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CAN SUSTAINABLE TRANSPORT
POLICIES CAUSE COMPANIES TO ADOPT
RESPONSIBLE BEHAVIOUR ?
THE CASE OF THE TEXTILE AND CLOTHING
INDUSTRY

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ABSTRACT:

Faced with the growing criticism of the externalities of transport, and freight in particular, transport policies have gradually set sustainable development targets. Although the objectives have evolved, the levers for bringing about change have remained the same: mainly the infrastructures made available and the charges for using them.

The mid-term review of the 2001 European Commission White Paper recognises that these options have had limited success and that the problem of imbalance between modes of transport remains unchanged. This review advocates using a broader and more flexible set of tools for action.

In our view, the problem of public policy options for transport is two-fold:

- *they are constructed on the basis of a particular idea of sustainable transport and consequently they hinge on a single objective: modal shift*
- *they obscure the variety of determining factors in the choice of transport for companies and in doing so only emphasise a few levers for action*

The aim of this paper is to draw attention to the diversity of representations of sustainable transport for companies, but also the multiplicity of factors that might promote a more sustainable orientation in the choice of transport (1). We employ régulation theory to shed light on this diversity and to highlight companies' resistance and motivation toward the implementation of sustainable strategies in the area of transport (2). Finally, we illustrate our demonstration using the example of the textile and clothing industry (3).

INTRODUCTION

Social and environmental responsibility, along with the new practices that it generates, questions the interaction between micro and macroeconomic levels. Although it is often envisaged by private sector actors such as companies, shareholders and consumers, it also concerns public institutions such as the State and their potential new interventions in the economy. Using the example of transport, we will try to determine to what extent new state practices might make new individual practices possible, considering the limited contribution of traditional intervention to making companies adopt responsible behaviour in the area of transport.

We feel that the example of transport is particularly interesting because the issues of sustainable development have been part of international, European and French policies for more than 15 years now. Have these new orientations provoked new transport and logistic practices among companies ? Have sustainable transport policies promoted the development of corporate social and environmental responsibility ?

We will pay special attention to the environmental side, which these interventions are focused on. In our view the problem of these interventions is two-fold:

- they are constructed on the basis of one particular idea of sustainable transport and consequently they hinge on a single objective: modal shift
- they obscure the variety of determining factors in the choice of transport for companies and in doing so only emphasise a few levers for action

The aim of this paper is to draw attention to the diversity of conceptions of sustainable transport for companies, but also the multiplicity of factors that might promote a more sustainable orientation in the choice of transport (1). We employ *régulation* theory to shed light on this diversity and to highlight companies' motivation and resistance to the implementation of sustainable strategies in the area of transport (2). Finally, we illustrate our demonstration using the example of the textile and clothing industry (3).

1. SUSTAINABILITY IN FREIGHT TRANSPORT POLICIES: NEW OBJECTIVES FOR PERMANENT FORMS OF INTERVENTION

The concerns of sustainable development have become part of transport policy, faced with the rise of widely-condemned environmental and social externalities. However, despite these growing negative externalities, transport is nevertheless closely linked to economic growth. The correlation between the transport activity and economic growth has justified the continuation of these forms of public intervention, even though assessments show they have met with limited success.

1.1 Environmental and social nuisances are recognized and condemned

Transport makes an environmental impact essentially through two vectors: the supply of energy and emissions.

On one hand, the transport industry taken as a whole appears to be very dependent on the petrol market where demand is slated to grow sharply with the emergence of new heavy-consumer countries (...). On the other hand, the sharp growth in traffic and its greenhouse gas emissions will no doubt impel the transport sector to adapt. (CNT, 1999)

These impacts are visible both globally (greenhouse gas emissions) and locally (city traffic congestion, use of space, noise, emission of pollutants, time loss, etc.). Moreover, the impact of transport is high compared with other sectors. Transport was the biggest producer of greenhouse gases in France in 2003 and its share was the one that had increased the most since 1990.

The negative effects seem to be greatest concerning freight: the growth rate of freight transport is higher than that of passenger transport and furthermore the imbalance between modes is growing, and not in favour of modes that pollute less. Moreover, transport has a varied social impact typified by difficult working conditions (night work, shift work, breaks that are short and few in number, etc.), which seem to worsen with international competition¹ and the risk of accidents related to the activity.

(1) Indeed, the ECMT speaks of the risk of social dumping. See especially ECMT (2002) *Social Dumping in the ECMT Area: The Road Freight Haulage case*, 13 (April).

Table 1: Greenhouse gas emissions in France by economic sector 2003

Sector	Greenhouse gas emissions 2003		Variations (Mt) 1990 to 2003
	Mt CO2	%	
Energy Production	72	13	-8
Industry	111	20	-31
Agriculture	108	19	-11
Transport	149	27	28
Construction	102	18	13
Waste	14	3	-2
Total - France	557	100	-11

Source: Bureau, D., 2006, “De nouveaux instruments financiers incitatifs”, Direction des affaires et économiques et internationales (DAEI), Ministère des transports, de l'équipement, du tourisme et de la mer, issue du Réseau des Economistes Transport (RET).

These social impacts are even more pronounced for freight transport. According to a report by French Senator Nicolas About², data for the period 2000-2001 show that although occupational accidents with loss of working time decreased across the board in France, they increased for transport and goods handling. While these accidents increased by 3% in other sectors between 2001 and 2002, they increased faster in transport and goods handling (CNT, 2005).

Table 2: Comparison of accidents in transport and goods handling with all other sectors in France.

Occupational accidents with work stoppage	2002 (thousands)	2001/2000 %	2002/2001 %
All activities	760	-0.8	3
Transport and goods handling	65.8	1.4	4
of which road haulage	21.5	-3.8	4

Source: French economy and statistics office: Service économie et statistique, observatoire social des transports, la conjoncture sociale du transport routier de marchandises, May/August 2004, n°33-34.

(2) See French Senate report n°331 by Senator Nicolas About entitled: “Le projet communautaire de réforme des règles du transport ferroviaire en Europe” (2004).

We must not forget that environmental and social effects are not compartmentalised and may be combined: for example, pollution produces a social impact by damaging health. The example most talked about in the media is atmospheric pollution from cars. A series of pollutants produced by road traffic (nitrous oxide, carbon monoxide, volatile organic compounds, particulate matter and tropospheric ozone) can produce at least two types of effect: direct effects that appear quickly and chronic effects that appear after prolonged exposure. In both cases, these effects either generate or aggravate cardiac and pulmonary diseases.

1.2 Incorporating sustainability into international, European and French transport policies. A single objective: modal shift

Faced with the externalities of transport, a policy oriented toward sustainability has progressively been put in place. At the international level, it is the concept of EST (environmentally sustainable transport) that is promoted. Inspired by the ideas of Herman Daly, the OECD working group defined sustainable transport as:

“Forms of transport which do not endanger public health or ecosystems and which meet transport needs compatible with a) the use of renewable resources at rate that is slower than their rate of replenishment b) the use of non-renewable resources at a rate that is slower than the development of renewable replacement products” (OECD, 1997).

At the European level, sustainable transport –officially defined in 1991– aims to “contribute to economic prosperity, to social well-being and this without harming the environment or people’s health” (ECMT, 1991).

From 1992 until 2005 the objective of sustainable transport took shape in the idea of modal shift which, at a constant level of traffic, sought to shift part of the traffic to modes of transport likely to have lesser societal impacts (CEC, 2001). The idea was not therefore to reduce the growth of flows. The 2001 EC white paper does not seek to restrict the mobility of goods or people. The European Commission (2001) deemed this solution to be “simplistic” and “unrealistic” having “neither the competence nor the means to legislate limitations on traffic in towns or on highways.” In 2003, the European Commission reaffirmed the same objectives:

“EU institutions and national authorities have no intention of arbitrarily reducing the number of vehicles travelling on European roads. What they want is to guarantee the future of road transport because the mobility of people and the health of the economy depend on it. We cannot force users to reduce their trips by car; we can only encourage them to do so” (CEC, 2003).

Thus the modal shift objective became part of transport policy at every level and is implemented including the cost of the external effects of transport, either in the choice of investments or in charges for using infrastructures.

The 1992 EC White Paper emphasised the creation of TEN-T (trans-European networks - transport) and the list of TEN-Ts has been regularly updated ever since. Deciding which projects take priority is done taking into account their impact on the environment. The methodology chosen for assessing this impact is specified and justified. It is a cost-benefits analysis where:

“the transparency of the methodology used to analyse the costs and benefits, including external costs and benefits, of investments in infrastructure for the different modes of transport would enable a better comparison of the different possible infrastructures before making the decision to invest” (CEC, 1992).

The white paper states that “in order to provide an equitable framework for decisions on investment in transport infrastructure, the Community should recommend a standard methodology for doing cost-benefits analysis, including external costs.” (CEC, 1992).

Taking external costs into account in preliminary evaluations will orient investments towards so-called alternative (to road) infrastructures. Transport policy continues to revolve around investments in infrastructure, but the nature of the latter is evolving.

This question of monetizing external effects is also at the heart of work on pricing structures for the transport activity, establishing charges for using various infrastructures. The idea is that by integrating the environmental

externalities of transport, the (very low) cost of road freight will rise and thus encourage the use of other modes of transport. The first EC White Paper (1992) stresses this point:

“In order to guarantee the development of a system of sustainable transport, [it wants] to place the emphasis on the development of a Community framework for imputing infrastructure costs and other costs to users. This framework constitutes the cornerstone for achieving the objective of developing environmentally friendly transport for the entire Community” (CEC, 1992).

Although the action on pricing continued to be a preferred instrument of transport policy, the elements taken into account in the calculation of prices evolved. Mobility and its characteristics continued to be seen as dependent on the cost of transport. The idea was to limit environmental and social impacts while continuing to promote mobility. In other words, policy makers wanted to prevent or eliminate the negative effects of increased traffic rather than reduce traffic and its effects. But the effects of the actions taken appear to be limited.

1.3 Limited effects: continued dominance of road transport and nuisances

In 2005, dissenting voices were raised at the European parliament against modal shift:

“The modal shift from road to rail transport is impossible and trying to bring it about would be contrary to the prosperity of Europe. ... Decoupling transport growth from economic growth is a well-intentioned objective but misguided. We have to reduce the negative aspects of transport, not the transport itself. Moreover, roads generate more taxes than they receive in investment. It is the contrary for rail”.

In 2006, a mid-term review of the 2001 EU white paper reinforced these points. Not only were the economic results of the European transport

(3) Ari Vatanen, Member of the European Parliament (PPE-DE, UMP, F), quoting Rémy Prud'homme, (2005). *Politique des transports en Europe: briser le mythe du transfert de la route vers le rail*, 12 July.

policy unsatisfactory, but the progression of environmental and social nuisances were not very encouraging either. To demonstrate this, the study envisaged prospective scenarios for the 2010 horizon with the following results:

- tonnes per kilometre would increase only very slightly;
- in terms of modal share, the forecasts point to a pause in the growth of road haulage, accompanied by a corresponding decrease in mobility, which the report considers detrimental for economic development;
- the effects on GDP and employment would be minor;
- the reduction of environmental impacts would be slight, especially in terms of air quality. Only the improvement in terms of congestion is notable. The reasons given for these mixed results are increased international competition and slower than expected economic growth, which would make the implementation of sustainable mobility even more difficult.

Thus the goal of modal shift is criticized, in particular for its possible dampening effect on economic growth. Accordingly, a new orientation was adopted beginning in 2006: co-modality. In other words, modal shift is now replaced by the efficient use of different modes of transport. Rather than stigmatise road transport, the idea is to optimise the use of the different modes, in particular by making use of the obvious advantages of road transport and by developing links with the other modes.

Moreover, public action has also evolved, not in its nature but by intervening further upstream. The logistic organisation of companies needs to be transformed, i.e. the way that companies organise the circulation of their goods and which will determine, ultimately, the demand for transport. The infrastructure offer and pricing structure are not enough to orient transport demand toward alternative modes if conditions favourable to flow consolidation are not created upstream. The aim is to facilitate the optimisation of flow organisation for companies in order to enable the use of transport modes that are suitable for consolidated flows. Logistic hubs are set up, therefore, to complete the available transport infrastructure.

Underlying these changes in transport policy is the transformation of conceptions of sustainable transport and the transport system. Nevertheless, they still suffer from certain shortcomings.

1.4 The need for multiple conceptions of sustainable transport and transport options

The new orientation of sustainable transport policy nevertheless lays emphasis on the importance of the definition of sustainable transport that is adopted. Modal shift followed by co-modality have successively delineated this notion.

The conception of how the transport system operates is also questioned. Measures involving transport costs are apparently not enough to orient companies' decisions. Hence, rather than only modifying the characteristics of the transport offer (new infrastructure, cost of transport...) policy also intervenes in the conditions which generate transport demand. The improvement of the logistics offer completes the array of traditional tools in terms of infrastructure and pricing.

Although conceptions of sustainable transport seem to have evolved, the transport system and its functioning are still conceived in terms of the neoclassical paradigm of supply and demand. Thus it is thought possible within the market context to achieve the objectives of sustainable transport by acting on prices and costs. Economic growth is not questioned, nor is the accumulation that characterises capitalism. This goes together with a purely monetary conception of wealth.⁴

But aside from this, it is the homogeneity of conceptions that most worries us. Modal shift and co-modality are seen as the only form of sustainable transport. Similarly, every company is supposed to adopt the same type of behaviour in the face of transport policy interventions. Being "identical", all companies face the same constraints and have the same opportunities; they all have access to a sustainable logistic organisation. And so actions

(4) We refer here to the work of Méda (2001) and Viveret (2000) on wealth.

are carried out as though all companies were going to react the same way and were able to opt for a sustainable logistic organisation. An analysis of the process or path that leads to sustainability for firms is considered unnecessary.

A parallel with education policy can be drawn. As Bourdieu (1966) points out: “By treating all the teachers as equals in rights and obligations, however unequal they may be in reality, the education system is compelled to give its sanction to initial inequalities before culture.” Similarly, when transport policy does not take into account the specific operating context of each company, it only reproduces trends in mobility and imbalances in modal share. The organisation and functioning of a company are part of a particular context that will condition its options for change and its receptiveness to sustainable transport.

We feel therefore that it is more important to understand the system in which the company operates and the factors that determine its action in order to be able to put suitable incentives in place. Here, the theory of régulation offers interesting perspectives.

2. THE CONTRIBUTION OF REGULATION THEORY

The question of incentives to sustainability requires an understanding of what precedes behaviour. This question depends on that of rules, their formation, evolution and impact on behaviour. In this, it is essential to draw on institutionalist theories in order to zero in on the factors that determine behaviour.

“What do we see upstream from the behaviour of individuals ? How do we see the formation of societal effects, and in particular collective objects, from the latter ? The first question raises that of the rationality of behaviour: do we see rationality at the origin of behaviour and if so, how do we conceive it ? The second question raises that of the status of a holistic view whereby societal wholes are not merely the sum of individual actions” (Billaudot, 2004).

We will not describe all the institutionalist theories here.⁵ Rather, we will confine ourselves to justifying the choice of one institutionalist theory: *régulation* theory (RT).⁶ This theory is situated within the heterodox current of thought. Heterodoxy is defined as “the opposition to orthodox sentiments” and as economic orthodoxy is neither immobile nor homogeneous, it is not easy to define. Let us simply say that heterodoxy rejects a too ‘perfect’, ‘mechanistic’ view of the capacity of agents and the market to regulate economic coordination. In this, the “regulationists” are heterodox. This theory is also structuralist, in opposition to methodological individualism. It is, above all, an ontological opposition because the former (structuralism) emphasises the group and its determinants while the latter (individualism) stresses the individual and his rationality.⁷

Theoretically, the microeconomic tools of *régulation* theory can help us to identify the determinants of behaviour, the sources of profit for companies. Indeed, the enterprise is at the heart of new research developments: “*Régulation* theory has been in search of a suitable analysis of the enterprise for nearly a decade.” (Boyer, 2004) The challenge, then, is to identify the determinants of company strategies, whether internal or external.

2.1 The “regulationist” company approach: multiple combinations of profit sources

Régulation theory comprehends the company in relation to its profit strategies and their determinants. It sheds light on the diversity of profit strategies generated by the multiplicity of combinations of profit sources.

(5) See the work done by Hall and Taylor (1996) on institutionalism in political science and in organisation theory, by Théret (2000) in economics and finally by Billaudot (2004) who seeks to understand in depth this division in three modalities. Three major institutionalist currents can be distinguished: rational choice institutionalism, historical institutionalism and sociological institutionalism.

(6) It is more accurate to use the term “*régulation* approach”. On this point, see in particular the interview with Alain Lipietz, in *Ecole de la régulation et critique de la raison économique*, (1994), Paris: L’Harmattan. See also, more recently, Billaudot, B. (2006). *Economie des conventions et théorie de la régulation: de la comparaison à la confrontation. Economie et institutions*, 8 (1st semester).

(7) Methodological individualism can be characterised on two levels. Firstly, individuals acting in their interests fashion society. They may come up against constraints in the pursuit of their goals, but their actions stem from a choice between several possible actions. Their behaviour is understood in terms of individual rationality. Secondly, the entire set of socio-economic phenomena can be explained through the study of individuals’ motivations. They are the product of the aggregation of individual actions, whose outcome may be unexpected.

Regulationist research on the company has focused on the identification of profit strategies and its modifications (see in particular Boyer, Freyssenet (2000) and Freyssenet (2003a)). The analytical framework proposed by these authors identifies six fundamental sources of profit: volume, quality, diversity, flexibility, innovation, and constant cost reduction. The profit strategy of the company will therefore be a conceivable combination of at least one of these six profit sources.

Table 3: Toward an initial identification of company profit sources

Profit sources	Explanations	Indicators
Product quality	Higher price Elevation of market share	- Value density
Cost reduction	Economies of scale: drop in product unit price Sufficient margin in all cases	- Change in the size of runs proposed - Relative to the decrease in the consumption of resources: water, raw materials, and energy...
Product and process innovation	- Monopoly income	- Resources allocated to research and development // sector
Search for production flexibility	Adjustment of costs to variations in demand Differentiation	We compare the rate of change of - Rate of change of expenses = payroll + amortization - Compared to production volume
Diversity of offer	Enlargement of the offer to all solvent demand segments Differentiation	Number of product lines proposed//sector

Source: modified from Boyet, R. & Freyssenet, M. (2000). Les modèles productifs, Paris: La Découverte, collection: repères n°298.

2.2 Régulation Theory approach: recognition of the embedding of companies' strategies

Another benefit of RT is to illustrate the embedding of companies' profit strategies, both internally with other strategies and also externally with the company's environment.

Two conditions must be met for a profit strategy to be viable. It must be possible for the company to implement the strategy (internal requirement). This internal requirement can be analysed through three major components of company strategy: product policies, production organisation, and employee relations. Scholars define these components as follows:

Product policy concerns target markets and market segments, the design of products and product ranges, sales volume targets, the diversity of models, quality, newness and margin.

Production organization involves the methods and means chosen to achieve the product policy. It covers the degree of integration of activities, their spatial distribution, the organization of design, procurement, manufacturing and sales, the techniques used and management criteria.

Employee relations consist of systems for recruitment, employment, classification, direct and indirect remuneration, promotion, timetables, employee representation and expression. (Boyer & Freyssenet, 2000)

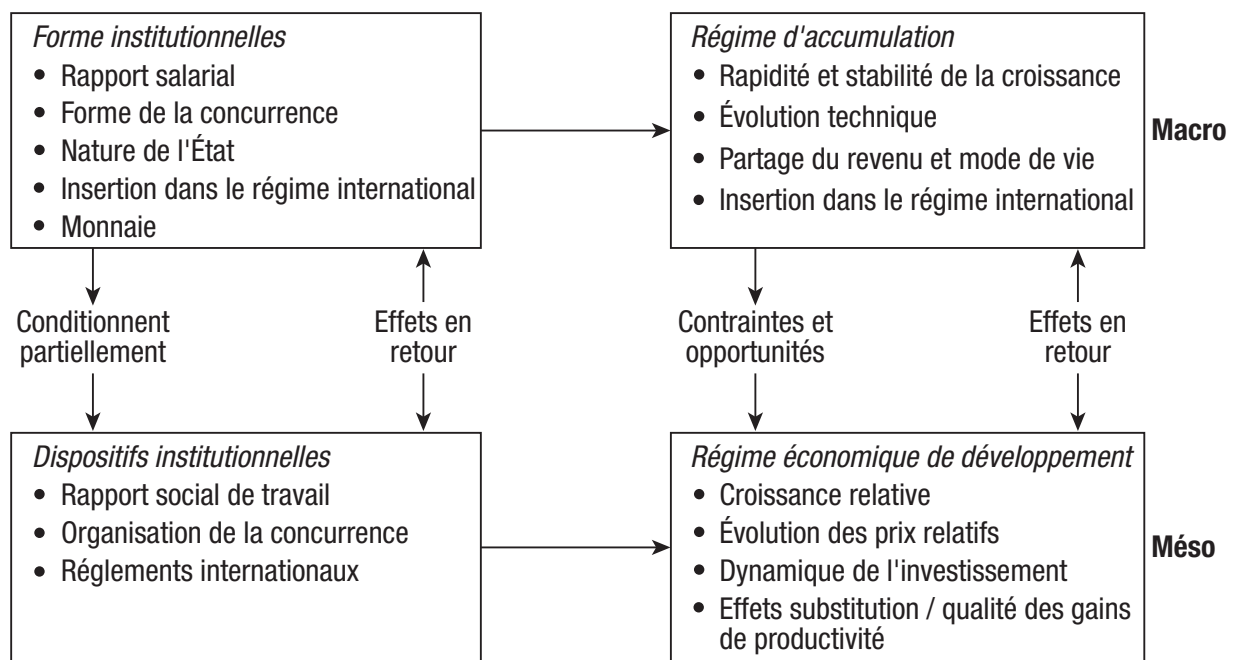
But this strategy must also be coherent (external coherence) with the macroeconomic context. In order to achieve this, it has to reduce market uncertainty and labour uncertainty. The notion of “company governance compromise” and consequently that of “productive model” are defined in the following way:

Productive models can be defined as “company governance compromises” which enable the sustainable and profitable implementation of one of the viable profit strategies in the context of the modes of growth of countries where companies organise their activities using methods and means (product policy, production organisation and employee relations) that are coherent and acceptable to the actors involved. (Boyer & Freyssenet, 2000)

While the company interacts with its national context, it also develops particular relations with its own sector. The idea then is to consider not only the macroeconomic influence on company strategy, but also that of the sector.

The sector is not considered to be isolated from its national context. On the contrary, it is associated with it to a greater or lesser degree depending on the approach. Although there are, or have been, three (or even four) approaches⁸ in the theory, it is the semi-functionality approach –a synthesis of the first two, presented schematically below– which now predominates.

Schema 1: Meso–macro links in the sectorial theory of régulation



Source: du Tertre, 1995; Boyer, 1990 ; inspired by Bartoli, Boulet, 1989.

These new institutional regulations are termed “semi-functional”: the sectorial dynamic has its own characteristics, but the macro level creates constraints and opportunities depending on the place of the sector in the accumulation regime. Sectors evolve and can, in turn, affect the macroeconomic regime (du Tertre, 1995).

The sectorial approach to regulation hinges on the following four propositions:

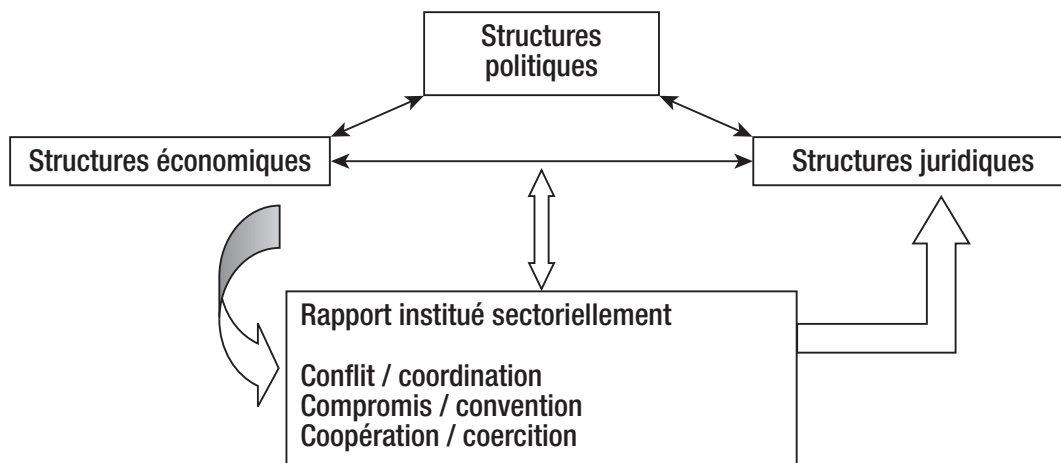
(8) The projection of the global mode on the sectorial mode; the heterogeneity of sectors (which can be split in two: sectorial heterogeneity and strict institutionalism) and lastly semi-functionality. See, in particular, du Tertre, 1994, 1995, 2002.

- sectorial dynamics are initially influenced by sector-based aspects of the labour social relation, the organisation of competition and the history of the institutional system. The point is to recognise the bases of sectorial heterogeneity in the production dynamic;
- the overall macroeconomic system also has an influence. It creates constraints and opportunities that depend on the place occupied by the sector in the accumulation regime. Thus sector dynamics are subject to a semi-functionality that is recognised in the sector;
- given the substitution effects that are always possible, in terms of production combinations (through technical changes or the use of foreign producers) and the different histories of institutional systems, certain activities are diminished while others prosper. Restructuring and reclassification thus occur within the macroeconomic system;
- in return, these transformations can have an influence on the dynamic of the overall macroeconomic system (du Tertre, 1995).

Although the sectorial *régulation* approach sheds light on the interactions between the macro and meso levels, it does not however describe in detail the sectorial dynamic whose value it nevertheless seeks to recognise, for the latter is but a derivative of the macroeconomic dynamic. Moreover, whether for the macro or meso level, the regulationist approach and its mutations have not been able to move beyond their references to the concepts of growth and productivity: “the scientific (and political) paradigm of growth and productivity is in reality one of the ‘institutional forms’ of Fordism” (Gadrey, 2002).

Jullien and Smith (2004) put forward a representation of the sectorial dynamic by which these criticisms can be overcome. They identify the sectorial dynamic around relations of a specific nature, termed “instituted relationships”. Three pairs of relationships are described in the analysis: conflict and coordination, compromise and convention, and finally cooperation and coercion. These relationships qualify the nature of the company’s relations with what the authors consider its four principle partners: clients, suppliers, investors and employees.

Schema 2: Macro meso links in Jullien and Smith



Source: Jullien et Smith 2004

The profit strategies of companies cannot therefore be understood independently of the macroeconomic dynamic characterised by institutional forms and the accumulation regime, or the specificities of sectorial dynamics highlighted by the nature of the relationships between companies and their partners (employees, investors, suppliers and clients).

Logistic and transport strategies are also, in our view, profit strategies whose diversity ought to be clarified. The evolution of the definitions and conceptions of logistics provides the first clues to the strategic nature of logistic activities and the multiplicity of its contributions to profit. Initially defined as an operational activity that served to optimise costs, time and even the pacing of each production activity, today it is considered a globally strategic activity which helps to improve coordination all along the chain of production.

Our aim here is to show the diversity of logistic strategies and the complexity of their determinants, both internally and externally. Sustainable transport policies only apply to companies that develop strategies based on cost reduction. In so doing, they obscure the complexity of strategic choices and the necessity of differentiating between levers of intervention. They also ignore the links between corporate strategy and its environment (macro and/or meso) and the benefit of complementary

actions on levels other than that of the company. We will attempt to illustrate these difficulties within one sector: the textile and clothing industry.

3. FIRST ELEMENTS OF A “REGULATIONIST” ANALYSIS OF THE LOGISTIC STRATEGIES OF THE TEXTILE AND CLOTHING INDUSTRY

3.1 Elements of methodology

Four databases were used and merged to try and illustrate the logistic strategies of companies in the textile and clothing industry and their determinants.

- 1) A database from a DELPHI study which records trends and issues for the industry, in past, present and future contexts. A DELPHI study consists of two rounds of questions: in the first round, a set of questions is sent to all the experts of the panel. The responses received are then compiled and sent to each expert to be ranked in order of importance.
- 2) Part of the ECHO (Envois-CHargeurs-Operateurs de transport) survey carried out by INRETS. It involves 161 establishments of the textile and clothing industry. The ECHO (Enquête Chargeurs Opérateurs) survey is an INRETS database containing information representative of all freight transport and logistics in France. It comprises 10 000 freight shipments by 3000 shipping establishments at the national level. 17000 complete journeys can thus be described. The objective is to know, in detail, all the operations carried out from one end of the chain to the other, from the shipper to the final addressee, going through all the intermediaries, transporters and logistics agents, as well as the nature of the production systems that they are part of.
- 3) The database from a telephone survey of 50 establishments in the textile and clothing sector, which sought to characterise their production and logistic strategies.
- 4) A database (200 variables) from a postal survey carried out by sending a questionnaire to 1000 establishments all over France to inquire out

about their sustainability strategies. 121 establishments sent back a correctly completed and usable questionnaire.

3.2 The microeconomic determinants of logistic strategies

Product policy, production organisation and employee relations provide some clues to the evolution of logistic strategies at companies in the textile and clothing sector.

PRODUCT POLICY

As previously stated, product policy concerns “target markets and market segments, the design of products and product ranges, sales volume targets, the diversity of models, quality, newness and margin.” (Boyer & Freyssenet, 2000)

The rise in the number of clothing collections, instead of the traditional two annual collections, increases the volume of clothing traded. Product lifecycle is shorter and shorter, the success or failure of a product is visible more quickly and actors in the chain will need to be more and more coordinated to respond to demand, which, in spite of the tools available, remains hard to predict. Faced with this situation, some brands have set up a system for testing products (Parat, 1998) by placing them in certain shops that are considered representative. The product is then manufactured in larger quantities, depending on sales, and distributed as quickly as possible. At the same time, the short lifecycle requires that return on investment be achieved as soon as possible, hence the need for a logistics system which makes it possible to restock each point of sale quickly in order to avoid running out of stock.

PRODUCTION ORGANISATION AND EMPLOYEE RELATIONS

Production organization is defined as “the methods employed to achieve the product policy. It covers the degree of integration of activities, their spatial distribution, the organization of design, procurement, manufacturing and sales, the techniques used and management criteria” (Boyer & Freyssenet, 2000).

The textile industry prepares and transforms raw material using heavy equipment in processes that are now mostly automated. The sector is capital intensive, which does not favour the competitiveness of emerging or developing countries and thus tends to curb the outsourcing of production to those countries. Rather, it orients the industry toward a growing automation of the production process.

The clothing industry on the other hand, mostly involves garment workshops whose activity consists in transforming prepared pieces of cloth into garments through cutting and assembly. A large number of these operations cannot be automated, mainly because cloth is a soft, supple material that is hard to manipulate with automated machines (Grau, 1996). Labour requirements are therefore significant and the cost of labour is major determinant of product price. This industry does therefore seek to downsize its workforce, especially for tasks requiring less skill, and these are increasingly relocated or outsourced.

We are witnessing the internationalisation of production in the clothing industry, in particular for basic products –much more than for the textile industry– which increases the distances travelled and necessitates the creation of a particular logistic and transport organisation. French clothing manufacturers only keep their production operations in France if they can provide a high added value, for example by positioning themselves with products requiring significant know-how or luxury products where the cost of labour is proportionally less important. The internationalisation of production is accompanied by an internationalisation of sourcing and deliveries.

The quantities and distances that have to be managed are therefore greater and the use of logistic hubs is a decisive factor. Although this approach has already been extensively used by certain distributors, such as Carrefour (Donnaes, 2003), it is only just being developed for many others, which is why experts forecast a growing consolidation of flows.

The trend towards flow consolidation is the consequence of implementing production planning tools at the company level. It is deployed via the centralisation of warehousing and the massive use of hubs. Flow

consolidation makes transport by ship possible, aided by the improvement of the available offer and especially by the introduction of fast container ships between China and Europe. It also makes it possible to use containers and thus avoid individual packaging, which is too expensive. The effects of flow consolidation are very positive in terms of costs: better vehicle load factors, optimisation of delivery routes and consequently a reduction in distance travelled and fuel expenses, as well as the option of reducing dependence on road haulage during times when fuel prices are constantly rising.

The proportion of stakeholder responses stating that flow consolidation was a major evolution for logistics in the textile and clothing industry is the same as that for “the growing internationalisation of logistic flows” and “a more responsive and integrated logistic management”. It is nevertheless the latter which is more often seen as a major evolution for the future. Like responsiveness, the notion of integration has become a key point, especially due to the success of big specialised brands and chains of mid-sized retail stores, who built their strategy on the integration of functions which had thus far not been performed by distributors (pattern making, fabric procurement, supervision of production, etc.) the notion of integration here being taken far beyond logistics. The case of the Zara brand, for example, is very indicative of this trend.

3.3 The meso-economic determinants of the logistic organisation: the nature of Instituted Relations

THE GROWING ROLE OF “INSTRUCTING PARTIES” AND DISTRIBUTORS

The structure of the sector (cf. following schema) has been considerably modified by the growing role of instructing parties, as well as by changes in distribution. Overall, instructing parties now account for two thirds of turnover in the French textile and clothing sector, this proportion reaches 75% for the clothing sector alone (DiGITIP, 2004). Instructing parties handle the purchasing of fabric and raw materials, creation and marketing. They do not perform the work of assembly, but they create prototypes and

they may handle cloth cutting and carry out quality control inspections at their suppliers. Instructing parties have grown constantly (whether by number of companies employing over 20 people, total size of workforce or turnover) to the detriment of garment workshops and mixed structures.⁹

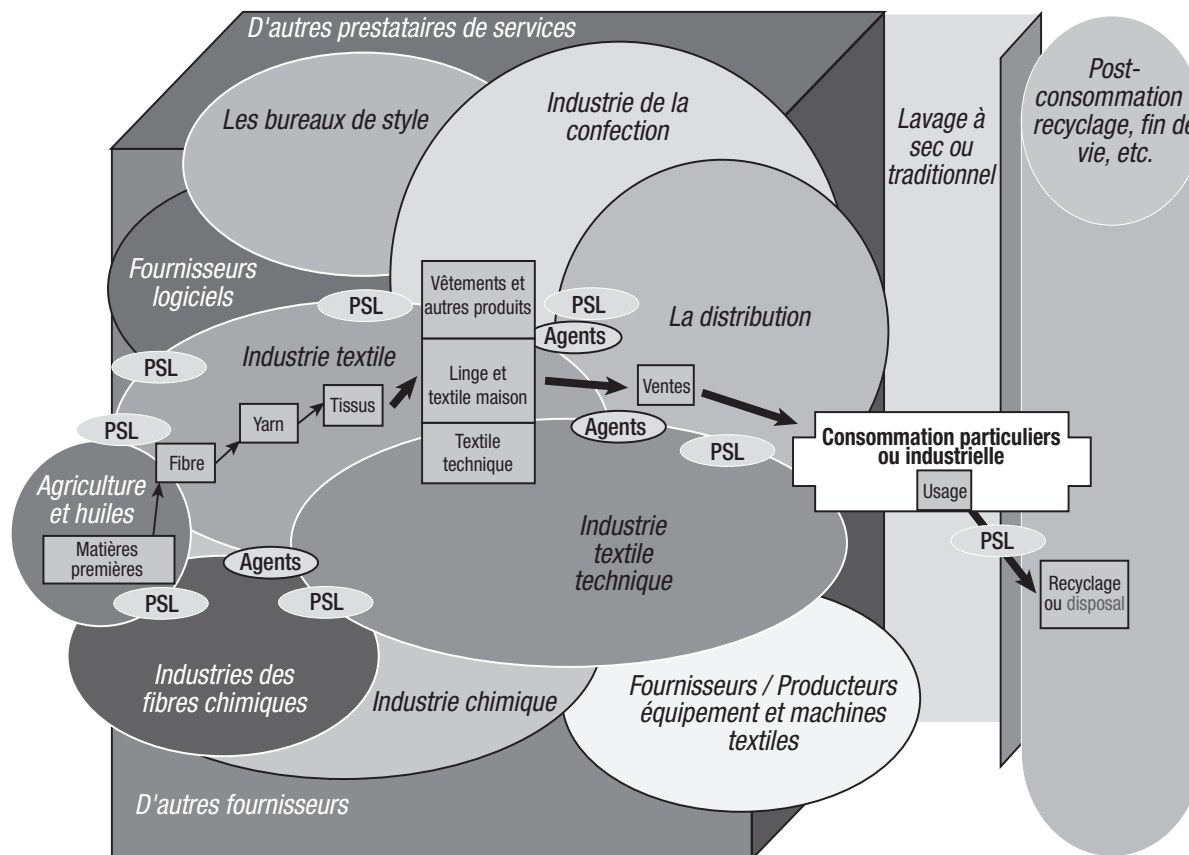
These developments have been accompanied by a veritable transformation of distribution: although they barely existed at the beginning of the 1980s, specialised superstores and chains of mid-sized shops (up to 400 m²) accounted for 16% of the market in 1985 and 35.5% in 2003. This type of retail brand, which appeared in the mid-70s, has revolutionised the market in several ways: first, by reducing the proportion of “long-cycle” garments, i.e. the cycle of two annual collections initiated by fashion designers and stylists.

These chains favour isolated articles, updated items and mini-collections with fewer items than traditional collections and which are only available for two or three months. The aim of this approach, apart from making it possible to constantly offer customers new items, is to reduce the level of capital assets inherent in the long cycle and increase stock rotation.¹⁰ It also helps to reduce the number of unsold items, mainly by first doing small production runs that are sold in shops the brand considers representative.

(9) Mixed structures may be manufacturers handling all the functions of design, production and marketing (generally rare) or manufacturers that handle most of these functions but also engage in outsourcing and trading. They may also take on subcontracted production. Instructing parties handle design and marketing as well as the procurement of fabric, but contract out all or part of the production to garment workshops.

(10) The Pimkie chain, for example, offered 40 collections in 1998

Schema 3: The textile and clothing industry



Adaptation of Brito, Carbone & Meunier. (2008). Towards a sustainable fashion retail supply chain in Europe: organisation and performance. International Journal of Production and Economics, 114, pp. 534–553.

Moreover, these chains have also based their strategy on decreasing the number of intermediaries and integrating certain functions. They create some of the items (depending on the brand) at their in-house design office¹¹, purchase the fabric directly from textile manufacturers and supervise manufacturing by local or foreign garment workshops. This diminishes the manoeuvring room of clothing manufacturers who then have to group together (on hubs, for example) or offer new services, if they want to capture the market of these retail brands, which are ever stronger in an increasingly concentrated market. Other manufacturers have chosen

(11) This function can also be subcontracted to an external design office. The latter have become more and more important in the clothing industry, through the development of increasingly comprehensive offers to create a brand from A to Z.

a different strategy: creating a retailing activity and developing their own brand¹², in order to keep their independence.

Thus different types of relationship coexist throughout the sector:¹³

- the traditional configuration of the long cycle involving textile industry players, manufacturers, and distributors;
- informal networks or localised production systems such as the Sentier garment district in Paris;
- the short cycle configuration in a hierarchically ordered network built around an instructing party (large and medium-sized stores or specialised retail brands);
- garment manufacturing hubs for suppliers who group together to capture large manufacturing volumes and guarantee themselves a regular workload when dealing with a (sometimes) single instructing party.

COERCION AS AN INSTITUTED RELATIONSHIP

The integration of distribution is becoming a power issue within the sector, as shown by the place of the distributors. The big instructing parties are moving toward this objective, as are specialised retail brands. Conditions imposed upstream (by instructing parties and distributors) have prompted logistic modifications for manufacturers and suppliers in the chain. We are seeing the implementation of leaner logistics with the introduction of the short cycle, requiring fast shipments. The necessity of having a more responsive, integrated logistic management system has made an impression on the players in the textile and clothing industry and the importance of IT systems is now recognised.

(12) *The brand, which is so important today in the eyes of certain consumers, has also become a major means of differentiation either for those retail brands not specialized in clothing that want to develop their offer in this area (hypermarkets, sport retailers, mail order companies...) or for specialized retail brands who want to stand out via products which are easily identifiable by customers, in a market of increased though relatively homogeneous supply.*

(13) *TFor a detailed presentation, see Cabaret, K. (2001). Contribution d'une lecture institutionnelle des réseaux à l'analyse des transformations de la logistique : une application à la filière du textile - habillement dans le Nord - Pas-de-Calais. (Doctoral dissertation, Université de Lille).*

New transport needs are emerging, stressing responsiveness and reliability. The cost variable remains important, though for basic subcontracted products. Delivery times need to be reduced as this is cited as one of the needs that will emerge in the future for the industry, in connection with product lifecycle, just as the circulation of information and deliveries must be made more reliable. Logistics and transport also have to integrate growing concerns about traceability.

3.4 Macroeconomic determinants of logistic strategies

At the macro-economic level, the decisive factor for logistic and transport strategies is the elimination, among members of the WTO, of export quotas on textile products on the 1st of January 2005. This measure was not a sudden rupture, but the end of a process that had begun in 1995, with the signing of the Agreement on Textiles and Clothing (ATC) by members of GATT (now the WTO), to replace the 1974 Multi Fibre Arrangement (MFA). The ATC scheduled the dismantling of these quotas progressively over a period of 10 years. But reaching the end of this process does not mean the elimination of all quotas concerning world trade in textiles and clothing. Firstly, each country retains specific measures. For example, the European Union uses a system (the Scheme of Preferences) aimed at favouring the entry of products coming from certain developing countries. Secondly, because the quotas on 10 groups of products coming from China were reinstated by the EU (the 10th of June 2005) following the Shanghai agreements, within the framework of a so-called salvage measure, which allowed members of the WTO who felt their economy had been weakened by the new system to establish specific rules. The latter turned out to be problematic because the quotas negotiated between Beijing and Brussels were soon exceeded, leading to the blockade of products coming from China, mostly in European ports. A new agreement was reached in Beijing on 5 September 2005, to “free” half of the items with no quid pro quo, a reclassification of some of them in categories where the quotas had not been breached, and an advance on the 2006 quotas which were therefore reduced.

A FEW PROPOSALS BY WAY OF CONCLUSION

Company strategy is determined by a diverse set of micro/meso/macro “factors”, for which we have given one illustration regarding the textile and clothing industry. These “factors” do not necessarily translate as “room to manoeuvre” for the company; on the contrary they can be constraints that have to be taken into account for the company to continue to act.

It is the same for logistic strategies. It is the procurement, production and distribution constraints that generate flow organisation and transport needs, which have to be met in a suitable manner. These needs are made more complex by the number of actors involved in the production process (suppliers, customers, subcontractors, etc.) and by the macroeconomic context. This is why it is also necessary for companies to adapt their logistic choices to the strategic environment.

Sustainable choices are no exception to this idea. The responsibility of companies with respect to sustainable transport takes shape according to their profit sources, their operating framework and the possibilities they offer. By choosing to emphasise certain levers of intervention, governments are depriving themselves of a precious diversity of action and are reinforcing one particular productive model, that of constant cost reduction. By highlighting the diversity of strategic determinants for companies, régulation theory makes it possible to target state interventions more accurately and better assist companies in their voluntary initiatives.

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