

Heterodoxy in Political Economy: From an Alternative to the Walrassian Model to a Synthesis with Neo-classical Methodology

Hakim Ben Hammouda*

Résumé : Inspirée par les courants de pensée de Grenoble et de Paris, l'école régulationniste (1975) analyse le système capitaliste selon une perspective à la fois historique et spatiale, en tant qu'alternative à la théorie walrassienne de l'équilibre général. Les concepts et approches mis en oeuvre sont uniques et permettent une analyse novatrice d'une part des relations économiques internationales, et d'autre part, de la dynamique de croissance et de la crise du système capitaliste. Critiqués par les conventions, proches de la nouvelle économie institutionnelle américaine, les régulationnistes sont aujourd'hui confrontés à des incertitudes et à des phénomènes économiques chaotiques les obligeant à renouveler leurs outils de travail conventionnels.

Introduction

The history of political economy has been marked by the debate on how to measure the value of goods. With the development of trade in capitalist economies, economists have been increasingly confronted with the question of how to compare goods of different nature to establish a common measure as a basis for trade. As Di Ruzza (1994:41) pointed out, 'goods must necessarily have a common denominator, a basic substance they can be brought back to'.

Economists have proposed two different types of solutions to this question. There is on the one hand the theory of work-value, prevalent from the classical period to Marx, which based the value of goods on the work which forms both their substance and their objective measure. On the other hand, the subjective theory of value states that the usefulness of goods is their only source of value, and based on their rarity, serves as a means of measurement. These divergent solutions formed the basis for the division between heterodox and orthodox

* GRREC, Université Pierre Mendès, France, Grenoble.

streams of thought in political economy. By the end of the nineteenth century, Walras and the Marginalist school opposed their theory of usefulness-value to the objective vision of the classicists. This new theory progressively dominated the field of political economy, becoming the central matrix of all analysis. Subsequently, throughout its history, the heterodox school of thought based its entire research programme and its attempts to construct an alternative paradigm on criticism of Walrassian theory.

Walras founded the subjective value theory, but the scope of his research programme went beyond the study of natural laws governing exchange values and trade, or what he referred to as 'pure economy'. He also sought to analyse the concrete operating conditions of the economy (applied economy or social economy), covering problems linked to the distribution of wealth. However, this scientific undertaking was never brought to completion, since he was held up by difficulties in reconciling the notions of justice and interest whose competition constitutes, according to Weiller and Carrier (1994:31), 'a monumental challenge to anyone seeking to construct a rational economic science of trade and distribution'.

Although he was forced to subjugate the logic of justice to the rationality of Pure Economics, Walras continued to attempt new forms of synthesis between the two notions.¹ However, these new findings were not formalised and incorporated into his other works (Weiller and Carrier 1994). The second uncompleted aspect of Walras' research efforts resides in the incomplete formal construction of his research project. According to Weiller and Carrier 1994, the incompleteness stems, 'first and foremost from pure economy, in which many demonstrations were not made, but also and especially from a broader scientific project (...) in which hypotheses on rational logics of interest and justice were never completely formalised'.

Walras' scientific undertaking was continued in two different directions. First, the Parétian orientation sought to establish the domination of Pure Economics over Social Economics, thus resolving the conflict between the logic of interest and the logic of justice by formalising the Walrassian project. This school of thought which has dominated the field of Political Economics, forms the 'orthodox' paradigm. The second orientation, that of Antonelli, does not deny the importance of Pure Economics, but conserves a more open, pluralistic attitude in its analysis of economic dynamics. E. Antonelli tried to set the Walrassian analysis into a general framework by proposing an analysis of

1 L. Walras proposed a new method for reconciling justice and interest.

capitalism as an economic system. Furthermore, he states that unlike the Walrassian project which concentrated on static aspects, his study must take into account the system's evolutionary dynamics.

Parallel to this internal debate among followers of Walras, the heterodox protest against Walrassian orthodoxy was already beginning to develop. This new tradition came to light in the writings of Simiand (1987) who attacked several aspects of Walras' work. Firstly, he criticised the concept of a *homo economicus* which in his view reduced complex individual motivations to a simple principle. Simiand (1987) also opposed the Walrassian theory of trade and its suggestion of determinism where prices are concerned. His opposition stems from the fact that the theory also reduces the trade networks and relationships constructed by our societies to a relatively simplistic principle. Finally, he attacks the concept of equilibrium which is the foundation of Walras' work. Simiand (1987) considers equilibrium to be an exceptional situation in the operations of contemporary economies. From that perspective, Simiand believes that economists should concern themselves more with situations of disequilibrium in contemporary economies, rather than try to define the conditions for an improbable equilibrium. As early as the beginning of the century, these criticisms formed the content of the heterodox research programme which was clearly set apart from the Walrassian programme. Indeed, if for the latter the objective was to pursue the works of Walras and Paréto, to refine the formal aspects so as to increase the coherency of the construct, the heterodox research agenda is to set as priority, the analysis of the real and formulate its relevancy. This concern is central to the heterodox movement and explains its constant renewal.

Thus, with the profound transformation of economic structures in capitalist economics in recent years due to the crisis, there has been a major renewal of the heterodox school of thought. One of the first attempts at adjustment was made by the Anglo-Saxon Marxists who sought to construct a new general theory of exploitation based on the analytical tradition (*Actuel Marx* 1990, special issue). From a methodological standpoint, this movement rejects the holism of Marxist tradition in favour of methodological individualism. Furthermore, analytical Marxism favours a 'moralistic' discourse on notions of freedom and equality over philosophising on history. According to Bidet and Texier (2000), this new discourse,

is in keeping with the zeitgeist: it reconstructs exploitation using the very categories of what is called 'bourgeois' Economics (neo-classical Economics), debates on justice using the terms of the radical American philosophy, and approaches individuality not as a product of social relationships, but as a principal for rational activity and choice.

Finally, this stream of thought refutes the work-value theory, basing its analysis of exploitation on ownership relationships (Romer 1982). According to this perspective, capitalist exploitation arises, in the tradition of analytical Marxism, from restricted, unequal access to the means of production.

This rejection of the work-value theory is also at the heart of another attempt at renewing the heterodox approach. The new concepts abandon the theory of work-value and consequently criticise the supporting hypothesis of that theory which states that economic agents are socialised in production, and that trade only sanctions a pre-existing power struggle. According to this stream of thought, socialisation is carried out through trade and the market which can set prices. Not only is the work-value theory abandoned, but the orientation also criticises the subjective value theory on the grounds that it does not describe the operations of a decentralised economy, but rather those of a specific form of centralised economy. Indeed, the existence of an auctioneer and the strategic role he is given in the tentative Walrassian model effectively reduces the decentralised economy to a centralised one. From that perspective, centralisation in the Walrassian model means that there is *a priori* validation of economic activities, whereas a true decentralised economy should give a more important role to the market, and validation is carried out *a posteriori*.

This research movement has proposed several explanations for the socialisation of economic agents. Aglietta and Orléan (1982) use Girard's analyses of desire and imitation to analyse the socialisation process, and see money as the central institution in this process. Others see the wage relationship as the core of socialisation (Benetti 1978; Benetti and Cartelier 1980). This relationship is not market-based, as claimed by neo-classical theory, but is based on a coercive relationship which allows for an unequal distribution of wealth. De Vroey (1987; 1990) combined both approaches in his attempt to construct a new theory which would be an alternative to General Economic Equilibrium, using a model based on money and the wage relationship. From that perspective, money obeys two types of logic:

- a centralised logic linked to political sovereignty, in which context money plays an important role as a standard which can be used to validate the operations of the economy;
- a decentralised or private logic in which money plays the role of medium of exchange.

Similarly, the wage relationship is considered as a specific social relationship which belongs both to market logic and politico-institutional logic.

These approaches, despite their heterodox affiliations, agree with the neo-classical approaches in that they consider that the goal of political economy is to answer the fundamental question of the viability of a decentralised economy. Furthermore, the two approaches also converge in their analysis of socialisation mechanisms, since they introduce other institutions complementary to the market, to ensure the stability of market regulation. However, they differ as to the nature of these institutions. While the Walrassian model introduces the auctioneer, the alternative approaches prefer different institutions such as money or the wage relationship in order to avoid changing the object of study, and continue analysing decentralised economies.

At this point, the work-value theory could take one of two directions: either concentrating on an analysis of production and the struggles over power between businesses and workers, or focusing on the sphere of exchanges and circulation. Benetti and De Vroey chose the latter alternative, rejecting the notion of added value, and making a study of the commercial relationships which they supposed to be the source of the socialisation of economic agents.

Simultaneously with these approaches based on market analysis, towards the middle of the 1970s there began to develop a new approach known as Regulation theory, which studies production by seeking to determine the principles of regulation besides the market. These new theories rapidly came to predominate among heterodox scholars and set themselves up as an alternative to the theory of general equilibrium. However, after a decade of productive research, in which many areas of economic analysis were renewed, Regulationist research seemed to have gone as far as it could and required a major overhaul of its analytical tools. One way to achieve renewal is hinted at by the alliance and the points of convergence between the Regulationist programme and the convention theory. These points of convergence, strongly criticised though they may be, sparked the evolution of certain elements of heterodox thought towards theoretical and methodological positions close to methodological neo-classicism and the neo-Keynesian programme. The section that follows examines that evolution.

Regulation Theories: Some Elements and an Evolution

Regulation theory is a new theoretical approach which began to develop in the middle of the seventies. At that point, Boccara (1995) was the first economist to use the concept of regulation in economic analysis. Then, G. De Bernis introduced the problem of regulation into economic theory. First, De Bernis (1975), who rejected the General Equilibrium Theory, appealed to the need to construct an alternative framework capable of explaining contradictory aspects of reality, such as the rules and mechanisms that served, at certain well-defined

points in history, to maintain the unity of the growth dynamics in capitalist economies within tolerable limits. In this article, De Bernis proposed to replace the normative hypothesis of general equilibrium with a hypothesis whereby the economic system is regulated by the operation of its own forces.

This hypothesis was expanded using the idea of regulation set forward by the philosopher Canguilhem (1980:1) which was defined as, 'adjustment, in accordance with certain rules or norms, of a multiplicity of movements or actions and their effects or products which were apparently separated by their diverse or successive nature'. De Bernis (1977) introduced the notion into economic theory as a means of renewing heterodox thought and as a point of departure for an alternative to the General Equilibrium Theory. In its reworking of the heterodox approach, the Research Group on the Regulation of Capitalist Economies (GRREC), formed by De Bernis and his followers, granted special status to the two laws of profit, downward counter-trends and equalisation, whose operations and coherent interaction can be used to define periods of stable operation in capitalist economies (GRREC 1983; 1990, *Economies et Sociétés*).

Concomitantly with the Regulationist School in Grenoble, the work of Aglietta gave rise to the new 'Parisian' School of Regulationists. In his thesis on the history of capitalism in the United States and in his book, Aglietta (1982:14) set out a research programme for himself whose objective was 'to study the transformation of social relationships creating new forms that are both economic and non economic, and are organised into structures and which reproduce a crucial structure: the reproduction mechanism'. This work formed the starting point for sustained reflection on a series of issues, including fundamental Marxist categories, such as the value of work, money, credit and inflation in capitalist economies.

Aglietta's trailblazing work had considerable impact on the research community and inspired new contributions by the scientific community in general and the CEPREMAP in particular (Boyer 1987). At the methodological level, the same procedure was used to study the historical evolution of capitalism in France and in the Organisation for Economic Cooperation and Development (OECD) countries, which contributed to the enrichment of the notion of the system of accumulation. Furthermore, Bertrand (1978; 1983) and Billaudot (1976) helped deepen analysis of the differences between intensive and extensive accumulation. And researchers working on inflation at CEPREMAP were able to develop more precise definitions of the notions of structural forms, accumulation systems and modes of regulation (CEPREMAP-CORDES 1977).

These two currents very quickly came to dominate the Regulationist research agenda. They agreed on a series of issues that led to a major renewal of

economic theory. Firstly, both groups recognised the fundamental importance of production to economic analysis, which entails an analysis of distribution and consumption in relation to the mode of production. Moreover, these analyses also admit the importance of money and attempt to integrate it into the analysis of production.

There are also points of convergence between these two Regulation movements where analysis of capitalism is concerned. In their analysis, they attempted to place the evolution of capitalism in historical perspective while integrating spatial aspects. The work made it possible to envision capitalist dynamics as an alternation between periods of stability and periods of instability, so that periods could be defined in the history of capitalism. And both groups have a similar analysis of the periods of instability in capitalism, supporting the hypothesis of an endogenous source of crisis. They believe the crisis originates in the internal contradictions of the dynamics of accumulation.

However, despite these initial points of agreement as to the need to develop an alternative approach to general equilibrium, divergences soon appeared which opposed the two movements. The first divergence concerns the status the Grenoble school attached to the laws of profit. This status is contested by the Parisian theory which focuses its analysis on mechanisms for adjusting consumption with production. Moreover, the two schools divide capitalism into different periods. The Parisians divide it into two periods: competitive capitalism or Taylorism up until the crisis in the 1930s, followed by monopolistic capitalism or Fordism; while the Grenoble group discerns three major historical periods: competitive capitalism up until the great depression at the end of the nineteenth century, monopolistic capitalism up until the crisis in the 1920s, and State monopolistic capitalism until the end of the 1960s. The two movements are further opposed by differences in their use of certain economic categories, such as the wage relationship, or certain types of analysis of the current crisis.

Regulation theory developed considerably in the 1980s, becoming more and more frequently used. In this context, Jessop (1989) identified seven different streams of thought on the international level which implicitly or explicitly referred to the problem, this being proof of the idea's richness and vitality. However, before we examine the development of Regulation theory in recent years in greater detail, we must first understand the conditions under which it came to be.

Conditions of the Genesis of the Regulationist Research Agenda

Regulation theory was born in a specific context characterised by the outbreak of crisis. This context influenced the field of political economy to the extent that it required theories to produce tools capable of explaining the loss of stability in economic growth dynamics. In this context, neo-classical theory (Classen and Salais 1978) develops two lines of analysis for the economic crisis:

- according to some, the crisis is the result of external shocks like the oil crisis of 1973, or the money scare in 1971, which upset the stable operations of the economy;
- according to other economists, the crisis is linked to the rigidity of institutional structures set in place in the 1950s and 1960s which impede the market's own adjustment processes and, as a result, prevent Western economies from attaining equilibrium.

According to the economists of the synthesis, the crisis stems from the intensive internationalisation of economies which renders Keynesian tools for economic policy stimulation and action ineffective.

These analyses have been judged insufficient by economists seeking to construct an endogenous analysis of the advent of crisis (Grefe and Reiffers 1978). Their rejection of conventional analysis of the crisis led them to refute the hypothesis of a perpetual crisis in capitalism, and to seek out the reasons underlying the alternation between periods of structural stability in accumulation and periods of crisis in the history of capitalism (Coriat 1994). This analysis enabled economists to underscore the hypothesis that there are special mechanisms and procedures allowing capitalist economies to regulate themselves and maintain their contradictions within tolerable limits.

Along with analysis of the crisis, the Regulationist programme developed under the influence of Althusser's work. Althusser's first two books (1965a; 1965b) and especially the concepts of structural dynamics and overdetermination held definite attractions for first-generation Regulationists. In the France of the early 1960s, Althusserism breathed fresh life into Marxist philosophy, renewing a tradition that had become ossified with Stalinism. This renewal effectively liberated the theoretical philosophy from the political and created the conditions for the autonomy of theory and the development of a scientific movement which took its inspiration from Marxism.

The main contribution of Althusserism was its view of historic reality as a complex combination of contradictory and autonomous relationships. This constituted a break with classical Marxism which analysed ideological structures and power relationships as a simple reflection of the development of productive

forces. However, this autonomy was only relative since it also recognised the overdetermination of certain relationships in relation to others. Thus, Althusser envisioned historical reality as a succession of ideologico-politico-economic configurations with varying degrees of stability (Lipietz 1988).

In order to study these configurations, Althusser introduced the concept of the social formation, defined as a particular combination of modes of production. Each social formation is overdetermined by a specific mode dominating social relationships among agents. This domination lends unity to the formation, and this is manifested on the political level through political hegemony, i.e. the ability of the dominant classes to set up their own interests as being representative of the 'general' good of the nation. The concept of social formation allows us to analyse historical reality as a multiplicity of contradictions overdetermined by each other. Furthermore, it allows us to explain, economically speaking, how societies manage to control the explosive nature of their contradictions and maintain periods of stable growth (Lipietz 1988).

Furthermore, Althusser contested the deterministic view of history seen as the result of the development of forces of production, which advanced the hypothesis that the development of these forces in capitalism should lead to socialism. Indeed, according to Althusser, the development of production forces would lead only to capitalism to the extent that these forces are not neutral but are analysed as social relationships intertwined with the organisation of production.

However, Althusserism, stressing the concept of reproduction and the capacity of social formations to overcome obstacles, came to abandon the concept of contradiction and reject the subject. These positions derive from the fact that in Althusser's analysis, social relationships are seen as structures that can reproduce themselves and overdetermine the subject. Indeed, as Lipietz (1988:3) points out, 'Althusserism came to reject the contradictory nature of social relationships themselves, as well as the autonomy of the individuals and groups involved in these relationships, and their ability to set themselves up as social subjects capable of changing the structures'. Thus, faced with the structural ossification of Althusserism, the Regulationists developed the problem of Regulation, which, although inspired by Althusser's work, distanced itself from the determinism of the concept of reproduction and its functionalist repercussions on analysis, by rewriting the history of capitalism as an alternation between periods of stability

and instability.² The crisis which struck at the end of the 1960s helped the Regulationists further distance themselves from reproduction-oriented analysis.

Besides its Althusserian heritage, the Regulationist research project also drew on Keynesian Economics, particularly its analysis of money in the production economy, and the Institutionalists for their consideration of conventions and institutions in the operation of capitalist economies.

Definition of Regulation

As we mentioned earlier, De Bernis was one of the first economists to suggest the concept of Regulation as an alternative to the concept of equilibrium in the field of political economy. In an early definition of the notion of Regulation, he stated that:

The introduction of historic time into economic analysis seems incompatible with the central hypothesis of general equilibrium. However, it seems possible to introduce the notion if we replace this hypothesis by the great classical hypothesis held by the likes of Smith, Ricardo, Marshall and Marx, to that of the capitalist economic system is regulated through the action of its own operating laws... From another perspective, using another central hypothesis this analysis of Regulation takes up the principal contribution of Walras' general equilibrium theory, which is the idea that all participants in the economy are in a permanent situation of global interrelationship with each other (De Bernis 1975:924).

A few years later, De Bernis (1983:174-175) explained the content of the idea of Regulation, which he defined as:

The process of linking together the two laws of profit in as much as the broader reproductive process depends on them. Since each of the laws — is incarnated in specific forms during each period... their linkages necessarily take different forms in each period.

According to Aglietta (1976),

To talk about the Regulation of a mode of production is to seek to express the means by which the determinant structure of a society is reproduced in its general laws... A theory of social Regulation is a global alternative to the General Equilibrium Theory... The study of the regulation of capitalism cannot be a search for abstract economic laws: It is the study of the transformation of social relationships which create new forms that are both economic and non economic, and that are organised in structures and reproduce a determinant structure, the mode of reproduction.

2 This is what A. Lipietz is referring to when he describes Regulationists as the rebellious children of Althusser (Lipietz 1995).

For his part, Boyer defined Regulation as 'a dynamic process of adaptation of production and social demand, a conjunction of economic adjustments associated with a configuration of social relationships, institutional forms and structures' (Boyer, Bénassy and Gelpi 1979). This content was again confirmed by Boyer (1979) when he stated the content of the concept in the 'Parisian' research programme, saying:

- We will use the term Regulation to designate the conjunction of mechanisms working towards the overall reproduction of the system, given the state of economic structures and social forms. Regulation is the source of short- and medium-term dynamics... However, very long-term dynamics are not the mere result of the succession of fluctuations and cycles, but also essentially involve the political and social struggles which, although partly determined by the dynamics of accumulation, cannot be reduced to it.

By studying these different definitions of Regulation, we can understand the points of convergence between the two principal Regulationist schools on two levels (Boyer 1987):

- both schools sought to construct an approach that would be an alternative to the General Equilibrium Theory in the field of political economy;
- both attempted to develop a grid for analysis which could include the evolution of the various adjustment mechanisms of capitalism, thus integrating the temporal aspect into economic research.

However, these definitions also reveal divergences between the two approaches. These divergences concern the status of the laws of profit, the importance of value theory and the weight of adjustments between consumption and social need in the regulation of the economy.

Concepts in Regulation Theories

In this section we will deal only with concepts from the Paris and Grenoble schools of Regulationist thought. This will enable us to come to a better understanding of the contents of the problem.

According to the Grenoble theory of Regulation, the process of accumulation-enhancement of capital requires two main types of adjustment which correspond to the needs of expanded reproduction:

- adjustment of the structure of production and social need: needs must be satisfied in order to ensure the economic reproduction of society. This requirement entails clearly-defined quantitative relationships between various types of production. As a result, a coherent allocation of capital among various industries will be ensured by capital competition and the tendency of profit rates to be equalised within capitalist economies;

- adjustment of conditions of distribution so as to ensure the reproduction of capital and manpower. This adjustment is the social manifestation of the class struggle over the distribution of the fruits of labour between capitalists and workers, and on the theoretical level it is expressed by the interaction of counter-trends towards lower profit margins.

Thus, the process of capital accumulation-enhancement depends on the combination of these two laws of profit. Regulation of the capitalist mode of production is defined in this context as the coherent interplay of these two laws. This interaction requires 'social procedures' which differ from one period to another, and which together constitute the 'mode of Regulation' capable of ensuring the stability of the process of accumulation and maintaining any imbalances within tolerable limits. Thus, taken together, these movements ensure that the system operates and govern the spatial distribution of economic activities.

In the light of this, Regulation theory introduced the concept of 'the production system' as a spatial context for the organisation and distribution of the accumulation of capital. The productive system is defined as a system that produces something, that is a system capable of generating a surplus product, or more precisely as 'taken together, the working processes and the enhancement processes governed by the same specific mode of Regulation during a period in the history of capitalism' (Calvet, De Bernis, and Di Ruzza 1983:6).

Thus defined, the production system presents three main characteristics (De Bernis 1983:235-287):

- 'coherence' which refers to the sectoral coherence of the accumulation process and the correspondence between production and social need where distribution is concerned;
- 'autonomy' which refers to the autonomy of the rate of accumulation due to mastery of the distribution system;
- 'time-space dynamics' which ensures a relatively stable evolution.

The concept of the production system is very useful for theory and analysis. Using this concept, the following can be achieved (Gerbier, and Di Ruzza 1986:3-7):

- first, Regulation theory can be spatialised, and the production system can constitute the area of operation of the regulation mode;
- second, the time dimension can be introduced and the crisis analysed as the destruction of systems of production bringing on a slackening in relationships of domination between dominant and dominated nations.

The point of departure of the 'Parisian' theory of Regulation is the concept of 'mode of production' in which accent is placed on the Althusserian tradition regarding production relationships. The mode of production is defined as 'any specific form of production and trade relationships, i.e. social relationships governing the production and the reproduction of the material conditions required for human life in society' (Boyer 1987:43).

The mode of production is not envisaged in its pure state, but analysed as part of a complex whole made up of production and trade relationships. In this perspective, Regulation theory limits itself to the study of the capitalist mode of production characterised by a particular form of trade and production relationships. In this context, trade relationships take on market form, while production relationships mean the separation of direct producers from their means of production, and the obligation of workers to sell their manpower.

But Regulation theory makes its analysis at a lower, or intermediary, level of abstraction, with the introduction of the concept of the 'accumulation system' defined as:

The sum of the regularities that ensure general and relatively coherent progress in the accumulation of capital so that the imbalances and disequilibria constantly arising from the process itself are either absorbed or stretched out over time (Boyer 1987). The analysis of systems of accumulation requires the study of the organisation of production and the temporal horizon of capital enhancement, conditions for value sharing, the interaction of social demand and production capacities and the mechanisms linking them with non capitalist forms of production.

The second intermediary notion held by the Paris school of Regulation theory regards the 'institutional forms' that correspond 'to all codification of one or many fundamental social relationships' (Boyer 1987:48). This notion can be used to understand the source of the regularities that ensure the stability of the economy's growth dynamics. Among these institutional forms, Regulation theory concentrates on: forms of monetary constraint, configurations of the wage relationship, forms of competition, mechanisms of adherence to the international system and forms of state intervention in the economic dynamics.

The third notion introduced by Regulation theory is the 'mode of Regulation' defined as 'a set of individual and collective procedures and behaviours which has the following three properties:

- reproducing fundamental social relationships through a conjunction of historically determined institutional forms;
- supporting and 'guiding' the system of accumulation in effect;

- ensuring the dynamic compatibility of a set of decentralised decisions, without the economic actors having to internalise the entire system's adjustment principles (Boyer 1987:55).

This notion helped Regulation theory distinguish itself from General Equilibrium Theory since the former conceived a set of norms or institutional rules channelling the individual behaviour of economic agents.

Together, these notions and concepts helped Regulation theories apprehend historical realities and produce analyses that would help it rebuild its dynamics.

Results of Regulation Theories

Using the concept of the production system, the Grenoble school of Regulation theory was able to develop a new analysis of international economic relationships. Indeed, one of the most vital contributions of Regulation theory is its consideration of the production system as a multinational system to the extent that the dominating nation attempts to integrate other 'peripheral' nations into its operations. The relationships thus created between dominating and dominated nations, in the context of the production system, are relationships of power struggles and domination exerted through the trade situation, direct investments, and monetary flow (De Bernis and Byé 1987; Borrelly 1991).

From this perspective, throughout the history of capitalism, the structural stability of the capital accumulation process central to each production system has needed regular and continuous recourse to external support. By integrating certain areas, capitalism sought to raise profit margins by bleeding a good part of the national surplus off into peripheral areas and adjusting production and social need to a larger scale.

The integration of these outside areas, which is necessary to stabilise the accumulation process in the central country, and which was carried out using different forms and mechanisms according to period, is an obstacle to the accumulation of capital in peripheral nations. Indeed, the development of the production force in dominated areas was initiated from the outside and answered no imperative of internal coherence and national integration.

The Grenoble Regulationists also concerned themselves with analysis of the crisis in capitalism. Social regulation procedures were unable to ensure the sustained structural stability of the accumulation process, and accumulated contradictions finally threatened the ability of the mode of regulation to resolve problems, leading to open crisis. The ineffectiveness of the mode of regulation and its inability to absorb the imbalances arising from the system have led to the destruction of production systems, the destabilisation of technological order, the destruction of pricing standards, the reduction of profit margins and their

disequilibrium from industry to industry, and the disruption of labour relationships.

The GRREC made two types of contribution to the analysis of the crisis. They started initially with a methodological contribution since their analysis had to meet two requirements. First, that the crisis should be analysed as an endogenous phenomenon, a result of the build-up of internal contradictions in the economy. In order to respect that requirement, De Bernis (1983:237) noted that 'it is not a matter of deciding that the crisis can be explained using an arbitrarily determined field of Economics, but rather one of defining our field of study in such a way that it includes all forces that play a role (be it active or passive) in the crisis'.

The second methodological requirement is related to the first. It requires that the problems at the root of the crisis be sought in periods of expanded reproduction. Expanded reproduction is seen as 'the result of a combination of variables, effective during a given period, although they have different rates or types of evolution over time' (De Bernis 1983:241). The effectiveness of the combination is not sustainable and 'crisis arises' notes De Bernis (1983:241), 'when their evolutions give the different variables values (or behaviours) that are too far different from their original values (or behaviours)'. This second methodological requirement is as important as the first since it helps identify the contradictions that will form obstacles to accumulation as they arise during periods of growth.

Based on these methodological requirements, a research question for crisis theory can be developed. According to De Bernis, such a question should provide answers to questions on the origin of the crisis, its evolution and its outcome. This analytical framework has helped Regulationists develop an analysis of the origin of the crisis and, more particularly, its evolution in terms of an opposition between two phases: an initial phase of inflation and opening up of production systems, and a second phase of deflation with the production systems retreating into protectionism.

Finally, this school of Regulation theory managed to use the concept of production systems and crisis analysis to bring forth a hypothesis explaining the emergence of new production organisations in the Third World, (the newly industrialised nations). The economic crisis has produced a widespread movement of decomposition of the structures of the economy. As for the relationships between central countries and satellite countries, the crisis in the mode of regulation and the resultant destructuring of production systems has meant a slackening in the old domination relationships and a modicum of freedom in under-developed countries. The loosening of internal ties within the production systems between central nations and dominated areas has placed the

latter in conditions allowing them to exceed the accumulation of capital determined by the vertical international division of work set into each production system (Borrelly 1987). In some countries where the capital accumulation process has been mastered, new opportunities for accumulation created by the crisis have allowed them to structure a coherent production system operating with its own autonomous mode of regulation..

However, the effects of the crisis are not limited to a movement of decomposition of the former mode of regulation, but also include a trial-and-error attempt to reconstitute a new capitalist mode of regulation and structure a new area of operation for that mode of regulation. In this context, the central nations are attempting to create the conditions and the mechanisms for renewed integration of the satellite countries they need to stabilise their accumulation processes by intensifying trade and the flow of capital.

The renewed integration of satellite countries is an essential dimension of the new mode of regulation presently in gestation. It combines both the old forms of integration which ensured the structural stability of the old modes of regulation and new forms of integration capable of absorbing the imbalances stemming from the current crisis.

The 'Parisian' school also produced a series of original works of research on the capitalist growth dynamic. Unlike the Grenoble school, the Parisians developed their own historical periods of capitalism:

- a period of competitive capitalism covering the period from the end of the nineteenth century up to the crisis of 1929, characterised by a system of extensive accumulation organised on the principles of Taylorism;
- a period of monopolistic capitalism lasting from the crisis of 1929 up to the present crisis, which began according to this theory in 1973, with a system of intensive accumulation along Fordian lines.

But Fordian analysis was the focal point of the Regulationist researchers. This wage relationship characterises the organisation of work, the way of life and the reproductive mechanism of salaried employees, and was behind the strong growth witnessed in capitalist economies following the Second World War. The spread of the scientific organisation of work made it possible to modernise production tools and make enormous gains in productivity. This new organisation of work was coupled with new distribution procedures that associated increased productivity with wage rises. Employees' increased disposable income created a huge market so that internal trade could be re-energised and mass production and consumption associated.

The implementation of specific distribution mechanisms was not the result of direct negotiations between social partners but rather of global discussions between labour unions and employers with strong government mediation. These global social negotiations inspired Regulationists to introduce the notion of 'institutional compromise' (André and Delorme 1983). According to Coriat (1994:125), these compromises 'are not contracts but laws, or regulations, which are rooted in legislation or executive power. Often these compromises, which are complex arrangements, are implemented through unwieldy institutional procedures, as is the case, for instance, with health insurance or pensions'.

Thus, from the early years of its apparition to the end of the 1980s, the Regulationist research programme progressed rapidly and came up with many innovative findings. But the school did not develop a truly original theory and for this reason did not form a complete body of research. The Regulationists themselves speak of 'approaches in terms of regulation' or 'schools of regulation' without actually using the term 'theory' (Lipietz 1987). Furthermore, the development of these approaches paved the way for the development of its first critiques and protests.

Criticisms of Regulation Theory and Attempts at Renewal

Criticism of Regulation Theory can be grouped into three main categories. The first is a criticism of a rather theoretical nature and concerns the status of the new research programme and especially its claim to providing an alternative to General Equilibrium Theory. Cartelier and De Vroey (1989) pointed out that the construction of an alternative framework required either that a new answer be found to the fundamental question of Political Economics on the viability of a decentralised economy, or that new questions be asked. However, according to Cartelier and De Vroey, Regulation Theory brought with it no new developments in this area. Indeed, regarding the functionality of decentralised economies, the authors stressed the ambiguous position of regulationism which is halfway between Walrassian equilibrium and the classical notion of gravitation. Thus, unable to construct a concept which poses an alternative to equilibrium, it seems regulation theory must abandon the status of fundamental theory and resign itself to the intermediary level of reordering and reconstructing the logic of certain historical facts.

Indeed, theoretical work which is restricted to an analysis of the operations of capitalism 'however pertinent and interesting it may be, only reaches an intermediary theoretical level. While in doing so they pointed out the insufficiencies of the dominant theory, essentially, most of these authors have not proposed a new economic theory' (Cartelier and De Vroey 1989). Thus, the majority of Regulationists turned away from the work-value theory, preferring

concrete analysis of capitalist dynamics. Only Lipietz and the Grenoble Regulationists sought to ground their analysis in theory by attaching themselves to the work-value theory and introducing money into the ex-post validation of private work. However, by the beginning of the 1990s, the project's theoretical eclecticism and lack of clear theoretical references led to splintering and Regulationist research headed in diverging directions.

The second criticism levelled at Regulation Theory is analytical in nature. The Parisian School of Regulation Theory has been reproached with under-representing the importance of the international factor in the regulation of economies in developed countries, and especially the use of the Third World to enhance the capital of first world nations. This limitation was underscored by Amin (1994:274) who believes these conceptions of regulation to be 'insufficient since these theories seem to have examined 'Fordian' capitalism with a magnifying glass while ignoring all areas that fall outside the scope of the magnifying lens'. The growth dynamics of Fordism based, according to the Paris Regulationists, on the correspondence of progress in increased production and rising salaries neglects to study the importance of peripheral areas in reproducing the Fordian economy in the Centre. Furthermore, the notion of Fordism has been criticised by certain historians, since the productive and social organisation of post-war France was set up by Regulationists as a canonical model for analysis (Brenner and Glick 1989). Their research has demonstrated that capitalist dynamics in developed countries have had multiple forms of organisation of production and distribution.

Finally, the notion of 'institutional compromise' developed by the Paris Regulationists in their analysis of Fordism has also been challenged (Negri 1994). The critique was based on the fact that from its status as a research finding, the search for 'institutional compromises' has been promoted by the Regulationist programme to the status of ultimate horizon for a solution to the current crisis of Fordism.

However, despite these criticisms, the Regulationist programme fostered a second generation of research, beginning at the end of the 1980s, more interested in the study of economic norms. The issue of norms, which was long marginalised by heterodox theory since it was seen as the province of normative approaches and more precisely, neo-classical theory, is now at the centre of a renewal of the social sciences. The aim is not to construct norms for social operations and make them into a principle or rule for social behaviour. Instead, interest in this idea derives from research on the mechanisms for the socialisation of individuals within a given society. In this light, historical study has demonstrated that societies attempt to structure (sometimes unintentionally)

the laws and rules by which they operate so as to avoid 'chaos' and ensure relative coherence among individual interests, which is necessary for social reproduction. Thus, from a positive viewpoint, the study of norms is an analysis of the process of structuring-destructuring of the rules and laws of social operations.

Since its inception, Regulation Theory has been interested in the idea of norms. The concept already figured in the first definitions of regulation. For example, Canguilhem (1980) defined regulation as, 'adjustment, in accordance with certain rules or norms, of a multiplicity of movements or actions and their effects or products which were apparently separated by their diverse or successive nature'. Hence, the analysis of the evolution of societies and their regulation means studying and identifying the norms governing them.

This issue was central to the renewal of regulation theory in the 1990s. In his study on norms in various regulation theories, Di Ruzza (1993) distinguished three types of norms, each type corresponding to a different level of abstraction. The first type, known as 'regulation norms' constitute the general constraints that need to be obeyed for global reproduction to occur. The stability and coherence of the accumulation process depend on observance of this unintentional norm. From this viewpoint, crisis can be defined as non-observance of the regulation norms due to reduced effectiveness of the social procedures governing observance of these norms. Regulationists have attributed varying forms to this type of norm. It has been seen as the determining structure of society in its general laws (Aglietta 1982), the rules of social cohesion necessary for reproduction (*Ibid.*), the conditions for adapting production to solvent needs (Benassy, Boyer, Gelpi 1979), or the non-decrease of profit margins, in order to ensure capital enhancement.

The second type of norm at the intermediate level of abstraction, known as 'regulatory norms' are those which form 'the framework for the actions of economic actors, says Di Ruzza (1993:14-15), overdetermining their own rationality and channelling their behaviour for periods of variable length'. These norms are far more important in the running of economies since they structure individual behaviour and certain forms of social organisation and help implement global regulation. Thus, the regulatory norms largely determine the content of the mode of regulation and make it possible, as Boyer (1987:54) says, 'to effect the transition from a set of limited reasoning on multiple, decentralised decisions on production and trade, to the possibility of dynamic coherence for the entire system'. Furthermore, the crisis analysed in regulation theories as a rupture in the mode of regulation, can be studied as the result of the decomposition and loss of coherence of the regulatory norms. The Grenoble

school of Regulation Theory defines three regulatory norms: the technical standard, the price standard and the monetary standard.

These norms are also central to the Parisian view of the regulation of capitalist economies, and according to Boyer (1987:48), are 'the source of regularities which channel economic reproduction during a given historical period'. When codified under precise institutional forms, these norms involve monetary constraint, the configurations of the wage relationship, and the forms of economic competition. Indeed, if we limit analysis to the reproduction of capitalist societies, Boyer (1987:48) enumerates the fundamental norms, which include,

money, surely the most all-encompassing, since it defines the means of connection between economic units. Next, the wage relationship, which is essential because it characterises a certain type of appropriation of surplus. And finally, competition, since it describes the mechanisms for relationships between the different centres of accumulation.

Besides these three norms, the Parisian school distinguishes two institutional norms or forms that enable us to define stable regulatory periods, viz. the forms and mechanisms of state intervention and the configuration of international integration of national economies.

The third type of norm, known as 'rational norms' operates on a more concrete level and involves a set of codified, practical rules that dictate the behaviour of economic agents. These norms are similar to the regulatory norms, but their content is more concrete. These include norms of intensity or productivity, forms and contents of protest movements, the particular forms of expression and resolution of such conflicts, the mechanisms of competition between producers and capital competition, the budgetary criteria for state intervention, the management mechanisms of internal and external equilibria and the maintenance of deficits within tolerable limits...

Whereas the regulation norm or global reproductive constraint is unintentional and results from the social action and discipline imposed by regulatory and rational norms on various agents, the latter is the result of their conscious action. In this perspective, it is necessary to examine the means whereby these norms are mediated. Boyer (1987:55) distinguishes three principles of action that allow these norms or institutional forms to be made operative. The first of these is the law, rule or regulation which, according to Boyer, 'is defined from the outset, on the collective level, and whose mission is to impose a certain type of economic behaviour on the groups or individuals to which it applies, through coercion which is either direct or symbolic and mediated'.

The second principle of codification of norms is a compromise resulting from negotiations between social groups with conflicting interests. These negotiations result in agreements on behaviour between economic agents. One example that can be cited is collective bargaining between social partners to establish wage agreements. The final means of homogenisation of the individual behaviour of economic agents emanates from the shared system of values or beliefs held at a given time by the members of a society, which can influence or even dictate rules of conduct and behaviour. These include, says Boyer (1987:56), 'religious beliefs, rules of good conduct... but also, in the economic order, long-term expectations (Keynes' views of the future) and representations of the operations of the economy and the rules of the society involved'.

From this analysis it appears clearly that the analysis of norms, their origins, their social codifications and their destructurations are at the heart of Regulationist theoretical procedures. This method appears very interesting to the extent that it constitutes a fundamental criticism of the General Equilibrium Theory which sees the market as the sole form of socialisation of rational agents. The originality of the heterodox approaches resides in their taking into account the plurality of forms and mechanisms for the socialisation of individuals within a given society during a definite period. The diversity of forms of socialisation allows contemporary societies to channel individual and private undertakings into a global dynamic which could be referred to as a social synthesis, and which does not exclude conflicts.

However, despite this interesting aspect, in our view, the concept of norms as they are envisaged by regulation theories has a form of economic determinism in its analysis of social reproduction. Indeed, in the study of the socialisation process there is a predominance of economic criteria or norms in the definition of social synthesis. While one cannot deny the importance of economic aspects in the overall regulation of societies, to reduce the socialisation of agents and individuals to the structuration of a set of economic norms seems to us to be deficient. More precisely, the elimination of the political sphere and the content of political legitimisation mechanisms severely limit the analysis.

However, despite these limits, regulation theories' attention to norms seems to us to constitute an important renewal of positive theoretical methods for the study of social reproduction dynamics. From that perspective, the analysis of the process of structuring-destructuring various social norms allows us to study and understand the possibility and viability of social organisations based on multiple individual undertakings, without any previous principle of coherence to bind them. However, this analysis should not be limited, as we have stressed, to economic norms alone when defining periods of stable reproduction, but should

also take into consideration the political, legal and other laws and rules human societies use to reduce instability and uncertainty. Furthermore, since the accumulation of capital is not limited to the national context, the analysis of the dynamics of structuring social norms should include the study of international dimensions.

As the Regulationist research project renewed itself by taking norms into account, a third generation of Regulationist researchers began to develop in the mid-1990s by linking itself to the theory of conventions. This approach was the most highly criticised and rejected by Regulationists themselves. This rejection was inevitable because the approach questions the original project of constructing an alternative to equilibrium theory and ties in with the new neo-Keynesian synthesis.

Regulation Theory Revisited by Convention Theory

Convention Theory

Convention theory is a new school of thought which arose in France in the 1980s. The research was motivated by the difficulty of the neo-classical framework to account for economic situations beyond pure and perfect competition. However, the goal of the economists who adhered to the theory was not to amend and extend the framework of standard theory (Dupuy *et al.* 1989). Rather, they were engaged in what Orléan (1994:13) described as, 'a long-standing collective project dedicated to analysing capitalist economies, while recognising the essential role played by non-market forms of coordination, production and resource allocation'.

The movement developed within the parameters of a set of methodological and theoretical guidelines. The first of these was the will to construct a multidisciplinary approach associating Economics with Sociology in order to analyse the various forms of collective action and coordination. The Conventionalists' second requirement was to go beyond the opposition between orthodox and heterodox movements in political economy, which they viewed as sterile. This meant convention theory would take into account the contributions of standard extended theory in the study of organisational and institutional phenomena and recognise the importance of methodological individualism. It is no longer a time for oppositions, but a time for rapprochement, even synthesis, based on a movement, 'dominated', as Orléan (1994:15) pointed out, 'by a sentiment of belonging to one big scientific community faced with difficult problems'.

Despite their common will to develop a broad eclectic framework allowing for a large gathering of unorthodox approaches, the notion of conventions differs

among economists. Initially, the convention could be defined as, 'a mechanism constituting and producing an agreement of wills; having mandatory normative force...; should be understood both as the result of individual actions and as a framework of constraint for its subjects' (Dupuy *et al.* 1989:143). But this relatively abstract definition has been elaborated on by adherents of convention theory in specific fields of analysis. For example, Salais (1989) used the notion to analyse labour relationships. The starting point for this analysis is the neo-classical model's inability to explain the labour relationship since it is established between the employer and employee before the work is carried out. According to Salais, labour relationship reposes on two principles: the signing of a labour contract upon hiring and the implementation of manpower in production. These two principles correspond to two logical equivalencies: the equivalency between future working hours and wages, and an equivalency between current working hours and production. This ambivalence in labour relationship creates a double uncertainty as to the completion of the product and its quality. However, in Salais' view, this uncertainty is always removed in the actual economy by the establishment of two conventions:

- a 'productivity convention' which allows an alternative norm to be substituted for non-existent work when exchanges are made;
- an 'unemployment convention' which constitutes an ex-post procedure for evaluating the productivity convention and allows the employer to make adjustments between projections and actual production.

Based on this, Salais (1989:237) defines labour relationship as:

a compromise, fraught with tension, between two equivalency principles, the first of which establishes an equivalency between future working hours and salary when the employer and employee conclude their market agreement, and the second of which establishes an equivalence between actual work and production in the subsequent stage of production.

The uncertainty stemming from the growth dynamics of capitalist economies during the current crisis is also behind Orléan's (1991) reflection on conventions. According to the author, this uncertainty is a manifestation of the Walrassian market's inability to ensure the coordination of individual action in a decentralised economy. Although the neo-classical theory now recognises uncertainty, according to Orléan, the theory reduces it to probabilisable risk and is therefore unable to explain the evolution of modern economies. Again according to Orléan, uncertainty creates situations of general defiance regarding the constraint of social reproduction.

General defiance can lead to a global risk for systems of socio-economic organisation which cannot be overcome by agreements or private insurance. At

that point, conventions become necessary and their legitimacy 'results from the specific need for coordination that uncertainty or widespread defection poses to the social system' (Orléan 1989:244). The author gives examples of this type of convention, such as the last-ditch lender and deposit insurance. But more than a study of individual forms of coordination, convention theory should allow us 'to understand how a collective logic develops and what resources need to be mobilised to attain stability' Orléan (1994:16). From this perspective, convention theory economists must have at their disposition 'formal tools allowing them to understand the structures linking various market, organisational, institutional or ethical resources, and how their organisation can be made coherent despite the apparent diversity of the logic on which they are based' (Orléan 1994:16).

This search for global coordination mechanisms is also present in Favereau's (1989) work. His analysis of conventions is grounded in a critique of standard theory which reduces the rationale behind individual behaviour to optimisation and the coordination of individual behaviour to market regulation. Furthermore, the extended standard theory, including approaches such as transaction theory, and incentive, agency and contract models, reduces non market forms of coordination to individual agreements between agents. However, increased pertinence in the basic model can be achieved only at the cost of reduced general coherence. In this light, the contribution of Convention Theory according to Favereau (1989) resides in the fact that, besides individual rules and contracts, it attempts to take into account the 'collective cognitive mechanisms' that ensure the coherence of individual decisions in a decentralised economy. By taking these conventions into account, Favereau is able to arrive at an alternative representation of the decentralised economy seen as a population of organisations (in the sense of internal markets) structured by the interactions of reproduction and coherence.

These aspects of the varying conceptions of conventions can help us bring to light the principal characteristics of this new school of thought. Its claim to heterodoxy springs from its origins in criticism of the Walrassian model which reduces coordination between economic agents to market regulation. Furthermore, this school is not satisfied with the additions brought to extended standard theory, since accounting for non-market forms of coordination is limited to individual agreements and contracts. From this standpoint, convention theory aims to develop an alternative approach through the institution of conventions stemming from the collective behaviour of economic agents as a regulating principle in decentralised economies.

However, despite these declarations of principle, one cannot help but note that the Conventionalists' concrete analysis is a repetition of extended standard

theory. The parallels between the two schools of thought are behind a new broader synthesis that the Conventionalists eagerly advocate in order to go beyond the sterile oppositions between 'orthodoxy' and 'heterodoxy'. The rapprochement is visible in their methodological choices, in their abandonment of the holistic approach, and their opting for individualism despite the conventionalists' contention that a global approach to Economics must be maintained.

The ties between the two schools can be seen in the Conventionalists' use of the theory of non-cooperative interaction to analyse interactions between economic agents. However, although this theory makes it possible to relinquish the hypothesis of the auctioneer in the traditional model, it has some difficulty in explaining the viability of a decentralised economy. Finally, a parallel can also be seen in the two movements' conception of institutions. In this respect, despite their reference to Commons, one of the founding fathers of American Institutionalism in the 1920s and 1930s, the Conventionalists seem to be much closer to the vision of the new American institutional Economics. And, while the new institutional Economics claims to have its roots in early American institutionalism, the former and the latter contradict each other on a number of issues (Dutraive 1993). The difference between the two schools of American institutionalism resides in their conception of institutions. While in Commons' view, the institution carries a set of rules and norms that agents may obey, in the reductionist vision of the new institutional Economics, the institution corresponds to the totality of forms of coordination generated by the imperfections of the market. Furthermore, institutionalism recognises and seeks to integrate the action of structures in the definition of coordination institutions, whereas the new institutional Economics limits its study of institutions to individual agreements. This opposition is grounded in the methodological opposition between holism/individualism in the two schools.

In the final analysis, Convention Theory took its departure in heterodox positions and entered into a broad and eclectic synthesis including methodological neo-classicism and neo-Keynesianism. This evolution was accomplished by abandoning holistic methodological positions and rejecting the project of developing an alternative to General Equilibrium Theory. Convention Theory has moved Regulation Theory in that direction.

Conventions and Regulation

The deepening of the current crisis in the mode of regulation and the extensive economic destructuring which is its result have created growing difficulties for economic theory in its attempt to analyse and explain contemporary transformations and change. Certain Regulationist economists, such as Boyer,

even refer to a crisis in macroeconomics due to its inability to explain all the facts that have appeared in the last two decades. This difficulty is all the more important since certain economists attempt to support their discourse with rigorous use of models. According to Boyer (1991), this has led to 'a race between macroeconomic formalisations and the dynamics of change in organisations, techniques and public intervention mechanisms, which constitutes much of the charm but also much of the difficulty of macroeconomic theory'.

The difficulties faced by the heterodox stream of thought and its Regulationist component in analysing and creating models for the recent changes in economic structures were responsible for the temptation to enter into the current synthesis by way of Institutionalism and Convention Theory. This constitutes an admission of the failure of Regulation Theory to renew its analysis and explain the crisis which was its point of departure, which is why part of the Regulationist movement sought to overcome its current stagnation by rediscovering institutional analysis. Indeed, Boyer (1991:6) pointed out that 'macroeconomic theory will better overcome the present crisis if it recognises the major role that institutions and forms of organisation play in the type of equilibrium, the form of cycles and even the transitions from one mode of regulation to another'.

Boyer and Orléan (1994:222) took up the point of departure of the conventionalist research programme, with its criticism of the traditional Walrassian model, as their own. The critique is based on the fact that 'the problems of coordination cannot be resolved on the sole basis of individual rationality: their resolution requires the existence of exogenous data whose mobilisation helps bring out from among the continuum of possible solutions the qualitative differences that will enable behaviour to be polarised'. The traditional theories' inability to analyse non market forms of coordination led Boyer (1995) to suggest the Regulationists renew their analysis by taking all institutional forms of coordination into account. However, inclusion of contractual aspects distinguishes this movement from the attempts at extending orthodox theory, since it attempts to develop a framework for global coherence in the economy. Thus, Boyer and Orléan (1994:223) borrow the notion of 'evolutionally stable strategies' from Smith to define the notion of convention. They see a convention as 'a strategy such that, if it is followed by all members of a population, then no mutant strategy can invade that population'.

Favereau succumbed to the same temptation to revisit Regulation Theory through Convention Theory, who sought to construct a non standard paradigm by combining those two lines of thought with Rawls' (1987;1993) notions of equity. 'Although they are in very different registers, these three theories are supported at a crucial stage of their development, by three rationalisations which.

although they are not identical in their reasoning, seem to make up three different elements of a larger, single piece of reasoning' (Favereau 1994:122). The search for rules and institutions is at the heart of this new 'unique and non standard paradigm', the rules being seen as the solution to the non cooperative equilibrium of a repeated interaction.

Thus Regulation Theory revisited by Convention Theory loses all its originality and loses itself in an eclectic synthesis whose main concern is to study rules and contracts within a decentralised economy. This evolution in the Regulationist research project has given rise to a series of critiques and controversies (Coriat 1994).

Lipietz, de la régulation aux conventions : le grand bond en arrière?' (Lipietz, from Regulation to Conventions: a Giant Step Backwards?), *Actuel Marx*, no. 17, 1995. Indeed, several Regulationists are opposed to this evolution for several reasons. Firstly, the study of individual contracts teaches us nothing about the mechanisms for transition to a general operating model of the decentralised economy. Convention theory does not cover the origin and history of conventions. This issue is subjected to circular reasoning, in which conventions are supposed to guide the actions of agents, and yet they are themselves deduced from the actions of micro-agents. Furthermore, convention theory reduces the complexities of social relationships to horizontal interactions between individuals with no hierarchy. In the final analysis, Convention Theory is a simplification of the original framework of departure from Regulation Theory, which it reduces to a two-dimensional analysis of a world with no hierarchies and no domination.

Conclusion

This presentation has followed the evolution of Regulation Theory. This new paradigm which was developed in the 1970s dominated heterodox research in the 1980s. The aim of this intellectual movement was to develop an alternative to the General Economic Equilibrium Theory which dominated the field of Political Economics. However, after a generation of original research papers, the Regulationist research movement ran into difficulties in analysing the dynamics of economic structures increasingly prey to uncertainty due to the effects of the crisis. These difficulties led certain Regulationists to abandon the initial objectives of their research programme, seeking the means of overcoming these difficulties in a synthesis with the Conventionalist movement. This group of economists rejected holism and the concept of reproduction, turning to methodological individualism and the study of non market forms of coordination.

This evolution was criticised by the mainstream Regulationists. But their criticisms were negative to the extent that they did not lead to new answers to the question of how to analyse the chaotic movements of economic structures.

With that in mind, the dead end presently faced by the Regulationist research project can only be got through intensive reflection on the formal tools that will enable researchers to improve their analysis of the dynamics of economic structures in periods of instability. Since Regulation Theory has always been very open to the contributions of other scientific fields, it can now benefit from recent progress in non linear dynamics in order to spark a new generation of research work in line with the original objectives of the Regulationist research programme.

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