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The Effects of Sustainablity-oriented Strategies on Business Competitiveness: results of some empirical studies

Economic theory provides different perspectives on the relationship between sustainability and firms' competitive performance. The debate developed over the last fifteen years across a wide range of theoretical questions aimed at investigating *whether, under what circumstances* and *how exactly* sustainability-related issues are related to competitiveness. A frequently analyzed issue refers the impact of social and environmental regulation on firm's performance. Does a stringent policy impair firms' productivity and competitiveness by increasing production cost and, consequently, reducing their ability to export, or, on the opposite, does it stimulate the innovation capabilities, improving the resource productivity and making a firm more competitive?

To investigate this relationship, practitioners used several research methods obtaining non univocal results: essentially, we can identify three major theoretical approaches in literature.

The "traditionalist" view of neoclassical economics argues that the purpose of regulation is to correct negative externalities, and that, consequently, it remedies to a market failure, while burdening companies with additional costs. Firms complying with social and environmental regulation face higher production costs and reduce the competitiveness of their products on domestic and foreign market. There have been many empirical studies performed in this field, providing non univocal results supporting this relationship (Gollop and Robert, 1983; Letchumanan and Kodama, 2000, Antweiler *et al.*, 2001 Gray and Shadbegian 2003; Cole and Elliot, 2003; He 2006).

For instance, at the national scale, Jorgenson and Wilcoxen (1990) found that, over the period 1974-1985, the combined effect of mandatory pollution abatement costs and investment as well as compliance with standards was to reduce the average growth rate of real GNP in the US by 0.2 percentage points. Focusing on the negative effect of environmental regulation on firm/sector's productivity, Gray and Shadbegian (2003) found that more stringent air and water regulations have a significant impact on paper mills' technological choice in the U.S. However, their results suggest that it tends to divert investment from productivity to abatement, consistent with the standard paradigm.

As opposed to the neoclassical perspective, a "revisionist" view states that improved sustainability performance is a potential source of competitive advantage, as it can lead to more efficient processes, improvements in productivity, lower costs of compliance and new market opportunities (Gabel and Sinclair-Desgagné, 1993; Porter and van der Linde, 1995a; Sinclair-Desgagné, 1999). Porter and Van der Linde (1995b) suggest that a sustainability-oriented strategy is potentially beneficial to firms, as it can provide incentives to change firm's production routines (technological or process innovation) in a way that leads to compliance and reduced costs - through decreased resource inputs or increased efficiency -, or can even lead to new marketable products that may be preferred by ethically- or environmentally-oriented final consumers or intermediate customers.

Although it sometimes is difficult to generalize empirical findings, several studies seem to confirm the Porter hypothesis. Drawing upon U.S. data, Brunnermeier and Cohen (2003) found a positive relationship between environmental performance and innovation and successful patents.

A third and more recent interpretation of the impacts of sustainability on competitiveness is proposed by the so-called "Resource-based view" approach. According to this approach, the competitiveness of companies and industries depends on the quality and quantity of the resources available and by the ability of companies/industries to optimise their use (Fouts and Russo, 1997). The Resource-Based View explicitly recognizes the importance of *intangible assets*, such as *know how* (Teece, 1980), *corporate culture* (Barney, 1986), and *reputation* (Hall, 1992). This approach is an evolution of the Porter's approach, as it enlarges the typologies of resources that the companies and industries can rely on.

The work presented in the conference is based on the application of statistical models on empirical data, trying to test the Porter’s hypothesis.