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Studying the impact of regulation on entrepreneurship: How to overcome current conflicting results ?

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STUDYING THE IMPACT OF REGULATION ON ENTREPRENEURSHIP: HOW TO OVERCOME CURRENT CONFLICTING RESULTS?

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Abstract

The objective of this paper is to map the existing scientific literature on the measurement of the impact of regulation on entrepreneurial activities or performance. Our literature review shows that research has reached relatively scattered conclusions. We believe that this great disparity in terms of results can probably be explained by the fact that regulation is a complex and multidimensional phenomenon and is therefore studied by using very diverse research designs and concepts. We propose our own classification of the impact assessment studies. We discuss shortcomings in research design and methodology and make some recommendations for future research on this topic.

Key words

Entrepreneurship – Regulation – Performance

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Introduction

The « *Law and Economics* » academic literature deals abundantly with the question of the impact of regulation on entrepreneurial activity or performance. Indeed, the link between regulation and entrepreneurship has been a “hot” topic for several years now, giving the worlds of politics, media, academia and the professional sphere plenty to talk about. With this in mind, the scientific community focused on two specific issues: what kind of effect(s) does regulation have on economic activity and what is the precise impact of this/these effect/effect(s)?

The publication of articles reviewing the literature on the subject is proof of the academic interest for the issue (notably Small Business Research Centre of the Kingston University (2005) ; Kitching (2006) ; Parker (2007) ; Chittenden et al. (2002)).

Existing literature on this topic is actually quite recent. As of the 70's and 80's, some researchers started examining the impact of the fiscal and regulatory environment on company activity (Kilby, 1971 ; Kent, 1984 ; Dana, 1987 and 1990). This question is rooted in the school of thought which prompted researchers to move away from the question “Who is the entrepreneur?” (personality) and focus on “What does the entrepreneur do?” (behaviour, process). This is what led to the examination of the environmental conditions in which the entrepreneur goes about his work and the impact that these conditions can have on the entrepreneur (Covin and Slevin, 1991; Gnyawali and Fogel, 1994). The conclusions of these initial studies are consistent: countries or regions that maintain a body of rules and regulations at the lowest possible level and that offer tax incentives, the setting up of what is deemed a “conducive” environment, are increasing the likelihood of new companies being set up.

Nonetheless, as we will see, the vast majority of articles published in this field has been written at the end of the 1990's (notably Reynolds (1999, 2000 and 2002) ; Djankov et al. (2002) ; Hart (2003) ; Grilo and Thurik (2005 a and b) ; Capelleras et al. (2005) ; Grilo

and Irigoyen (2006) ; Arrowsmith et al. (2003) ; Edwards et al. (2003 and 2004) ; Small Business Research Centre of the Kingston University (2005 and 2008)).

Regarding the results of these researches, even though many studies highlight a negative impact, the results remain relatively confusing, in particular on the type of regulation which affects a country's level of entrepreneurship. On basis of our literature review, we show that this disparity in terms of results can partially be explained by the fact that regulation is a complex and multidimensional phenomenon and is therefore studied by using very diverse research designs and concepts.

This article is divided into three sections. First, we will review and describe the literature on measurement of the impact of regulation on entrepreneurial activity or performance. Our second section will be a critical discussion of these impact models. Finally, we will conclude on the current state of research and make some recommendations.

1. Literature review

In this section, we will present the main results of the existing scientific literature on the measurement of the impact of regulation on entrepreneurial activities or performance, and, afterwards, develop our own classification of these studies.

1.1. The results of the existing impact models

It seems to us that the results of the impact studies we reviewed could be divided up in two categories: conclusions linked to specific regulatory questions and results focused on specific kinds of regulation. We will present these two groups of results hereafter.

1.1.1. Specific regulatory questions

In reviewing the literature, we found that most studies give answers to two main questions: (i) what do entrepreneurs think about regulation; (ii) how do entrepreneurs adapt to regulation? We will now shed light on these two specific issues.

What do entrepreneurs think about regulation?

A lot of studies reported high levels of dissatisfaction with the general regulatory regime or specific regulations (ex.: Carter et al. (2006) ; Vickers et al. (2005) ; Small Business Research Centre of the Kingston University (2008)). However, some authors moderated these evidences of dissatisfaction towards regulation in adding some more subtle issues.

First, Carter et al. (2006) found that dissatisfaction is not uniformly distributed across the small firms sector, but is mediated by sector, size and business age. They stressed that the financial services sector as well as the hotels and restaurants sector registered particularly high levels of dissatisfaction in UK since they are subject to atypically strict legislative regime.

Second, some researchers (Edwards et al. (2003 and 2004) ; Vickers et al. (2005)) reached the conclusion that perceptions of effects tend to be broad and general, rather than reflections of concrete experiences. Indeed, many respondents reported negative effects of regulations but, at the same time, were not able to identify specific pieces of legislation that applied to their business. These results suggest that there could be an important gap between the perceived effect and the real effect of regulation on entrepreneurship.

Third, Blackburn and Hart (2002) showed that where individual employment rights (IERs) affected enterprises, these employers were more likely to report negative effects. Conversely, those employers who were less aware of IERs were also less likely to be

critical of them. This suggests that as knowledge levels are raised, as a response to a problem or claim, firms are more critical of regulations.

Fourth, the Small Business Research Centre of the Kingston University (2008) reported that the question on costs of regulation is clearly unrelated statistically to owner-manager responses to the other regulation questions. Thus, although the costs and constraints associated with regulation were at the forefront of business owners' minds, this study also suggested that many business owners were aware that regulation offers opportunities to develop more efficient ways of working. This disassociation seems to be important for the conduct of future research on that field.

We have pointed out that entrepreneurs do not only report criticisms about regulation but sometimes identify the benefits of regulation. Out of these, is: who is more likely to report regulation as being beneficial for his/her/its business? According to the Small Business Research Centre of the Kingston University (2008), the fast turnover growth firms (but not fast employment growth firms) were more likely to report positive effect of regulation. Owners of those firms were significantly more likely to report that the introduction of new regulations had encouraged them to take action to ensure their businesses remain competitive and to claim that they were able to adapt more quickly than competitors. Edwards et al. (2003 and 2004) as well as Carter et al. (2006) analyzed employment regulations and pointed out that positive effects were identified mainly by firms adopting a strategy of moving up-market, i.e. producing higher value goods or services. These business owners think that employment regulations could create a "level playing field", preventing unfair competition from businesses which cut costs by non-compliance. Another issue is the question of the nature of these benefits. We have already mentioned competitive benefits ("level playing field"). Blackburn and Hart (2002) stressed others reported positive effects linked to the individual employment rights (IERS). These rights seem to create positive effects in terms of provision of guidelines and clarification in the employer/ employment relationship. Tabone and Baldacchino (2003) studied a specific Maltese rule imposing a mandatory annual statutory requirement to all companies. They found that this audit process has a positive effect on

the owner-manager and staff by imposing financial discipline and providing specialist advice in other non-audit areas. This is in the interest of third parties, particularly unsecured creditors, and of society in general.

How do entrepreneurs adapt to regulation?

The first issue here is the question of the elements that shape the capacity of entrepreneurs to adapt to regulation. For the Small Business Research Centre of the Kingston University (2008), business owners with greater resources – finance, equipment, management capability, workforce knowledge and skills – are better placed to deal positively with regulation. External conditions also shape the capacity of owners to adapt to regulation. For instance, where businesses perceive product or process innovation as essential to maintaining competitiveness, regulatory change could motivate the search for new products and processes. If competitors adapt better or more quickly to regulatory change, adaptation by the focal business might not suffice to improve performance. We found the same idea in a study of Vickers et al. (2005) explaining that attitudes of small firms towards regulation could be seen as the outcome of the interactions between a complex set of external and internal factors, i.e. the training, experience and attitudes of business owners, the firm size, the market position of firms, the financial health of firms, the presence or absence of external pressures arising from inspection visits and supply chain influences. Among these elements, the Small Business Research Centre of the Kingston University (2008) focused its attention on knowledge issue: business owners reporting being well-informed about the range of regulations affecting their businesses tended to adapt more dynamically. Moreover, the external pressure element was deeply analyzed by several authors. Vickers and Cordey-Hayes (1999) identified a kind of “learning by interacting” effect. It means that the nature of the relationship and interactions between firms and regulators can have an important influence on understanding and knowledge transfer. We also found this issue in a study of Baldock et al. (2006). They identified factors particularly associated with a propensity to make some improvements in order to comply with health and safety regulation. They

stressed that inspections on the part of regulatory officials have the most important influence on compliance-related improvements.

Another question is: who is the most affected by regulation? The large firms or the smaller ones? Several studies stressed that the smallest firms are the ones that encounter the most important administrative burdens (Kegels (2008) ; see also the examples analyzed in Chittenden et al. (2002): Sandford (1989), ENSR (1995), Hopkins (1995), ATAX (1995), etc.; or the examples developed by Parker (2007) regarding employment regulations and their impact on small firms). Other studies, focused on employment or health and safety regulation, reached the opposite conclusion: a vast majority of small businesses is not affected by these legislations (Carter et al. (2006) ; Vickers et al. (2005) ; Arrowsmith et al. (2003) ; Gilman et al. (2002) ; Blackburn and Hart (2002) ; Marlow (2002) ; Edwards et al. (2003 and 2004)). Marlow (2002) stressed that owners identified solutions to potential challenges through flexible adjustments of the employment relationship at the margins, should the need arise. Edwards et al. (2003 and 2004) as well as Gilman et al. (2002) reported that most of small firms are able to adapt to regulatory change making only “minimalist” adjustments either because the cost increases imposed by regulation were minimal, or because the firm's product market position and “informal” workplace relationships enabled cost increases to be absorbed or passed on to customers as higher prices without serious problems. Arrowsmith et al. (2003) added that the National Minimum Wage (NMW) did not provide a shock sufficient to jolt employers or workers out of their customary practices and habits, though the cost implications of the NMW were significant for many of the small firms in the research. Carter et al. (2006) stressed that the majority of businesses are not affected by workplace legislation since they are very small and in many cases operate from home. Blackburn and Hart (2002) found that there appeared to be a significant difference in the effects between those small firms employing over 20 people and those of less than 20. This suggests that there is a general threshold effect at which individual employment rights become a more important issue for employers to have to understand and address.

1.1.2. Specific kinds of regulations

In reviewing the literature, we realized that most studies focus their attention on five main kinds of regulations: (i) entry regulations; (ii) employment legislation; (iii) health and safety's regulations; (iv) the banking sector's deregulation; (v) bankruptcy laws. We will here present some key results for each of them.

Entry regulations

Some impact analyses address the so-called “entry regulations”: these are mainly rules imposed on any person who wishes to launch a company.

In this respect, for the World Bank (2008), entry regulations are sound determinants of entrepreneurship. The World Bank “Doing Business” Report 2008 suggests that higher entrepreneurial activity is significantly associated with cheaper, more efficient business registration procedures and better governance. Other studies strongly moderate these results. First, some authors reach the conclusion that only some forms of entry regulation appear to be determinants of entrepreneurship: the amount of procedures required to start a business (Dreher and Gassebner (2007)) and the requirements regarding the minimum capital (Dreher and Gassebner (2007) ; van Stel et al. (2007)) both reduce entrepreneurial activity. Second, authors suggest that entrepreneurship can benefit from certain forms of entry regulations. For instance, Parker (2007) highlights that certification requirements could protect consumers from crooks and “cowboys”.

Another set of studies focused on entry regulations analyze the impact of perceived administrative complexities on various entrepreneurial engagement levels. Van Stel and Stunnenberg (2006) found that perceived administrative complexity has a negative impact on the level of business ownership, this effect being not immediate but rather seeming to emerge in the long run. This idea of a negative effect in the long run is also present in the results of Grilo and Thurik (2005a). They highlighted that administrative complexities have a significant negative impact on higher entrepreneurial engagement

levels (having a business whether young or old) relative to less decisive entrepreneurial standings (not considering or taking steps to start a business). However, Grilo and Thurik (2005b) as well as Grilo and Irigoyen (2006) found that the perceived administrative complexities have a negative effect on both latent entrepreneurship (the probability of a declared preference for self-employment over employment) and actual entrepreneurship (the percentage of self-employed).

Employment legislation

In this respect, most studies analyzed the question of the impact of employment regulation on small businesses. As already mentioned, we found that this impact is mediated by two key elements (Ram et al. (2001) ; Gilman et al. (2002) ; Edwards et al. (2003 and 2004) ; Arrowsmith et al. (2003)). The first one is the different external environments in which these firms operate. Thus, the effects of employment legislation depend on competitive conditions: where conditions are benign, regulation can be easily absorbed; but in other circumstances employment legislation can exacerbate competitive pressures. The second key element is the often opaque and complex internal dynamics within the “black box” such as the informality of employment relations within the firm. Different patterns of adjustment were observed, explained by both size and sector characteristics. The focus should therefore not be on the impact on small firms as a whole but rather the impact of specific regulations under certain circumstances.

Moreover, these authors stress that very few small businesses encounter a “regulatory shock” when regulatory change could aggravate an already precarious market position, forcing some businesses to the edge of legality or, in some cases, into closure. A majority of small firms are able to adapt to regulatory change making only “minimalist” adjustments.

Health and safety's regulations

Parker (2007) reviewed the literature regarding legal rules restricting the ways the businesses can operate, i.e. mainly health and safety legislation and tax laws. He highlighted that several authors found negative effects of these regulations on the smallest firms (Dennis; Brock and Evans; Leung; Bertrand and Kramarz) while other authors argued that these regulations can tangibly assist entrepreneurs operating in transition economies in which legal institutions and property rights are weak (MacMillan and Woodruff).

Vickers et al. (2005) presented evidence on small firms' awareness of, and attitudes towards, the health and safety legislation. They supported the negative impact thesis since they found perceived negative effects: 64 per cent of all respondents judged that the level of current regulation was too great, with 37 per cent strongly agreeing with this statement. Differences between sectors were small and insignificant. However, in the same time, very few respondents were able to identify specific pieces of legislation that applied to their business (real impact of regulation). These results suggest that there could be an important gap between real and perceived impact of regulation. Moreover, very few respondents were able to identify any such legislation relevant to their business (awareness of regulation). Baldock et al. (2006) also reached the conclusion that small firms exhibit a low awareness of legislative requirements.

Banking sector's deregulation

Some authors analyzed the impact of deregulation on the banking sector. For Kerr and Nanda (2008), deregulation of this sector leads to the reduction of financial constraints weighing down on small start-ups in particular and "democratizes" the arrival of these companies on the market. Parker (2007) reviewed several studies on this topic and stressed the following conclusions: deregulation would appear to strengthen competition between banking institutions, improve access to financial capital and, therefore, raise the number of entrepreneurs (Black and Strahan (2004)). Nevertheless, Wall (2004)

reexamined Black and Strahan's data (2004) and strongly moderated their claims by demonstrating that deregulation only produces beneficial effects for entrepreneurship in some regions and not in others. These regional discrepancies suggest that there is a more subtle and ambiguous relationship between bank competition and entrepreneurship.

Bankruptcy laws

A more forgiving bankruptcy legislation, i.e. discharging to repay debts, tends to offer entrepreneurs partial insurance against the consequences of failure and then tends to increase the probability that risk-averse entrepreneurs start a business (Adler et al. (2000); Lee et al. (2007) ; Armour and Cumming (2008) ; Parker (2007)). Therefore, an entrepreneur-friendly law may encourage entrepreneurship development. Armour and Cumming (2008) stressed, for instance, that more entrepreneur-friendly legislations give rise to statistically and economically significant increases in average rate of self-employment in different countries.

1.2. Classification of the different types of impact studies

Kitching (2006) and the Kingston University Small Business Research Centre (2005) divided the existing impact studies into three categories: *business-burden studies*, *compliance-cost studies* and *business decisionmaking and competitiveness studies*. We feel that the distinction between the first two categories is artificial and, consequently, that all existing researches can be classified according to two categories: “burden” and “cost” studies make up one, initial, category of studies that we have opted to call “correlation studies”; studies of the decision-making process in business and on competitiveness correspond to the second category of studies which we shall call “explanatory studies”. We take the view that, in distinguishing between studies of “burdens” (*business-burden studies*) and studies related to “costs” (*compliance-cost studies*), the second category represents a simple subset of the first category insofar as the goals pursued and the hypotheses put forward in these researches match those in the first category. Besides, all the second category does is to stress the scale of these costs and the

time given over to regulatory constraints. Splitting up this group of studies into two distinct categories according to which we measure the “burdens” (generic term), or, more specifically, the “costs” (concepts of *compliance costs* and *administrative costs*) would therefore seem to us to be inadequate.

What we call the “correlation studies” are designed to isolate and test the correlation between regulation variables and entrepreneurial performance or activity variables.

The authors of what we call the “explanatory studies” tackle the phenomenon of regulation from a different point of view: regulation cannot have an effect in isolation; it only has an effect through changes in behaviour adopted by economic actors as a response to the same regulation. Regulation is therefore just one factor amongst other elements which go together to form a more general context which will then shape the behaviour of entrepreneurs and the performance of their companies. In these researches, a set of environmental variables and the interactions between these variables are tested. These studies highlight what Kitching calls the “invisible hand of regulation” (Kitching, 2006) since they can help us to better understand complex causal mechanisms that explain to what extent regulation changes company practices and performance.

Furthermore, we have identified a third series of academic articles that we shall term “critical” since their main objective is to criticize the research design and methodology of the impact assessment models or the tools put in place by public authorities in some countries as part of a better regulation policy to downsize the burdens on companies through regulations.

We have identified four types of correlation studies and three types of explanatory studies. Furthermore, we have counted two types of critical studies. These categories and types of study are taken up in a systematic fashion in Table 1 and are analyzed in more details below.

Table 1: classification of the studies on the link between regulation and entrepreneurship

CORRELATION STUDIES		EXPLANATORY STUDIES		CRITICAL STUDIES	
1. Looking at an economic parameter and the way it develops over time to determine the effect produced by a new regulation or the suspension of any form of regulation	<ul style="list-style-type: none"> - Borkowski and Kulzick (2006) - Kerr and Nanda (2008) 	1. Impact assessments of an overall regulatory system	<ul style="list-style-type: none"> - Small Business Research Centre of the Kingston University (2008) 	1. Review of restrictions and methodological problems of the impact assessment models	<ul style="list-style-type: none"> - Storey (1999) - Curran (2000) - Chittenden et al. (2002) - Bartik (2002) - Storey (2003) - Small Business Research Centre of the Kingston University (2005) - Kitching (2006) - Parker (2007)
2. Comparing databases which contain, respectively, variables to measure the level of entrepreneurial activity of a country and variables that deal with regulation	<u>Use of official databases:</u> <ul style="list-style-type: none"> - van Stel et al. (2007) - Dreher and Gassebner (2007) - Armour and Cumming (2008) <u>Use of databases made up of surveys:</u> <ul style="list-style-type: none"> - Grilo and Thurik (2005a) - Grilo and Thurik (2005b) - Grilo and Irigoyen 	2. Impact assessments of a group of regulations which are part of a specific legal domain	<u>On social law :</u> <ul style="list-style-type: none"> - Ram et al. (2001) - Gilman et al. (2002) - Marlow (2002) - Edwards et al. (2003) - Arrowsmith et al. (2003) - Edwards et al. (2004) <u>On health and safety :</u> <ul style="list-style-type: none"> - Vickers et al. (2005) - Baldock et al. (2006) 	2. Review of the tools put in place as part of a better regulation public policy	<ul style="list-style-type: none"> - OECD (1995) - OECD (1997) - Chittenden et al. (2002) - Jacobs (2006) - European Commission (2007) - Jacobzone et al. (2007) - OECD (2008) - Lonti and Woods (2008) - Nijssen et

	(2006) - van Stel and Stunnenberg (2006)				al. (2009)
3. Comparing national economic indicators with databases that contain variables on regulation	- Studies by GEM - Djankov et al. (2002) - Cappelleras et al. (2008)	3. Impact assessments of specific form(s) of regulation	- Vickers and Cordey-Hayes (1999) - Tabone and Baldacchino (2003)		
4. Studies carried out amongst entrepreneurs to measure their perception of regulation and its impact on their activities or performance of their companies	- Blackburn and Hart (2002) - De Vil and Kegels (2002) - Joos and Kegels (2004) - Carter et al. (2006) - Janssen et al. (2006) - Kegels (2008)				

Source: the authors

Correlation studies

Correlation studies examine regulation in terms of “costs” or “constraints”. The main objective is to measure the effects of “constraints” produced by regulation that have an impact on performance or growth of companies or on the economic or entrepreneurial activity of a country or sector of activity. In other words, it is a way to test the correlation between regulation and entrepreneurial performance or activity. When entrepreneurs or managers are questioned for this type of study, they are asked about the way they view

regulation: what do they think of regulation? The goal is therefore not to investigate how these entrepreneurs or managers adapt to the phenomenon of regulation.

The first type of correlation studies consists of looking at an economic parameter and the way it develops over time to try and determine the effect produced by a new regulation or the suspension of any form of regulation (Borkowski and Kulzick (2006) ; Kerr and Nanda (2008)). In other words, it compares what this economic parameter was before the regulatory modification and what it has become after the regulation in order to draw some conclusions as to the impact of regulatory changes.

In the second type of correlation studies, researchers compare databases which contain, respectively, variables to measure the level of entrepreneurial activity of a country such as *business ownership rate*, *actual and latent entrepreneurship rates*, *self-employment rate* and variables which deal with regulation such as perception of the complexity of the administrative procedures imposed by regulation, the lack of financial support from public authorities, the “forgiving” nature of bankruptcy laws. To this end, Dreher and Gassebner (2007), van Stel et al. (2007) and Armour and Cumming (2008) used databases made up of official information published by public authorities or surveys conducted with national experts. Grilo and Thurik (2005a), Grilo and Thurik (2005b), Grilo and Irigoyen (2006) and van Stel and Stunnenberg (2006) used databases made up of surveys that measure the views held by entrepreneurs.

In the third type of correlation studies (studies by GEM ; Djankov et al. (2002) ; Cappelleras et al. (2008)), researchers compare national economic indicators such as the level of entrepreneurial activity or the GDP with databases that contain variables on regulation gathered from entrepreneurs, national experts or public authorities such as the perception of the complexity of administrative procedures imposed by regulation or the perception of what is called “entry” regulation and of the time and cost that it imposes on starters.

The fourth and final type of correlation studies is a group of studies carried out amongst entrepreneurs to measure their perception of regulation and its impact on the activities or performance of their company (Blackburn and Hart (2002) ; De Vil and Kegels (2002) ; Joos and Kegels (2004) ; Carter et al. (2006) ; Janssen et al. (2006) ; Kegels (2008)). Here, the key goal is, for instance, to measure SME perception of the volume and complexity of some forms of regulation and the overall regulatory system as well as the costs incurred to comply with these rules or to measure the perception of the quality of regulation and the contacts with administrative authorities.

Explanatory studies

In the second group of studies which we have chosen to refer to as “explanatory”, it is no longer simply a matter of examining “burdens” or “costs”. Here, the goal is to draw up a more sophisticated table outlining the various types of effects (positive, negative or neutral) that different types of regulation produce in different categories of companies (different sizes, sectors, etc.). Regulation is thus presented as a factor that is not simply able to “restrict” but also “enable” or “promote” opportunities for company development. These studies analyze the complex causal mechanisms that explain to what extent regulation changes company practices and performance. The goal here is to investigate *how* do entrepreneurs adapt to regulation rather than collecting their view on regulation (*what* do they think about it?).

We have identified three types of explanatory studies. The first ones are those that measure the impact of the overall regulatory system, i.e. of all regulations that could affect a country’s company activity (ex.: Kingston University’s Small Business Research Centre (2008) on regulation in the United Kingdom). The second ones measure the impact of a group of regulations which are part of a specific legal domain (on social law : Ram et al. (2001) ; Gilman et al. (2002) ; Marlow (2002) ; Edwards et al. (2003) ; Arrowsmith et al. (2003) ; Edwards et al. (2004), and on health and safety: Vickers et al. (2005) ; Baldock et al. (2006)). The third ones measure the impact of a specific form of regulation (Vickers and Cordey-Hayes (1999) on regulations that have contributed to

push companies to adopt environmentally-friendly production systems and Tabone and Baldacchino (2003) on auditing rules).

Critical studies

There are two types of critical studies. Some authors review impact assessments researches and look at restrictions and methodological problems (Storey (1999) ; Curran (2000) ; Chittenden et al. (2002) ; Bartik (2002) ; Storey (2003) ; Small Business Research Centre of the Kingston University (2005) ; Kitching (2006) ; Parker (2007)). Others undertake a critical analysis of the tools put in place by public authorities in some countries as part of a better regulation policy to downsize the burdens on companies through regulations (OECD (1995, 1997 and 2008) ; Chittenden et al. (2002) ; Jacobs (2006) ; European Commission (2007) ; Jacobzone et al. (2007) ; Lonti and Woods (2008) ; Nijssen et al. (2009)). Most of the questions raised by the first type of critical studies will be dealt with in the following section. As for the critical studies on the tools required for better regulation, they will not be addressed in this paper.

2. Discussion of the literature

Since regulation is a complex and multidimensional phenomenon, several approaches co-exist for the measurement of its impact on entrepreneurship and reach relatively scattered conclusions. These current scattered results do not allow us to have a definitive and balanced judgment on the links between regulation and entrepreneurship. These two elements will be discussed hereafter.

2.1. Regulation: a complex and multidimensional phenomenon

Regulation is not an easy concept to define since it is a multidimensional and complex phenomenon. This complexity tends to be clear when looking at the attitude of researchers towards the definition of regulation in their studies. We found five different attitudes.

A first group of studies do not provide any definition of the regulation concept at all (ex.: Dreher and Gassebner (2007) ; Carter et al. (2006)). This approach allows business owners to draw on their own meanings. It thus could fail to cover the full range of regulatory influences on entrepreneurial activity or performance. It could also shed light on non regulatory issues. For instance, it is not always easy to distinguish between administrative burdens decided by public authorities and the ones simply linked to the management of the firm. A business owner could decide voluntarily to regularly update key financial information and communicate them to his/her main suppliers/clients for good management reasons. This problem could lead to the overestimation of the regulatory burdens.

Other studies tend to define regulation narrowly in terms of the particular obligations placed on business owners to act (or not act) in particular ways, for instance, to provide information to government (ex.: Djankov et al. (2002) ; Kegels (2008)). This approach could fail to take into account every obligations placed on business owners and therefore do not cover the full range of regulatory influences on entrepreneurial activity or performance.

A third group of studies are focused on policies. One could make some confusion in thinking that “policies” is a synonym of “regulation”. “Policies” is just a neighbouring concept of regulation. Indeed, a great deal of literature has been devoted to the concept of “policies”. This concept is broadly used in studies that seek to measure the impact of the legal environment on economic activity or company activity (Thurik (2009) ; Dennis (2004) ; Lundström and Stevenson (2002 and 2005) ; Hart (2003)). However, this term is much broader than that of regulation: it is a generic term that denotes any type of intervention from public authorities, binding or not and accompanied or not by penalties.

A fourth and broad group of studies use a very restrictive conception of the term “regulation”. Regulation is only analyzed in terms of administrative complexities, burdens, barriers, constraints or compliance costs. For instance, a study of van Stel and

Stunnenberg (2006) focused on “administrative complexity” defines this term in using OECD-publication. They highlight that “OECD (2001) concludes that administrative burdens have risen significantly in OECD countries in recent years due to expanding regulations and increasing government demands for information. In this context, the terms “regulations” and “increasing demands for information” serve as a description of what is meant by administrative burdens.”. Many quantitative surveys have recorded business owners’ perceptions of regulation as a “constraint” on entrepreneurial activity or performance (ex.: Kegels (2008) ; Djankov et al. (2002) ; GEM studies ; van Stel et al. (2007)). This approach do not allow respondents to report any positive, not constraining effects (Kingston University Small Business Research Centre (2005) ; Kitching (2006)).

The last set of studies is based on definitions of regulation that seem to be not too restrictive as well as not too broad. These definitions tend to correspond better to the French word of “règlementation” in the sense of rule making by public authorities. These definitions are the following:

- “The full range of legal instruments by which governing institutions, at all levels of government, impose obligations or constraints on private sector behaviour.” (OECD (1995))
- “Any government measure or intervention that seeks to change the behaviour of individuals or groups, so including taxes, subsidies and other financial measures.” (UK government’s Better Regulation Taskforce)
- “The legal and administrative rules created, applied and enforced by state institutions – at local, national and supranational levels – that both mandate and prohibit actions by individuals and organizations, with infringements subject to criminal, civil and administrative penalties.” (Kitching (2006) ; Kingston University Small Business Research Centre (2008))

We think that this last group of studies defines regulation at best since it states the three main elements of regulation: role played by public authorities, binding effect and prescriptive function.

Regarding the role played by public authorities, we think that regulation could not be seen as all mechanisms of social control or influence affecting all aspects of behaviour from whatever source, whether they are intentional or not. In this kind of definition, there is no systematic connection with the state as well as no boundaries as to where regulation might end. It is so broadly defined that it provides too little analytical contribution.

The second key issue is the binding effect. This element allows us to distinguish between “policies” (generic term, not always binding) and regulation (more restrictive term, always binding).

The last element of the definition is the *prescriptive* function of regulation, i.e. imposing a certain abstention or action. We have found this issue in the legal literature. For instance, according to Hecquard-Théron (1977), regulation is “an act creating rights and obligations, of a general and impersonal nature” (translation from the French). For lawyers, it is its *prescriptive* function that makes regulation what it is. Regulation thus alters the legal set-up. It is this feature that is essential and not that of the penalty which is just one consequence of the change made to the legal order. In this respect, public authorities have three tools at their disposal to influence the behaviour of citizens and companies: the communicative tool (persuasion), the economic tool (levy or subsidy) and the legal tool (enforcement) (Nijssen, 2009). The third tool corresponds to regulation. The latter has a direct impact on individuals or organizations by permitting or prohibiting certain actions. This impact can also be an indirect one: an individual or organization can change his/her/its behaviour as a reaction to the change in behaviour adopted by another agent following the adoption of a regulation. An SME or entrepreneur can therefore change its/her/his *modus operandi* in the wake of changes in behaviour witnessed on the part of its/her/his competitors following the advent of new regulation. This complex causal chain is known as the ‘invisible hand of regulation’ (Kitching, 2006), making the academic work of linking up regulatory intervention with the actions of SMEs or companies long and complex.

2.2. Impact of regulation: more evidence is needed before any sound conclusions

We think that these current conflicting results do not allow the scientific community to have a definitive and balanced judgment on the “winners” and “losers” in regulation. We believe that this kind of sound judgment could be reached if more detailed researches are made using the two complementary approaches that we have identified in this paper. The task would be to test the different existing approaches, i.e. the correlation and explanatory studies, with a common data set. It means that two kinds of survey or interview conducted in following these two approaches should be administered to the same sample of entrepreneurs regarding the same set of specific regulations.

Furthermore, we think that future research on that topic must avoid several methodological and research design’s shortcomings. We believe that five shortcomings can be identified.

First of all, some researchers try to measure the overall impact of all regulations, whilst others concentrate on isolating the effect of one or several specific types of regulation. For Chittenden et al. (2002), no assessment of a regulatory system put in place by a country or region can establish a causal link, as it is difficult to attribute changes in behaviour to any given precise form of regulation. Moreover, measuring the total cost of a whole regulatory system means one has to aggregate databases that are often difficult to compare in terms of quality of data, methodology and periods of time analyzed. To sum up, it amounts to compare “apples and oranges” and running the risk of producing erroneous data rather than to enhance the level of knowledge in this field. For Parker (2007), we can only form a definitive and balanced judgment on the links between regulation and entrepreneurship by undertaking more research at organizational level. We share this view and feel that only those research studies built to sharpen our understanding of the causal mechanisms which come into play between the specific regulations and the behaviour adopted as a response by entrepreneurs can help us to produce trustworthy results.

Another factor is the presence or absence of a control sample or period. The vast majority of studies do not involve a control element of this nature. Chittenden et al. (2002) take the view that compliance-cost studies would be enhanced if they included a comparison with a control situation where the regulation had not come into force. Storey (1999 and 2003) distinguishes those studies that are merely “monitoring” regulation from those that offer a real “evaluation” of the impact of regulation. By “monitoring” regulation, researches are focused on the individual perceptions of those addressed by policies. An “evaluation” helps us to distinguish the views of those addressed by regulation from those who are not addressed. Bartik (2002) also distinguishes the “gross” effect from the “net” effect in regulation; the “net” effect can be measured if we are attempting to ascertain what would have happened, on average, if the regulation had not existed. In this regard, it would seem appropriate to find a group of companies comparable to the target group of companies but that has not been affected by the regulation. Several statistical methods can help us to make these comparisons (ex: *difference-in-differences estimation* ; *propensity score approach*). Curran (2000) underlines the fact that it is difficult to select samples that are comparable in the SME sector, given that the sector is so heterogeneous. Furthermore, he highlights the fact that, in order to measure this “net” effect, we also need to determine the desired situation that would have existed in the absence of the regulation.

A third critical element is cited by Chittenden et al. (2002). These authors stress the wide variety of costs linked to regulation, such as mandatory costs versus voluntary costs; recurring costs versus non-recurring costs; indirect costs versus direct costs; social costs and psychological costs, etc., and highlight the difficulties encountered in the compliance-cost studies in order to measure these costs taken as a whole. Most of these studies do not, for example, measure some indirect costs, such as “psychological costs”, i.e. the stress related to the need to meet a set of rules that the practitioner does not entirely understand. Furthermore, the benefits brought by regulation are not often measured. Kingston University’s Small Business Research Centre (2005) and Kitching (2006) also stress this problem of the “partial” image obtained when we focus solely on costs that are easy to quantify to the detriment of other costs that are more difficult to

measure, when we omit situations where no costs are involved (ex: those who fail to observe the regulation) and when questions put to entrepreneurs do not give them the opportunity to provide positive answers such as the possible benefits of regulation.

Fourth, Carter et al. (2006) and Edwards et al. (2003) have stressed the fact that when we measure the perception that entrepreneurs have of regulation (what do they think of it ?), a vast majority of respondents claim not to be very satisfied, or even not satisfied at all by regulations (quality, volume, cost, etc.) but, at the same time, very few of them state that their activities have been affected by these regulations. The vast majority of respondents ticks the “non-relevant” box or simply do not answer the question. In other words, the perception that entrepreneurs have of the impact of regulation on their activities does not reflect the impact that they have experienced in a concrete way. For Kitching (2006) and Kingston University’s Small Business Research Centre (2005), we can only really expand our knowledge of regulation by implementing methodologies that would help to investigate this gap between the perceived effect and the real effect.

A fifth and final element is discussed by Bartik (2002). For this author, we can only break into the “black box” of regulation by combining two complementary types of methodology: statistical analyses of variances (comparison of a target group and a control group) and surveys and focus groups that would help us to better understand the impact of regulation on the decision-making process of entrepreneurs. In this respect, the majority of researchers only use one type of research methodology. The correlation studies frequently use a purely quantitative methodology; whilst explanatory studies are, for the most part, qualitative. We have only identified a few studies that combine quantitative and qualitative methodologies (Kingston University’s Small Business Research Centre, 2008; Vickers et al., 2005). Nevertheless, for Curran (2000), the problem with studies that mix the two methodologies is often that the qualitative part is seen as a simple complement to confirm the results obtained via the main quantitative part of the study. This author calls for quantitative research to be added to a main qualitative part, rather than the opposite, or even to do only qualitative researches.

3. Conclusion and recommendations for future research

The academic interest for the question of the impact of regulation on entrepreneurship is impressive. There is an abundant literature on this topic. However, we have stressed that these studies reach relatively conflicting conclusions. We believe that this situation shows that much more evidence is needed before any sound conclusions about the effects of regulations on entrepreneurial activity or performance can be reached. We think that the “black box” of regulation could be better understood by testing “correlation studies” (investigating the question of *what do entrepreneurs think about regulation*) and “explanatory studies” (investigating the question of *how do entrepreneurs adapt to regulation*) with a common data set and comparing their results.

Furthermore, we think that any future research on that topic must avoid several shortcomings.

First, it should not assess the impact of a whole regulatory system at a national or regional level, but rather at an organizational level. Indeed, measuring the total cost of a whole regulatory system means that one has to aggregate databases that are often difficult to compare in terms of quality of data, methodology used and periods of time analyzed.

Second, it should also measure the “net” effect of regulation in attempting to ascertain what would have happened, on average, if the regulation had not existed. This “net” impact can be measured in comparing the impact perceived by a target group, those addressed by regulation, and the one perceived by a control group, those who are not addressed.

Third, it should not investigate the impact in a one-dimensional way that only looks at constraints. This could solve the problem of the “partial” image developed when focusing only on costs that are easy to quantify comparatively to other costs that are more difficult to measure, when omitting situations where no costs are involved (ex: those who fail to

observe the regulation) and when questions asked to entrepreneurs do not allow them to give positive answers (possible benefits of regulation).

Fourth, it should implement methodologies that would help to investigate the gap between the perceived effect of regulation (what do entrepreneurs think, in general, about regulation?) and the real effect of regulation (what is the impact of regulation on their activities or performance they have experienced in a concrete way?).

Finally, it should not use purely quantitative methodologies (correlation studies) or purely qualitative methodologies (explanatory studies) but rather combine quantitative and qualitative methodologies in order to break into the “black box” of regulation.

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