the value of culture in the productive sector. Indeed Italy has an immense wealth of cultural heritage, as testified by the fact that it ranks 1st in the list of UNESCO Cultural Sites by country.

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8. Limits and future research

Limits	**Future research**
Only manufacturing	Including services and agricultural sector
Cross-section analysis	Panel time series analysis
Studied the advantages for firms in relationship with cultural industries *but* not viceversa	Studying the marketization of the economy
Not addressing the role of management skills	Studying how and what management skills can foster the engagement in cultural activities

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Thank you for your attention