

Proposition de communication pour le quatrième congrès de l'AFEP

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1 Résumé

1.1 Title

The importance to involve stakeholders to build indicators. The case of environmental regulation in France.

1.2 Issue

Since Kuznets said in 1934 “the welfare of a nation can scarcely be inferred from a measurement of national income”, more and more scientists raised their voices against the supremacy of productions’ indicators as measurement of wealth. (ref) The irrelevance of GDP being demonstrated, alternative indicators considering sustainability, social and environmental aspects of economic growth, have been proposed (Costanza et al., 2014; Costanza et al., 2009; Stiglitz Commission, 2009¹; EESC, 2008.) In this way, while several propositions have been done to correct GDP (adjusted economic measures, as Genuine Progress Indicator or Human Development Index) or to measure differently well-being (Greendex or World Values Survey), the question raises to choose a variable worthwhile and the good way to measure it. Actually, the dilemma is the following. The first option is using available statistical data like the UNDP does with the HDI, mixing life expectancy at

¹i.e., Commission on the Measurement of Economic Performance and Social Progress, established in France in 2007 and chaired by J. Stiglitz and A. Sen, later referred to as the Stiglitz Commission, 2009.

birth (index of population health and longevity); adult literacy rate (index of knowledge and education) and school enrolment; and standard of living (natural logarithm of gross domestic product per capita at purchasing power parity). Note that relevant factors are selected following literature. The second one prefers collecting directly the data using survey. For example, National Geographic and Globescan measure consumer behaviour and build the *Greendex* asking citizens of several countries². Statistics usually come from recognised organisations and are considered quite robust. However, such data often are lacking, especially with regard to developing countries. Furthermore, it can be difficult to describe complex concepts such as wellbeing or sustainability with only numbers. In contrast, surveys offer an ideal means to describe perceptions, mental representations, concepts and phenomena. They also suffer limitations; surveys introduce subjective biases, and answers often differ depending on the wording of the questions (Berg and Cazes, 2007). Thus the two approaches seem enriching each other, such that the first is entirely objective, and the second integrates the views of stakeholders. But are they *interestingly* or *necessarily* usable together? To what extent indicators can only use objective statistical data or have to directly involve stakeholders' mind? This paper addresses this question through an example: the role of environmental regulation in sustainable competitiveness. Focusing in the French case, we will analyse how it has to be considered following literature and using statistical data and then how environmental regulation is considered by french entrepreneurs. Stiglitz Commission (2009) insisted on the need to build survey to capture people's life evaluations, hedonic experiences and priorities. Following this recommendation, French administrative region of Pays-de-la-Loire organized more than 160 debates with all territories' actors to identify what is quality of life according to his residents. Some results are more unusual, than expected. The confidence in people, knowledge of regional heritage by teenagers, numbers of diversity charters appear as part of final 27 indicators of regional wealth³. If measures of well-being and empirical studies sometimes meet people's expectations, without asking them, it is possible to miss something essential. That is why we want to check if empirical studies on the impact of environmental regulation on employment as the same conclusions as entrepreneurs' discourses. Moreover, are both conclusions will agree with assumptions of current indicators? The indicator should also be clear with regard to goals and objectives (Stiglitz Commission, 2009; Perret, 2002, Gadrey and Jany-Catrice, 2005; Ifen, 2008). It has to be "capable of in-

²<http://www.nationalgeographic.com/greendex/index.html>

³<http://boiteaoutils-richessespd.fr>

forming policy and decision making within a given governing system” (Hezri and Dovers, 2006) A good way to identify priorities for government actions and improvement seems to be deliberative (or discursive/associative) democracy (see Sneddon et al., 2006). All actors (e.g., citizens, associations, firms, local organisations) thus should be involved; at least, in the evaluation process (Musson, 2014). This point is particularly crucial here: if an indicator point out negative impact of environmental regulation in the sustainable attractiveness path, it encourages governments to not regulate. It is currently the case with competitiveness indexes, we will develop this point in the first point of the paper. Then, we will check if these indicators give the right advices to french rulers.

Actually, our empirical results do not show a negative effect of environmental regulation to employment for France, contrary to assumptions of competitiveness indicators. Furthermore, if CEOs can consider environmental regulations as a cost constraints they also and mainly regard it more like an opportunity than a threat. The results challenge foundations of some indicators and prove the requirement to use both empirical studies and survey data.

1.3 Empirical analysis

Our estimation takes a gravity form to explain employment on bilateral capital outflows by environmental and bilateral trade integration. These variables enter multiplicatively in a quadratic way in this equation to test the bell-shaped curve predicted by the theory:⁴

$$\begin{aligned} \ln \frac{EMP_{itk}}{FDI_{ijt}} = & \beta_1 POP_{it} + \beta_2 POP_{jt} & (1) \\ & + \beta_3 REG_{itk} \phi_{ijt} + \beta_4 (REG_{itk} \phi_{ijt})^2 \\ & + \beta_5 \ln REG_{itk} + \beta_6 \ln REG_{jtk} \\ & + \beta_7 Z_{ijt} + \alpha_j + \alpha_t + \alpha_k + \varepsilon_{ijt} \end{aligned}$$

where POP_{it} and POP_{jt} are population in countries i and j , considered as exogenous proxies for market sizes and market crowding effects.⁵ EMP_{itk} and REG_{itk} denote respectively the level of employment and environmental regulation in France (represented by subscript i) in industry k at time t . ϕ_{ijt} is an index of trade integration between i and j in the

⁴In an appendix we made a simple exercise to illustrate theoretical findings and to justify this empirical equation.

⁵According to the NEG more population favors demand (market access effect) but fosters competition (market crowding effect).

industry k at date t (or equivalently an index of trade costs, τ_{ijtk} , depending on the data used). REG_{jtk} is a proxy for environmental regulation in country j and date t .

Surprisingly, the effect of environmental regulation is positive (0.66 versus 0.32 with OLS). Several estimations are made and our analysis illustrates that environmental regulations can have diverse effects depending on the level of globalization.

1.4 French entrepreneurs' point of view

To analyse the point of view of french entrepreneurs regarding environmental regulation, we lead a survey during a one-year period (july 2010-july 2011). We interviewed 36 French business leaders of Small and Medium Enterprises (SME).

To determine indirectly if entrepreneurs integrate environmental economics in their planning, we asked the following question:

"How do you imagine the company's future? In 5, 10, 15 years?"

In many responses, the role of employees in firm's competitiveness appears crucial. Human capital of workers, incentive and creativity are essential for entrepreneurs. But when we talk about future terms of profitability, sustainable development also appears as a recurrent factor that will matter in the future. Business leaders are sensitive to parameters of sustainable development and they notice a growing importance of these issues. However, the overview stay clouded.

To know whether sustainable development is a marketing strategy, a pressure, an important issue or a strategic challenge? To answer, we analyse the following open questions:

"What is sustainable development?"; "Do you know measures, collective actions about it?"; What is the link between firms and sustainable development?".

All business leaders have a definition but offer different explanations. Some note three themes (economy, social, environmental), others add the societal one. Many entrepreneurs suggested only the environmental aspect.

According to the textual analysis, we identify three kinds of discourses. Answers to closed-ended questions should discriminate and classify the different kinds of discourses identified through the textual interview analyses. In this way, we determine if the representation of sustainable development differs. Obviously, they are heterogeneous and

discourses' group can be discriminated following their catchment area. If CEOs of exporters' firms seems to represent sustainable development in a different way than other entrepreneurs, nevertheless, all are sensitive to environmental issues. Better still, in majority, they state to wait information and administrative support to do more to protect environment, some even claims expecting new regulation laws. Actually, far from being a heavy inconvenience for companies, environmental regulation can be a source of job creation.

1.5 Conclusion

Regulation, in general, and the environmental one, in particular, is still considered like a brake on competitiveness indicators. Moreover, literature don't agree on that. We show that environmental regulation di mot have a negative effect on employment in France.

Furthermore, a survey of 36 French business leaders shows that entrepreneurs do not all only consider environmental regulation as a burden, but also as a necessary compliance.

1.6 Bibliography

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2 CV

2.1 Current Position

Assistant Professor in Economics and Sustainable Development

Agrocampus Ouest

GRANEM, Université d'Angers

2.2 Research Interests

Territories' Attractiveness, Firms' Location, Sustainable development, International Economics, Economic Geography, Regional and Territorial Development.

2.3 Education

Université de Pau, France

Ph.D. Thesis, Economics, Human Ecology, *with Highest Honours*, December 2012

Thesis Topic: *Is Sustainable Development an attractive factor for territories?*

Advisors: Pr. Jacques Le Cacheux and Pr. Francis Ribeyre

Committee: Dorothee Brecard (Professor, Université de Nantes, France), Carole Haritchabalet (Professor, Université de Pau et des Pays de l'Adour, France), Eloi Laurent (Senior Economist and Scientific Advisor at OFCE), Thierry Madies (Professor, Université de Fribourg, Switzerland).

2.4 Refereed Journal Publications

1. Cardebat J.M., Harribey L., **Musson, A.** "Representation du développement durable dans les PME françaises: vers une nouvelle gouvernance territoriale ?." *Revue d'Economie Regionale et Urbaine*, forthcoming.
2. **Musson, A.**, "Combining sustainable development and economic attractiveness: towards an indicator of sustainable attractiveness." *Int. Journal of Sustainable Development*, 2013, Vol.16, N.1/2, pp.127-162.
3. **Musson, A.**, "The build-up of local sustainable development politics: A case study of company leaders in France." *Ecological Economics*, Volume 82, October 2012, pp. 75-87.
4. Cardebat J.-M., **Musson, A.**, "Que change le développement durable à la localisation des activités?" *Innovations, Cahiers d'Economie de l'Innovation*, 33, 2010/3.
5. **Musson, A.**, "Vers un indicateur d'attractivité durable." *Géographie, Economie, Société*, 2010, Volume 12, 2010/2.

2.5 Publications in collective books and Policy Reports

1. Contribution to a report about "Toward Territorial Equality: Dynamic, Measures, Policies" for the *French Minister of Territorial Cohesion and Housing*. Directed by Eloi Laurent. February 2013.
2. **Musson, A.**, Cardebat J.-M., Gombert S., Harribey L., Marty S., Ribeyre F. and Sionneau B. "Le développement durable, facteur de résilience des territoires", in *Mondialisation et Résilience des Territoires*, A. Hamdouch, M-H. Depret et C.Tanguy, eds, Presses de l'Université du Québec., 2012.

2.6 Other publications

1. **Musson, A.**, "L'attractivité des territoires pour les entreprises." *Cahiers Français* 371, Novembre-Décembre 2012.

2.7 Submitted Journal Publications

1. Candau F., Musson, A. "Attractivite entrepreneuriale et developpement durable. Propositions pour une evaluation." 2013. Submitted to *Revue Canadienne des Sciences Régionales*.
2. Musson, A., "Construire l'attractivité durable au niveau régional." 2012. "Revise-and-resubmit" to *Revue Française d'Economie*.

3 Résumés courts

3.1 Résumé en français

La réglementation environnementale est souvent inconsiderée, ou considerée comme négative, par les indicateurs de compétitivité. Pourtant, la littérature économique n'a pas de conclusions unanimes en ce sens. Alors qu'il est temps d'introduire la notion de soutenabilité dans celle de compétitivité, l'article s'intéresse à l'impact de la réglementation environnementale sur la compétitivité en France. Dans un premier temps, en enquête exploratoire montre que les entrepreneurs français comprennent l'importance d'une telle réglementation et ne la représente pas uniquement comme une charge. Une étude empirique sur l'industrie française confirme que la réglementation environnementale ne fait pas fuir les entreprises, puisque l'on n'observe pas de lien négatif entre celle-ci et l'emploi.

3.2 Mots-clés

Indicateurs; réglementation environnementale; analyse textuelle; compétitivité; PME.

3.3 Abstract

Regulation, in general, and the environmental one, in particular, is still considered like a brake on competitiveness indicators. Moreover, literature don't agree on that. Our empirical results do not show a negative effect of environmental regulation to employment for France, contrary to assumptions of competitiveness indicators. Furthermore, if CEOs can consider environmental regulations as a cost constraints

they also and mainly regard it more like an opportunity than a threat. The results challenge foundations of some indicators and prove the requirement to use both empirical studies and survey data.