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THE CONTEMPORARY JAPANESE CRISIS AND THE TRANSFORMATIONS OF THE WAGE LABOR NEXUS

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Abstract

This paper surveys the main findings of research about the specificity of the Japanese "régulation" mode and growth pattern, with a special emphasis upon the wage labor nexus, compares the recession which began in 1991 with the previous ones and finally analyses the institutional transformations taking place during the 90's. Even if mass production and consumption do characterize the Japanese economy, the wage labor nexus is built upon an implicit compromise about employment stability, at odds with a typical Fordist one. The contemporary stagnation and uncertainty do not originate from this wage labor nexus being different from the American one, but from the desynchronization of the whole institutional architecture built after WW II and reformed after the first oil shock, under the pressures of a changing international environment and financial liberalization. The Japanese wage labor nexus allows a lot of flexibility and has been adapting all over the 90's and is far from being the weakest institutional form. Clearly, the growth pattern itself is challenged by its very success in catching up and is destabilized by a partial financial liberalization. Until now no alternative domestic led pattern has been found and political leadership and "vision" are severely lacking.

LA CRISE JAPONAISE CONTEMPORAINE ET LES TRANSFORMATIONS DU RAPPORT SALARIAL

Robert BOYER, Michel JUILLARD

Résumé

Ce travail passe en revue les enseignements des recherches sur le caractère spécifique ou non du mode de régulation et du régime de croissance japonais, avec un accent plus particulier sur le rapport salarial. Il compare ensuite la récession ouverte en 1991 avec celles qui l'ont précédée et analyse les transformations institutionnelles qui sont intervenues au cours de la décennie 90. Même si la production et la consommation de masse sont à l'oeuvre au Japon, le rapport salarial est bâti sur un compromis implicite concernant la stabilité de l'emploi, à la différence du fordisme où l'accord porte sur les salaires. La stagnation et l'incertitude de la période actuelle ne proviennent pas de l'archaïsme du rapport salarial ou du fait qu'il soit différent de celui observé aux Etats-Unis, mais plutôt de la désynchronisation de l'ensemble de l'architecture institutionnelle héritée de l'après seconde guerre mondiale et réformée après le premier choc pétrolier. Les changements de l'environnement international et la libéralisation financière sont au cœur de cette transformation. Pour sa part le rapport salarial manifeste de très nombreux facteurs d'ajustement et n'a cessé de se transformer : il est loin d'être la forme institutionnelle la plus problématique. De fait, le mode de développement lui-même est remis en cause par le succès du rattrapage et surtout il est déstabilisé par une libéralisation financière partielle. Jusqu'à présent, aucune alternative n'a été trouvée (une croissance tirée par les besoins sociaux domestiques ?), sans doute parce que ce sont l'initiative politique et une vision qui font le plus défaut.

Keywords : Japanese history and International Comparisions of Industrial Relations – Employment, Hours, Wage Econometric Estimates – Comparison of Japanese Recessions – Structural Crisis – Wage Labor Nexus – Régulation Theory.

Mots clés : Japon – Histoire du travail – Comparaisons internationales du rapport salarial – Econométrie de l'emploi, des horaires, des Salaires – Comparaison des récessions Japonaises – Crise structurelle – Théorie de la régulation.

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I - INTRODUCTION : CAN THE SAME THEORY EXPLAIN BOTH THE GOLDEN AGE AND THE 90'S?

Back to the 80's, many scholars and managers came to admire the efficiency of some economic institutions of this country, specially the Japanese employment system (JES), built upon employment stability, on the job training and a steep wage career. For instance, a famous report from MIT argued that employment stability was quite essential in the deployment of lean production and advocated the adoption of such a device by car industry firms all over the world (J.P. WOMACK & alii (1990)). Nowadays, out side Japan, most labor economists and managers have come to a totally opposite conclusion : life employment is obsolete and decaying under the pressure of numerous and converging factors. The recession initiated in the early 91 would be a clear evidence for the need to converge toward a market led capitalism, deeply inspired by American economic institutions (R. DORNBUSCH (1998)). The longer the time taken to decide and implement this reform, the more severe the adjustment costs.

How to explain such a swing in the analysis of the same economy ? Has the Japanese economy changed so much that all the analyses from the past have to be discarded...or is the analytical framework, which yesterday recommended the adoption of JES and today forecast its vanishing, not adequate to the issue of institutional change and adaptability ? In fact, most neoclassical theories adopt a purely static analysis, focused upon short run efficiency in a context where market relation and economic rationality are dominant factors in shaping economic behavior. Therefore, most contemporary research are facing the following dilemma.

° Either, Japanese exceptionalism with respect to market mechanisms is put at the core of the explanation of the fast growth period. But then it becomes difficult to argue that all the contemporary problems of the Japanese economy derive from the distance from the American capitalism.

° Or a pure neo-classical analysis is applied to the 90's in order to prove that the contemporary crisis is up to the blocking of the market mechanisms on the labor market and the financial sector. But then, the impressive performance of the golden age is hard to interpret: the only solution is to argue that growth would have been still more faster in the absence of typical Japanese institutions.

Clearly, neo-classical theory is not specially designed in order to diagnose structural change, since its permanent temptation is to compare an ideal Walrasian world with an imperfect really existing economy : a crisis takes place when an actual equilibrium goes far away from a Pareto optimum.

" Régulation " theory (RT) drastically challenges such a vision for nor being able to analyze structural transformations, neither taking into account the complexity of the economic institutions governing capitalist societies. Furthermore, the concept of crisis is absent within neoclassical theorizing, which prevents any relevance for analyzing episodes featuring cumulative unbalances and/or rapid institutional change. Therefore, regulationists have a special competitive advantage in dealing with the Japanese economy and trying to characterize its unfolding accumulation regimes and their potential structural crises. The final objective is to generalize the current state of RT by dealing within the *same set of concepts*, with both common and distinctive features of economic institutions of Japan, as well as other industrialized countries.

The preceding chapters have applied this framework to each institutional form. In order to focus upon the nature of the crisis observed for the contemporary Japanese economy, it might be useful to start from one of such basic institutional form, i.e. the Japanese Wage Labor Nexus (JWLN), and to extend the analysis to the transformation of the whole "régulation" mode. A previous research (R. BOYER (1995)) has proposed a chronology for the transformation of JWLN, as well as a comparison with the WLN observed within other countries. This was a preliminary in order to assess the nature of the current state of the Japanese economy : a typical business cycle within the current regulation mode, a crisis in this regulation mode or still more a structural crisis of the accumulation regime ? It had been argued that the rigidity in the JWLN is largely a myth due to an exclusive reference to idealized labor markets, that over one century it was drastically transformed far from the immobility contemplated by culturalist analyses and finally that the synergy between other institutional forms probably prevented the rapid collapse forecast by most foreign observers. This paper is a follow-up and up-dating of this first cut analysis.

This chapter is built as follows. First, it provides a survey of the numerous regulationist research about Japan and derives from them core hypotheses to be tested against contemporary empirical evidence. Similarly, a short summary of an international comparison of WLN is

provided in order to discard the common view that JWLN is unique and cannot be compared with any other (II). Second, it argues that the so-called intrinsic rigidity of life employment is a misreading and misrepresentation of the many tools in order to cope with economic fluctuations, uncertainty and technical change : quite on the contrary, the Japanese economy exhibits a rich variety of such tools (III). Is it that sure that the 1991 recession is the sternest since the end of W.W.II or could it be compared to the first oil shock ? Similarly, does the Japanese economy follow the same track than other OECD countries, which are now recovering from the early 90's recession (IV).

But these crude empirical and statistical evidences do not speak by themselves. RT provides a taxonomy for possible sources of crisis, which might be purely cyclical, or more structural, i.e. implying the discrepancy between the transformation of institutional forms and the nature of economic adjustments. Have the numerous examples of revision in the process of hiring, training, wage setting and career pattern at the firm level (V) be converted into a shift or even a drastic transformation into macroeconomic evolution of employment, hours and wages (VI)? It is specially difficult to diagnose structural changes in historical real time : this challenge typical for RT is quite hard to address given the complexity of the interactions operating since the 90's and the lack of adequate statistical information for such a recent episode. Therefore it is important to complete these analyses by a more hypothetical study about the current situation. Do the current trends add up into a non-reproductive cycle ? Do economic adjustments reinforce the past institutional architecture or do they stabilize them ? (VII). A brief conclusion summarizes the main provisional findings and points out the likeliness of the crisis of the whole "régulation" mode, but not necessarily of a brusque collapse or a progressive convergence toward American type of institutions (VIII).

II - THE JAPANESE WAGE LABOR NEXUS IN HISTORICAL RETROSPECTIVE AND INTERNATIONAL COMPARISON.

Basically, regulationist research on Japan has explored two main issues. From a theoretical standpoint, can RT correctly conceptualize and describe the specificities of the JWLN or should the theory be drastically revised or even completely redrafted (Y. MIYAMACHI, J.A. PECK (1993)) ? From an empirical point of view, is the contemporary Japanese accumulation regime Fordist or not (Y. INOUE, T. YAMADA (1995)) ? A reading of the rather

numerous research is twofold : the methodology can be applied and deliver original results for Japan and the accumulation regime belongs to the general category of mass-production and consumption but is different from typical American Fordism. This has important consequences for the issue under review, i.e. the likely evolution of the JWLN.

II -1. Regulationist research on Japan : a bird's eyes view.

A tribute has to be paid to one of the early and seemingly largely neglected research on Japanese growth and industrial relations in the light of RT (H. ROUILLEAULT (1983)). Most of the subsequent themes are present and already developed : by contrast to Fordism, the division of labor is largely flexible under the initiative of the large firm ; therefore technological change is much more easily accepted by workers than in British and American firms, may be because innovations are not threatening the employment of permanent workers who are shifted from one job to another by internal mobility. Wage increases were pushed by unions demands before 1973 but after the oil shock, the firms have obtained an under-indexing of real wage with respect to productivity advances, quite a rapid adjustment with respect to other OECD countries. Basically H. ROUILLEAULT (1983) was insisting upon *the dualism of the labor market*, which explained its flexibility and the near full-employment. Even if most subsequent regulationist research has not built upon this breakthrough, they have basically extended and confirmed these early results. A previous survey by H. NADEL (1994) is useful. It is extended to a larger sample of Japanese research by Table 1.

° Since the labor contract does not specify the skill, the job nor the function (M. HANADA (1994)), *the division of labor is fuzzier than under Fordist WLN* (T. YAMADA (1992)). This explains some restructuring of labor at the shop-floor level (B.CORIAT (1991)), a larger polyvalence (R. BOYER (1992)) and some reduction in the gap between conception and production (Y. HIRANO (1992) ; A.L. Di MARTINO (1999)). Therefore, productive efficiency is enhanced by this malleability of labor division (K. SHIMIZU (1994), (1999)) and the diffusion of new technologies is easier (H. ROULLEAULT (1983)). Nevertheless, the more significant division of labor may appear between large and subcontracting firms (K. HIRATA (1992)). The large heterogeneity of productivity leds across firms according to size and sectors confirms these differences (H. TOYAMA (1994)). These two seemingly contradictory visions are reconciled by considering both the internal division of labor and the externalization provided by subcontractors (A. EBIZUKA, A. ISOGAI, UEMURA H. (1997)).

° Workers are *more induced than coerced* to comply with the requirements of productive organization and innovation a feature which is stressed by many authors as distinctive from Fordism (B. CORIAT (1991), A. LIPIETZ (1991), T. YAMADA (1992)). The wage formula are generally designed by the firms in order to elicit loyalty and commitment : Toyota is a clear case of such an objective (K. SHIMIZU (1991)) but this feature seems quite general even if precise wage formula may differ significantly, from one firm to another: all of them are conceived in order to have a strong inducement impact upon wage earners (Y. HIRANO (1992), K. HIRATA (1992), M. HANADA (1994)). In other words, at odds with Fordism where machines are designed in order increase the control over workers, quite on the contrary in most Japanese firms, workers largely control machines, since sophisticated wage systems, including seniority wage, monitor the commitment of workers (R. BOYER (1992)). But the segmentation of the WLN and subcontracting (K. HIRATA (1992)) have too an impact which should not be neglected : the loss of life long income in case of constrained mobility from the large firm to a smaller one is playing a similar role as the cost of job loss due to unemployment in the US (H. UEMURA, A. EBIZUKA (1994)). Some authors see the succession of two contrasted periods : before 1972 control of workers is exerted mainly by labor market, whereas the incentives linked with productivity sharing would prevail afterwards (H. TOYAMA (1994)).

° Instead of being mainly external, *mobility is essentially internal* within large firms and this feature is closely related to work organization and the nature of the labor contract (H. ROUILLEAULT (1983), R. BOYER (1992)). Upward mobility is the carrot which elicits commitment and loyalty from rank and file workers (Y. HIRANO (1992)). Still more, internal mobility is required in order to allow the permanent job reorganization which is induced by the shift of demand from one product to another and the inducement to process innovation (T. YAMADA (1992, K. SHIMIZU (1994)). But again, the JWLN exhibits a strong differentiation between large and smaller firms : external mobility for the second is the equivalent for job rotation within the first (K. HIRATA (1992)). This is an important asymmetry between small and large firms. Therefore, the most recent research emphasizes the synergy between life-time employment --i.e. internal mobility-- and the mobility of peripheral workers : in the absence of the latter, the former would not be viable (A. EBIZUKA, A. ISOGAI, H. UEMURA (1995), A. LIPIETZ (1994)). This is specially

TABLE 1 : A SURVEY OF SOME " REGULATIONNIST "ANALYSES FOR THE JAPANESE WAGE LABOR NEXUS

AUTHORS	GENERAL LABEL	DIVISION OF LABOR	WORK ORGANIZATION AND CONTROL	LABOR MOBILITY	WAGE FORMATION	WELFARE
Henri ROUILLEAULT (1983)	Dual and flexible labor market	Evolving according to firms'strategy	Acceptance of technological change and firms requirements	Within the large firm	Wage increases pushed by unions until 1973, then underindexing with respect to productivity.	
Benjamin CORIAT (1991)	Ohnoist wage labor nexus	Some recomposition of labor division at the shop floor level	Induced commitment of workers via a non Fordist compromise	Internal labor market + ostracism	Seniority wage at the firm level. No institutionalized productivity sharing	
Alain LIPIETZ (1991)	Toyotist capital labor relation (dual WLN)	Efficient organization more than work intensity	Between negotiated commitment and Fordism	Opposition between large firms and externalized work	Implicit compromise: well paid extra hours/ low work intensity	
Koïchi SHIMIZU (1991)	The importance of the Toyota Production System	A series of organizational innovations (JIT, QC,...)	Negotiated between managers and enterprise unions	A mix of adjustment variables: hours, bonus, wages, external flexibility	Complex wage formula specific to each firm : for Toyota, competency and related productivity	The large firm provides a large part of social welfare
Hiroyuki TAKASE (1991)	Mass production and mass consumption, via an original path (exhaustion of labor scarcities)	Productivism between rejection and acceptance of the separation of conception and production	Role of enterprise unions in working out an implicit compromise	Fragmentation of labor (regular/temporary workers) exacerbated after 1975	From 1953 to 1973, real wage increases due to labor scarcities	Moderate size of social wage, declining after 1975.
Robert BOYER (1992)	From hybrid Fordist to microcorporatist	More polyvalence than under Fordism, some degree of shop floor management autonomy	Workers control machines and wage career monitors commitment	Few external flexibility, via employment reduction	A complex mix of union pressure (declining) profit sharing (microcorporatist), labor scarcity (secondary WLN)	The fringe benefits provided by the large firm are part of the microcorporatist WLN
Yasuro HIRANO (1992)	Medium term productivity sharing	Reduced gap between conception/production	Incentive role of wage formula	The upward mobility within the firm is a key stimulus for commitment	Collective compromise (seniority wage) but strong competition among workers (promotion according to abilities)	
Kiyoki HIRATA (1992)	The capital labor nexus is permeated by quasi vertical and horizontal integration	Large division of labor among subcontracting firms, relational skills within the large firm.	Control of wage earners by market relations	Two different forms: job rotation within the large firm, external mobility elsewhere	Significant and variable inequalities across firms size and workers status (women,migrants, young)	

AUTHORS	GENERAL LABEL	DIVISION OF LABOR	WORK ORGANIZATION AND CONTROL	LABOR MOBILITY	WAGE FORMATION	WELFARE
Toshio YAMADA (1992)	Companyist WLN	Fuzzy division of tasks between individuals defined by company identity	Participation and co-management at the shop floor level	Job rotation and companyism allow a large internal mobility	Mix of seniority wage and ability pay	Weak public welfare, large company supply (housing, health, retirement,...)
Masanori HANADA (1994)	Special capital labor compromise: employment against workers involvement	Enhanced by the fact that the labor contract does not specify the skill, the job nor the title	A synergy between ability enhancement and firms' wage formula	Polyvalence within the large firm	Even if complex, wage formula aims at stimulating potential ability, with close links with work organization	A significant fraction of the wage, Nenrei Kyû covers the life cycle evolution of spending.
Koïchi SHIMIZU (1994)	A sequence of configurations, varying from one firm to another and through time	Governed by the search for augmenting productive efficiency	Controlled by individual incentives, collective incentives, via a sophisticated wage formula	Kaizen and wage system induce a permanent trend toward production time reduction, hence job reorganization	For Toyota, three periods: 1963-1973, 1974-1993 and new formula after April 1993	From 1981 to 1992, seniority has been the only source for real wage increases.
Hironori TOYAMA (1994)	After 1973, a shift from a conflict between capital and labor to conflicts among sectors	Large heterogeneity of productivity across firms according to size and sector	Control by labor market before 1972, companyist productivity sharing afterwards	Asymmetry between small and large firms	Wage increases react to labor scarcities from 1956 to 1972, and more to productivity sharing after 1973.	
Hiroyasu UEMURA Akira EBIZUKA (1994) **Akira EBIZUKA Akinori ISOGAI Hiroyasu UEMURA (1995)**	The hierarchical market-firm nexus: a complementary set of institutions: hierarchy within the firm, segmented labor market, hierarchical interfirm relations	Both internal to the large firm and external (subcontractors network)	Two incentives eliciting active commitment : promotion, welfare, retirement provided by the large firm and high institutionalized job loss if downward mobility	Life-time employment persists only if exist peripherical but not minor workers : complementarity between offensive and defensive flexibility	Quite different according to firms'size and sex: profit sharing for male workers in large firms, competitive wage for female workers in small firms	The welfare provided by the large firm is increasing the institutionalized job loss associated to downward mobility.

important in any assessment of the viability of life-employment during the 91's recession : the islands of "offensive" flexibility are immersed into an ocean of more conventional "defensive" flexibility.

° *Wage formation* is quite distinct from American collective bargaining, even if each year by "shunto" all wage increases are synchronized. At the macro level, wage increases follow quite distinct pattern before 1973 (they were pushed upwards by unions) and after (firms have convinced workers to accept wage hikes compatible with investment, innovation and competitiveness). But wage scarcity is a key factor too, benefiting to workers before 1997 (H. TAKASE (1991)). At the micro level, the hierarchy and wage career are highly firm specific. For instance, the Toyota wage formula is specially complex (K. SHIMIZU (1991)) and is not observed in other firms for the same industry (M. HANADA (1994)). Nevertheless, they have in common to ally a collective compromise on seniority wage and a strong competition among workers in order to get promoted (Y. HIRANO (1992)). But again, inequalities across firm size and workers status are not to be neglected (K. HIRATA (1992)). For instance profit sharing is mainly observed for male workers, whereas female wage-earners in small firms only get a competitive i.e. market wage (A. EBIZUKA, A. ISOGAI, H. UEMURA (1997)). This hierarchical market-firm nexus delivers a significant flexibility during recessions or in reaction to adverse technological or economic shocks.

° Finally, the Japanese economy is a typical example for *companyist welfare*. Contrary to European and specially Scandinavian countries, the welfare provided by State legislation is minimal (H. TAKASE (1991)), which allows the large firms to play a large role in delivering the required social welfare (K. SHIMIZU (1991)). This feature is an integral part of micro corporatism (R. BOYER (1992)), meso-corporatism (B. AMABLE, R. BARRE, R. BOYER (1997)) or companyism (T. YAMADA (1992)) : the supply by large companies of housing facilities, the access to less expensive health care and the payment of a significant fraction of retirement funds (M. HANADA (1994)) enhance the role of wage differentials between large and small firms in order to manufacture commitment and work intensity within the large firm (H. UEMURA, A. EBIZUKA (1994)). Let us recall that the companyist wage labor nexus covered at most 30 % of the working population at the heyday of the fast Japanese growth.

It is difficult to summarize such diversity within a single labeling for the JWLN. Nevertheless, the duality of WLN is emphasized by quite any regulationist from the conventional hypothesis of strong dualism on the labor market (H. ROUILLEAULT (1983)) to the most recent and ambitious synthesis in terms of *hierarchical market-firm nexus* (A. EBIZUKA, A. ISOGAI, H. UEMURA (1997)). Other authors prefer to focus upon the originality of WLN within the large firm, let it be *Ohnoist* (B. CORIAT (1991)), *micro-corporatist* (R. BOYER (1992)), or *companyist* (T. YAMADA (1992)). At the other extreme, some consider that the capital labor nexus is permeated by quasi vertical and horizontal integration (K. HIRATA (1992)) and that the transition toward mass consumption has been triggered by the exhaustion of labor scarcities at the end of the 60's (H. TAKASE (1991), H. TOYAMA (1994)).

It comes out that the JWLN is far more complex than conventional representation considers : far from being a very rigid system on the grounds that few labor adjustments are taking place externally on the labor market, it encapsulates a multiplicity of internal and organizational flexibilities, which of course are used during recessions or when the Japanese economy is facing unexpected disturbances.

II -2. The emergence of the contemporary Wage Labor Nexus.

Another " cliché " has to be fought against : the so-called inertia and archaism of the Japanese Employment System (JES), which would derive from the implementation by modern industry of old feudalistic values and behaviors. If so, the 90's would mean the next convergence of Japanese industrial relations towards international standards, or more precisely Anglo-Saxon labor market institutions. This culturalist explanation simply does not fit with historical evidence derived from research about the emergence of the contemporary JWLN (A. GORDON (1988), W.N. FRUIN (1989), T. NISHIGUCHI (1994), T. YUI, K. NAKAGAWA (1989), S. WOLCOTT (1994)). The very contrasted Japanese history can be drastically summarized by the succession of the following episodes (Figure 1).

Back to the early beginning of this century, no firm was exhibiting the contemporary configuration i.e. the synergy of internal labor markets within large firms (life-employment, on the job training, steep wage career) along with secondary labor markets. Quite on the contrary, three major WLN used to coexist (Figure 1(1)).

FIGURE 1(1) : FROM CRAFT AND TAYLORIST WAGE LABOR NEXUS TO INTERNAL MARKET CREATION.....

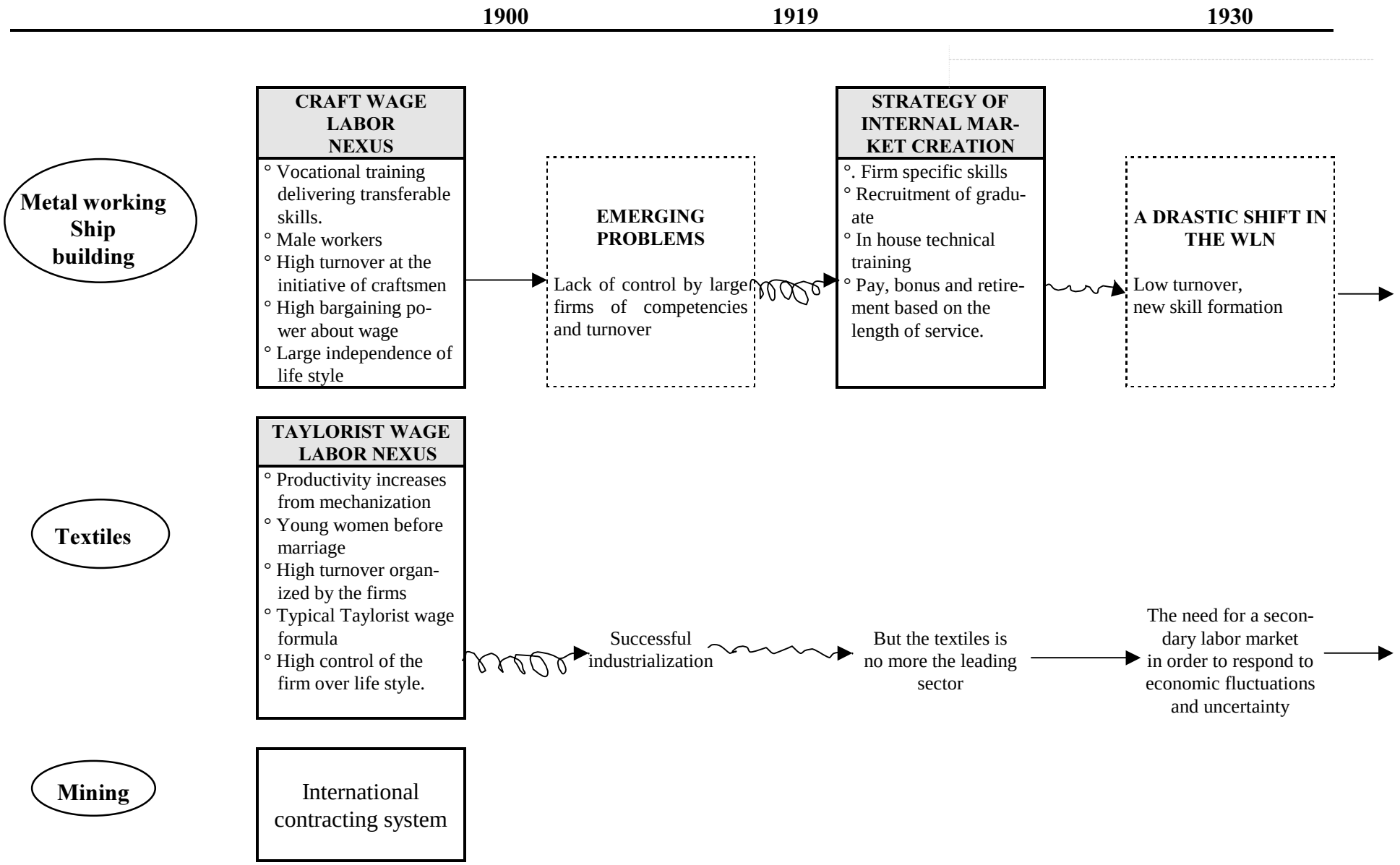
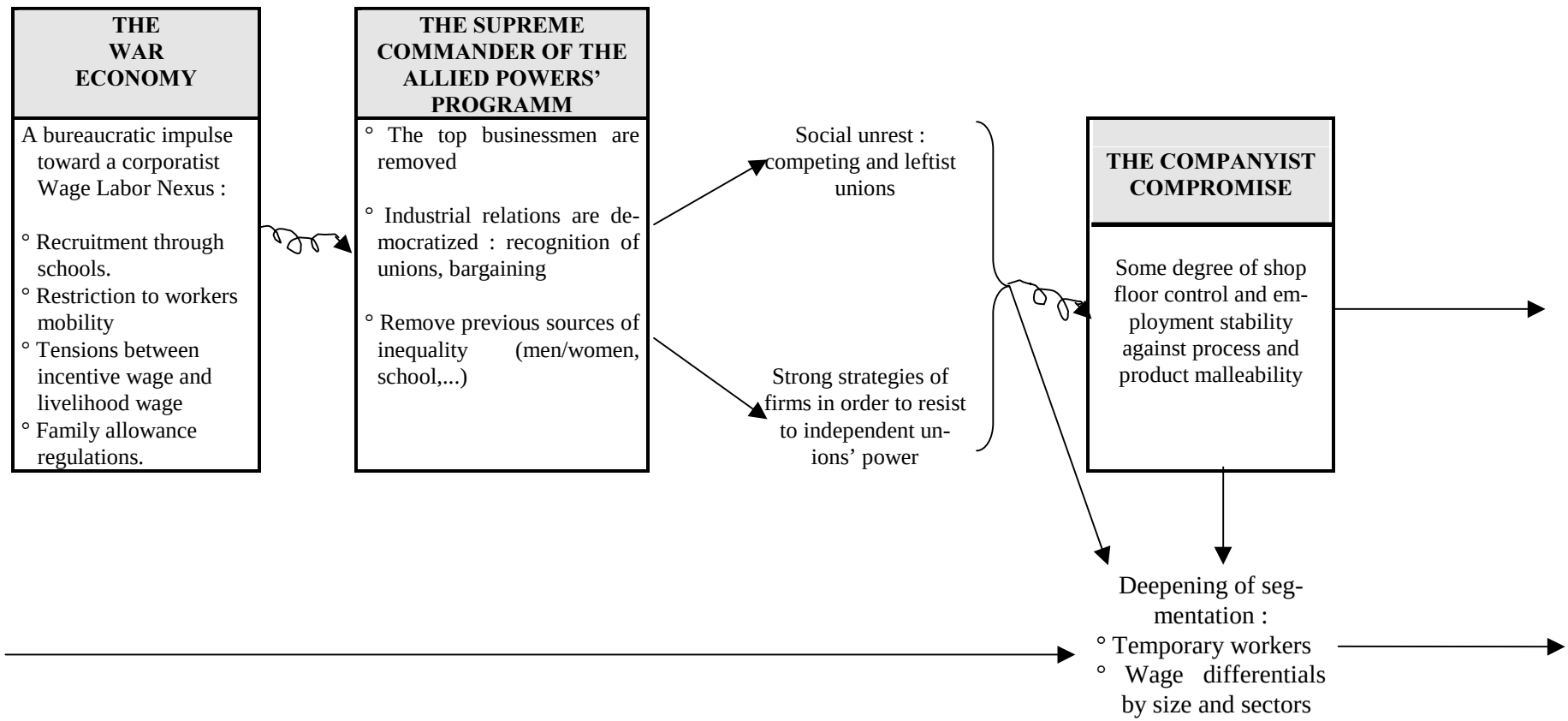


FIGURE 1(2) : .....FROM A RATHER CORPORATIST WAGE LABOR NEXUS TO A COMPANYIST COMPROMISE.....

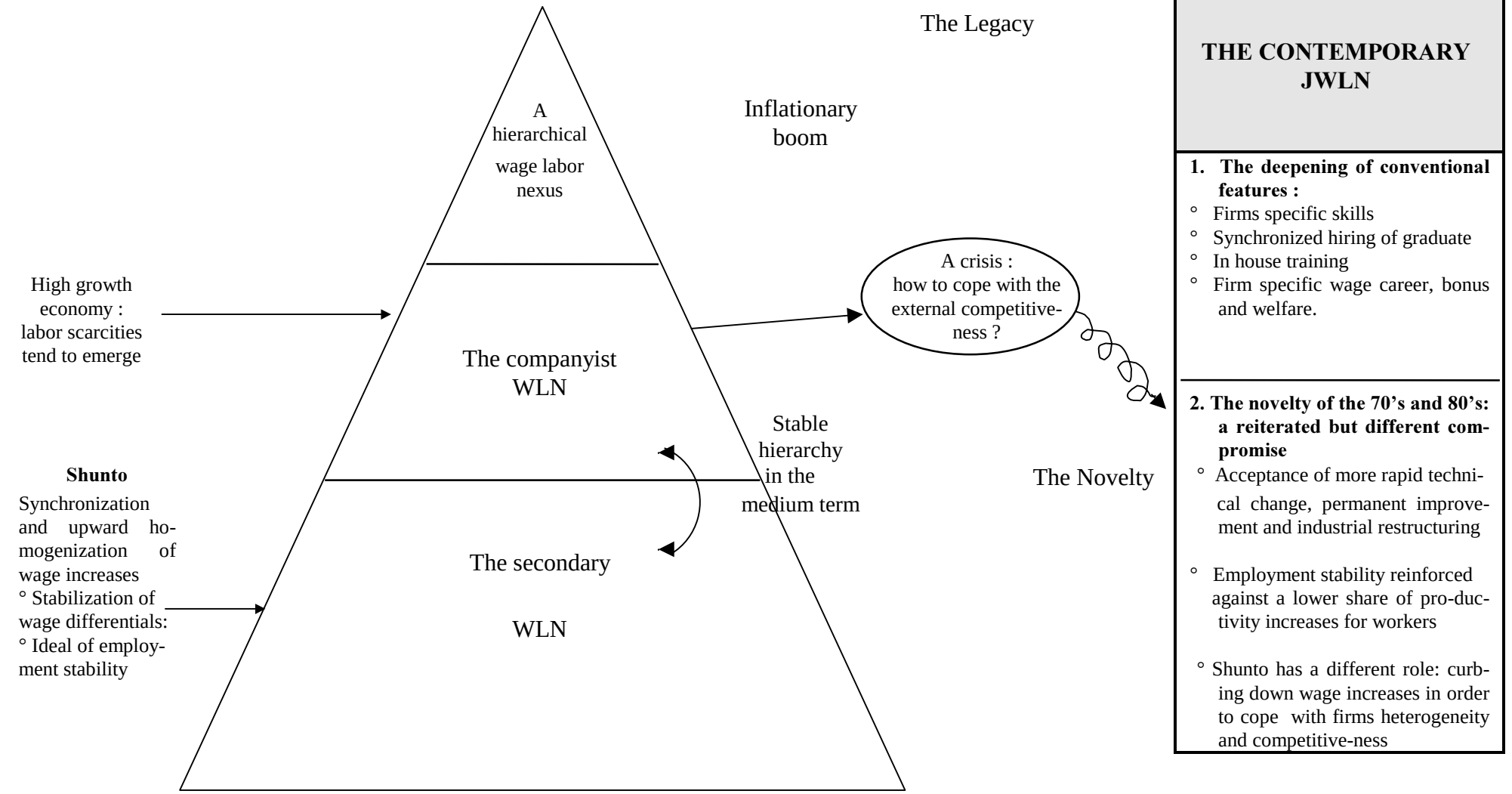
1945 **1952-4**



Source : R. DORE (1973) ; H. ROUILLEAULT (1983) ; A. GORDON (1988) ; NISHIGUCHI (1994)

FIGURE 1(3) : THE FIRST OIL SHOCK : THE LAST EPISODE TOWARDS THE CONTEMPORARY WAGE LABOR NEXUS

1965 **1973**



THE CONTEMPORARY JWLN

1. The deepening of conventional features :

° Firms specific skills
° Synchronized hiring of graduate
° In house training
° Firm specific wage career, bonus and welfare.

2. The novelty of the 70's and 80's: a reiterated but different com-promise

° Acceptance of more rapid techni-cal change, permanent improve-ment and industrial restructuring

° Employment stability reinforced against a lower share of pro-duc-tivity increases for workers

° Shunto has a different role: curb-ing down wage increases in order to cope with firms heterogeneity and competitive-ness

° In the mining sector, *internal contracting* (in French " tâcheronage ") was the leading system according which a foreman was taking responsibility of hiring the required workers, set their share of the payment linked to the delivery of a given volume of output (W.M. FRUIN (1994)). The same system is observed elsewhere at the same period and it is not specially Japanese.

° In the textile industry, the capital labor relation was quite different indeed, very similar to a *Taylorist wage labor nexus*. Basically, productivity increases were deriving from an heavy mechanization and its acceptance by young women working before their marriage and experiencing a high turn-over which in fact benefited a lot to firm's holders : they could push productivity without being blocked by workers' opposition and they could impose higher work norms from one generation of workers to another, thus obtaining an incredibly fast modernization of the textile industry (S. WOLCOTT (1994)). Wage formula were typically Taylorist and revised downwards as soon as extra productivity had become the norm to be attained the next period. Finally, the bosses were exerting a direct control over the life style of these female workers. Therefore and quite paradoxically the first stage in the modernization of the Japanese economy was obtained by quite conventional Taylorist methods, at odds with the contemporary ideal of JES.

° The emerging metal working and ship building industries used to exhibit still another configuration : a *craft wage labor nexus*. A form of on the job vocational training was delivering transferable skills to the equivalent of professional workers, exclusively male. Given their relative scarcity with respect to the needs of the firms, these craftsmen were highly mobile from one firm to another, therefore destabilizing the continuity of the production process. Given their high bargaining power, they could extract quite good wages from the firms and enjoy from significant independence in their life-style both at work and private (A. GORDON (1988)). This is very near from a professional labor market, German style, with the possible exception of the missing of strong training institutions.

Thus none of these three WLN is similar to the contemporary *hierarchical wage labor nexus* (HWLN), in such a manner that it is difficult to interpret it as a legacy of pre-capitalist Japanese social relations. Whatever important may be the conventional Japanese values (collective risk sharing, ability to cooperate, "groupism") (R. DORE (1987)), they are not the

direct origin of the JES (T. NISHIGUCHI (1994)). In fact, the contemporary configuration is the largely unexpected outcome of a quite complex process which has been combining firm strategies in order to control workers, the shift from one leading industrial sector to another, the impact of structural crises, open social conflicts and the redesign of Japanese political and social institutions after W.W.II (Figure 1(2)).

Four critical stages explain the transformations of the three WLN observed in the early beginning of this century into the contemporary HWLN :

° *The first step* takes place within the metal working industries : after W.W.I, large firms decide to create and implement *internal labor market*, by breaking down the bargaining power of the skilled labor consisting of *watari shokunin*. They begin to recruit only employees directly out of school or college, and no more comply with the individual strategy of highly mobile professional workers. In order to stop their mobility, they create firm specific skills, mainly by in house technical training. Finally, pay, bonus, and retirement systems are based on the length of service in order to create strong incentives for workers to stay within the firm and therefore take benefit from their extended but not transferable skills. One recognizes a specially important feature of JES.... But given the limited size of the related sectors and the configuration of other institutional forms, it does not imply the same macroeconmic evolution as nowadays. Note in passing that such a transformation of industrial relations in order to erode the bargaining power of professional workers and replace them by more disciplined workers, coerced or induced to espouse the objectives of the firm, is observed in quite any other developed country, whatever its forms : Taylorism and then Fordism in the US, paternalism in France and Germany. This can be termed the era of internal market creation (S.M. JACOBI (1985)).

° *The second phase* of labor institutions restructuring is associated with the *war economy* and afterwards the *program of reforms* imposed to Japan by allied powers. The first episode aims at implementing a corporatist wage labor nexus, quite equivalent to the transformations observed in Europe during the inter-war period which again casts some doubts about the fundamental Japanese exceptionalism. On one side, some features of the internal market are reinforced, such as the recruitment from schools which is generalized and the mobility of workers which is restricted. But on the other side, the philosophy of wage forma-

tion is altered by the consideration of livelihood wage, i.e. allowing a decent living for workers' family, according to a principle which is not necessarily compatible with an incentive wage, as designed by the rational interest of a given firm. This feature will permeate until the present times (H. NOHARA (1994), (1995)). But this corporatist episode is short-lived. The victory of allied forces after 1945 initiates a significant redesign of most political and economic institutions. The financial and business elite is removed from influential positions and power and replaced by engineers, managers, technocrats, and this move gives room for a different approach to labor issues. Simultaneously, industrial relations are democratized by transferring to Japan some of the labor laws of the New Deal period : unions are recognized and formal equality between men and women is stated. Therefore income differentials are reduced and this is a prerequisite for any mass consumption society, which at this time is still embryonic given the poor standards of living immediately after the war (H. TAKASE (1991)).Again, the late 40's and early 50's in Japan do resemble to European post-war : various leftist unions compete in order to get control over work organization, high wages and political recognition. Strikes are quite frequent and challenge the conventional vision of highly cooperative industrial relations due to the Japanese culture. But precisely, this quite bumpy and noisy struggles put large firms under strong pressures and induce them to work out an alternative strategy.

° *A turning point* in the constitution of the JWLN takes place in the early 50's, when the difficult emergence of modern productive methods along with long strikes put some firms at the eve of bankruptcy : limited markets and social unrest are constraining firms and workers to negotiate a basic compromise which is still holding during the 90's (M.A CUSUMANO (1985)). The managers accept some degree of shop-floor control by workers and warrant an *implicit employment stability*. In counterpart, workers restrict their representation to *company unions* and recognize that productive organization and product malleability are essential in order to preserve the long run viability of the firms they work for. Clearly this is not a typical Fordist compromise : the defense of workers is restricted to the firms level and no job demarcation rules are negotiated, contrary to that is observed in the US. Similarly, even if the bonus system is built upon a kind of profit sharing, this operates only at the decentralized level, not at all at the sectoral or national level, which would be typical of Fordist WLN, as observed in the American of French economy. But the extension of internal labor markets does not totally solve a basic issue facing any capitalist

economy : how to cope with economic fluctuations and uncertainty ? Simultaneously to the *micro-corporatist* or *companyist compromise* for core workers of the large firms, the employment of temporary workers is extended, thus creating the contemporary form of the dualistic WLN. Therefore it would be erroneous to note only the " rigidity " of the companyist WLN without considering the large external flexibility allowed by the secondary WLN. Globally, the JWLN is quite flexible indeed. During the 60's the accumulation is so successful that the high growth economy finally exhausts the large labor reserves and therefore stimulate an acceleration of the real wage (R. MINAMI (1973)). This is the starting point for a very rapid surge of mass consumption, which previously was kept embryonic (H. TAKASE (1991)). Simultaneously, labor scarcities give a strong bargaining power to unions : the shunto is therefore synchronizing and homogenizing wage increases, reducing and then stabilizing the wage differentials between small and large firms, core workers and temporary ones. From the mid-60's until 1973, the Japanese economic boom is associated with a significant level of inflation, more or less in line with the trends set by the eroding of American Fordism during the same period. Most of the features of the Hierarchical Wage Labor Nexus (HWLN) are present, but the first oil shock created the opportunity to complete the cohesiveness of this labor regime.

° In 1974, the reaction of Japanese economy to the *rise in oil price* is so extreme that inflation speeds up and jeopardizes the external competitiveness and the financial stability of manufacturing firms. Contrary to European economies which react quite sluggishly to this turning point in international relations and competition, the acceptance by workers that the health of the firms is the prerequisite for their employment and living standards improvement (i.e. the very significance of the *companyist accord* of the mid-50's), is pushed a step forward by managers who ask for and seemingly easily get a revision of wage formation : a *larger share of the surplus* should go to investment and RD expenditures, against a reinforced *employment stability* (Figure 1(3)). Simultaneously, the shunto is transformed from a mechanism for homogenizing upward wage increases into a method for curbing down them in line with external competitiveness of exporting large companies (T. TSURU (1992)). Therefore the " régulation mode " operating in Japan turns out to be quite efficient in competing with a decaying American Fordism and a divided and somehow sluggish European pattern. According to a largely unintended composition effect, all the components of the JWLN which have been piling up during three quarters of a century appear as

highly functional and efficient...as if they had been designed in order to respond to the new configuration of the world economy in the 80's. But this would be a teleological illusion, typical of neoclassical theorizing which analyzes the emergence of JES as the outcome of a pure rational computation made by individual firms in a purely static world.

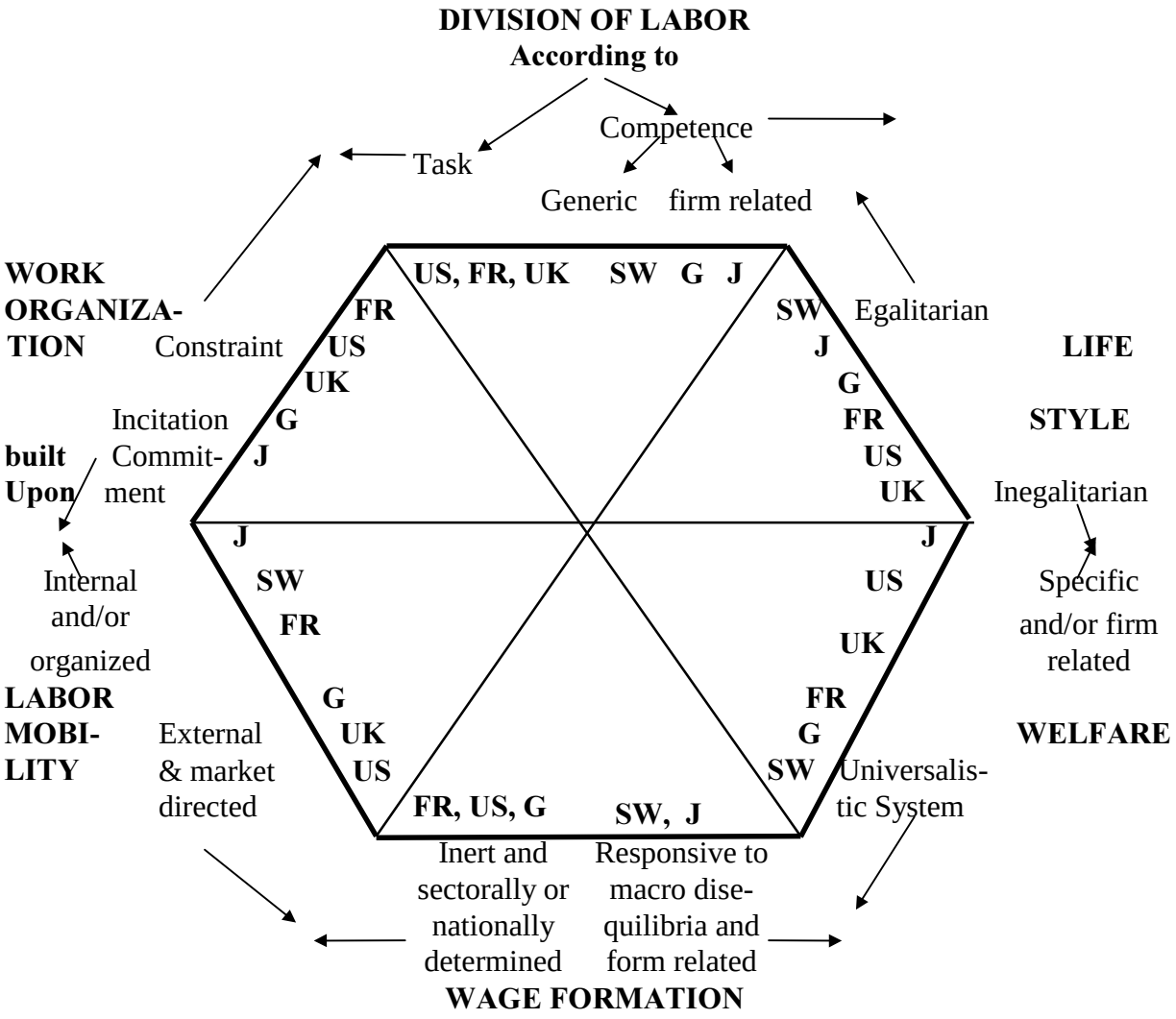
This very short survey of a century in Japanese industrial relations shows a remarkable ability to transform the WLN according to the stage of industrialization, the nature of social conflicts and the state of the world economy...far away from the steadiness and archaism depicted by the culturalist vision. For the issue at stake (i.e. the viability of the HWLN during the 90's recession) this analysis has two major implications. First, the joint compatibility of the companyist WLN along with the secondary WLN allows *a lot of adjustment mechanisms*, combining both internal and external flexibility. Second, if the JWLN has so drastically been altered during this century, why could it not *adapt to the novel context of the 90's* : the strength of the companyist compromise is a trump and not necessarily and obstacle to competitiveness. Life-employment is part of this compromise and it is the reason why managers are so reluctant to discard it. When they try to do so, they do not necessarily get the expected benefits (Japan Actualités, Décembre 1994, Juin 1995).

II -3. Why it is different from the typical Fordist configuration, but not necessarily totally unique in its components.

It is time now to draw a synthesis about the generality or on the contrary the specificity of the JWLN. Most of the literature focuses exclusively upon the impact of the level of wage bargaining upon the macroeconomic performance, mainly unemployment. For " Régulation " theory this issue must be related to the cohesiveness of a given WLN and its compatibility with the accumulation regime. In the light of the previous analyses, the relative position of Japan can be assessed with respect to each component of the wage labor nexus (Figure 2) :

° In terms of *division of labor*, Japan shares with Germany the principle that workers are defined by their *competence* not their allocation to some definite tasks imposed by the current state of productive organization. But the skills are largely *firms specific* in Japan , whereas there are generic thus transferable from one firm to another in Germany. In any case, the principle of division of labor is quite different from American Fordism.

FIGURE 2 : THE JWLN : NOR TOTALLY UNIQUE, NEITHER GENERAL



FR : France - G : Germany - J : Japan - UK : United Kingdom - US : United States - SW : Sweden

Source : R. BOYER (1995), p. 56

° The nature of *workers control* is original too. In North America or in France, work intensity is mainly imposed by a hierarchical control with the help of some incentive pay systems. In Japan and Germany a more explicit *commitment* is obtained either from the self interest of professional workers or the adequate design of internal labor markets. This is not necessarily culture based, as Japanese history suggests (T. NISHIGUCHI (1994)). Under this respect, some international comparisons show that such a phenomenon exists within some large American firms too even if immersed into a highly individualistic society (S.I TAKEZAWA, A.M. WHITEHILL (1981) ; J. R. LINCOLN, A. L. KALLEBERG (1990)).

° *Labor mobility* can be either external and market oriented or internal and organized by managers and eventually public administration. Clearly Japan is a strong exception to the neo-classical belief that perfectly competitive labor markets are the most efficient method for allocating labor. Most Fordist countries rely upon external and market flexibility (US and UK). Japan belongs to the group of *organized mobility*, but contrary to what is observed in Sweden or France, the large corporations have the initiative and the Ministry of Labor is only helping the private strategies of work redeployment. It remains to be assessed under which conditions the collective pool of competence is better enhanced : via external labor market mechanisms or internalization by the firms'. The Japanese WLN suggests the merit of an organized of labor mobility for technical change and commitment.

° Concerning *wage formation* the bottom line is not any a priori preference for centralization or decentralization, but the reactivity to macroeconomic context and the sensitiveness to unemployment. Again international comparisons oppose relatively inert wage formation and sectoral or national level bargaining (France, US) to a *high responsiveness* to macro disequilibria and *firm related pay systems* (Japan). Again, in the context of the 80's and 90's, the typical Fordist wage system is far inferior to profit or productivity sharing schemes. Furthermore, the degree of labor market dualism introduces some significant differences among OECD countries and plays a structural role in the JWLN.

° The *collective elements* in the reproduction of labor force can take contrasted configurations. Either the demands of workers unions and citizens have been strong enough in the past to induce significant interventions of the State in the domain of education, housing, health, retirement payments (Germany, UK, France, Sweden). Or, on the contrary, these

demands have remained fragmented and the responses localized : then the firms, specially the larger ones, can use their influence in designing a form of *companyist welfare*, in order to attract and stabilize skilled workers (Japan and US). Nevertheless, social inequalities have not been very large in Japan, in spite of such an underdevelopment of the Welfare State.

° Finally, *life style* may be elitist or egalitarian, according to the degree of income and wealth inequality. This is up to the degree of labor market segmentation, the nature of the political process which leads or does not lead to progressive taxation. Under this respect, Japan belongs more to the Swedish side than to the Anglo-Saxon one, while France occupies an intermediate position (intended formal equality, de facto rather large inequality). Previous research has shown that too large income differentials are detrimental to the emergence of mass-consumption. On the contrary, in the 80's and 90's, the erosion of middle classes and the new heterogeneity of life style may be compatible with the emergence of another accumulation regime built upon social differentiation of consumption patterns (R. BOYER (1993)).

From this brief synthesis, two main conclusions emerge, concerning respectively the Fordist or non Fordist configurations of the JWLN and its exceptionalism. On the first issue, the Japanese wage labor nexus is at the *other end of the spectrum*, with respect to the American ones for 5 over 6 components : it would be daring to label as Fordist such a WLN. Clearly, the JWLN belongs to a different brand, which is a possible follower and alternative to the Fordist WLN. On the second issue, the same principles, if not the same exact institutional setting, are shared by Germany (and to some extent Sweden). It can be argued that these countries have finally converged toward various variants of a rather coherent system. Unfortunately, the long recession of the early 90's puts severe strains upon all these WLN, however " superior " to Fordism they would be, if clear international rules of the game were prevailing and organizing a " fair " competition among " régulation " modes.

Let us now examine more closely the ability of the JWLN to cope with recessions (III) and to compare the current evolution with previous episodes (IV). This is a preliminary for an analysis about the possible sources of structural crisis of the JWLN, or more generally of its compatibility with the prevailing accumulation regime (V, VI, VII).

III - THE RIGIDITY OF THE JAPANESE WAGE LABOR NEXUS: LARGELY A MYTH.

Within the American Fordist WLN, business cycles or unexpected events are associated with hours variation and significant employment evolution. During recessions, layoffs are the first and quite frequently used tool, the more likely, the longer the duration for collective agreements programming wage formation according to a given set of indexing variables. When one observes the Japanese labor markets through these lenses, many factors seems to block adjustments, because one expects that flexibility should be mainly external via labor supply and demand variations. The ways for adapting are quite different indeed, but rather numerous in the JWLN. They might hurt static efficiency by implying a quasi immobility of labor in large firms but this is a strong incentive to product innovation and dynamic or efficiency, i.e. cumulative productivity increases.

III -1. The JWLN allows fast technological diffusion.

Clearly, the nature of the labor contract which does not define the occupation, the function or the status, is highly malleable in response to uncertainty and technical change. First by shifting workers from one task to another without any binding constraint by job rules or labor contract, the large firm can react very efficiently to unexpected variations concerning the volume and nature of demand, contrary to the typical Fordist WLN where everybody is allocated a precise job by ex ante planning decisions (M. AOKI (1988)). Second, the stability of the core workers allows a large investment in training, which can be used to facilitate the adoption of new technologies, learning by doing and coordination tasks within the firm, since the frequency and durability of interactions make cooperation easier. If technical change is largely idiosyncratic, as it seems to be the case for the assembling of durable goods with many sub components, this JWLN is a definite advantage in international competition (J.C. ABEGGLEN, G. STALK (1985)).

Employment stability has therefore a positive impact upon the acceptance of technological and organisational innovations which take place at the shop floor level, whereas the mobility of the workers within the Keiretsu allows an adaptation from mature to sunrise sectors. Within industrial relation systems in which “the right to manage” implies a frequent and

clearly expected use of lay-off and redundancy, no surprise if workers will try to block technological and organizational innovations which would threaten their existing jobs and incomes. On the contrary, if a form or another of employment stability is granted (either by the maintenance of quasi-full-employment or by explicit job tenure), workers usually do not view technical change as a device in order to weaken their bargaining position and get rid from their personal expertise. For instance, when workers are asked the question : " Do you think that technological innovations will bring to you who work in the company, more advantages or more disadvantages ? " Japanese workers respond overwhelmingly : " more advantages " by 76,7 %, " more disadvantages " by 3,5 % whereas West German workers are more mitigated : " more advantages " for 31,6 %, " more disadvantages " for 19,7% and 45,9 % think that they have not any effect (S.I. TAKEZAWA (1995):26).

From a theoretical standpoint, grass root workers may contribute to productivity by proposing marginal and local innovations, if they have interest in doing so, i.e. if there is a minimal cooperation at the shop floor level. Along with the benefits deriving from division of labor in line with the extension of market and the more radical innovations implemented by the technicians and engineers, the JWLN may contribute positively to growth via extra productivity increases. In other words, the voice expressed by blue collar workers is more likely to be turned into competitive advantage in Japan than in other economies, the more so the more distant from typical Fordism (R. FREEMAN, J.L. MEDOFF (1984)). It has been argued elsewhere that this feature has played a significant role after 1973, when world growth has slowed down and restricted increasing returns to scale at the benefit of other sources of technical change (R. BOYER, E. CAROLI (1993)).

III -2. A series of adjustment processes during recessions.

But of course, this trump can be eroded in the 90's given the new forms of competition at the world level and slow growth observed in Japan. This new situation puts a strong emphasis upon the responsiveness of the JWLN to stagnation and major financial uncertainty. Even if the Golden Years growth record of Japan has been quite exceptional as regards its average speed and regularity, the firms have relied upon the built-in adapters in response to recessions and they are specific to the JWLN. When combined, all these devices are allowing significant room for maneuver (Table 2). If the recession is rather mild, the firms may first reduce overtime and terminate the contract of temporary employees, which corresponds to

phases I and II. If the slowdown is more significant and lasting, then they reduce the hiring of new graduates, they begin to transfer some employees to other business within the same group company, or outside the company or strengthen the sales department (phase III). When recessions are still more severe, firms reduce working hours, close temporarily some plants or factories and launch restructuring operations (phase IV). When the situation is worse, firms stop totally recruiting, ask for voluntary redundancy and try to get into new business with countercyclical demand or more promising future (phase V).

TABLE 2 :

COMPULSORY REDUNDANCY IS THE LAST RESORT INSTRUMENT IN JAPAN.

Phase	
I **II**	1. Reduction of overtime 2. Terminate the contracts of temporary employees
III	3. Reduction of hiring of new graduates 4. Temporary assignment to other business area or group company 5. Transfer to other business 6. Strengthen sales
IV	7. No overtime 8. Temporary factory closure 9. Restructuring
V	10. No recruiting 11. Voluntary redundancy 12. Introduction of other new business
VI	13. Compulsory redundancy

Source : Compilation by the authors from various companies statements and academic research papers.

Compulsory redundancies are therefore the last resort method in order to restore the viability of the firm (phase VI). They exist in Japan but they are undertaken only when the situation is desperate, if for example the main bank is taking the control of the company after

a series of dramatic loses (M. AOKI (1988) ; (1993)). Note in passing that previously the managers have cut their own salaries and this is an important difference with respect to Anglo-Saxon firms where it is frequent that managers vote themselves hectic income increases at the very moment when they fire workers for insufficient or profits, even if they are positive, but lower than expected (R. DORE (1994)).

In Japan “mass lay-off should be regarded by management has a sign of its own failure” (S. I. TAKEZAWA (1995):22) and the other side trade union officials consider that the post war trade union best achievements has been employment stability, then improvement in working conditions...wage reflecting living expenses and length of services coming only at the sixth rank (ibid. p. 23). It is important to recognize that in *Japan employment stability belongs to the core of a capital labor accord* which was progressively built through history and reinforced after the first oil shock (see II.2, supra). This cannot be interpreted as a pure irrationality, since it is the building block for cooperation, acceptance of internal mobility and technical change, i.e. some of the strengths of JWLN.

But of course, an equivalent compromise concerning not so much employment stability but full-employment by active government employment policies was prevailing before the 90’s in many social democratic countries and specially Sweden...But have been blown out by the inability of the existing “ régulation ” mode to cope with financial deregulation, changing forms of competition at the world level and the discrepancy between the national style of “ régulation ” and the depressive forces brought by market oriented “ régulation ” (L. MJOSET (1995) ; B. AMABLE, R. BARRE, R. BOYER (1997)). Under the same pressures, could the JLWN follow the same track ? Before addressing this issue, it is important to put in historical perspective the current situation of the Japanese economy.

IV - THE 90’S IN HISTORICAL PERSPECTIVE AND INTERNATIONAL COMPARISON.

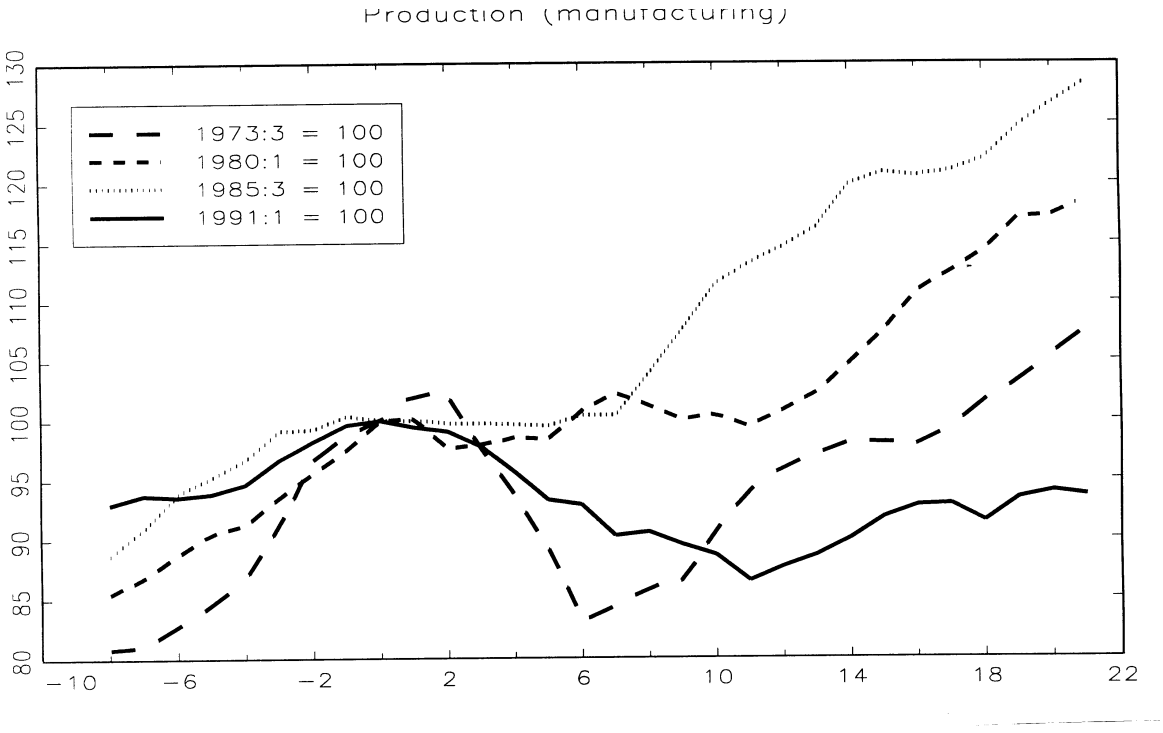
While conventional business cycle theories consider invariant economic mechanisms explaining endogenous fluctuations as well as the reaction to stochastic shocks, RT distinguishes among two contrasted episodes : during normal times, i.e. within a stabilized

" régulation " mode fluctuations do express the very functioning of the accumulation stabilizers, whereas at some other crucial epochs, economic adjustments tend to erode the institutional forms which support the accumulation regime. As a first step, in assessing which case is occurring, it is important to compare the evolution of the 90's with respect to previous equivalent episodes, as well as the contemporary evolution of other industrialized countries.

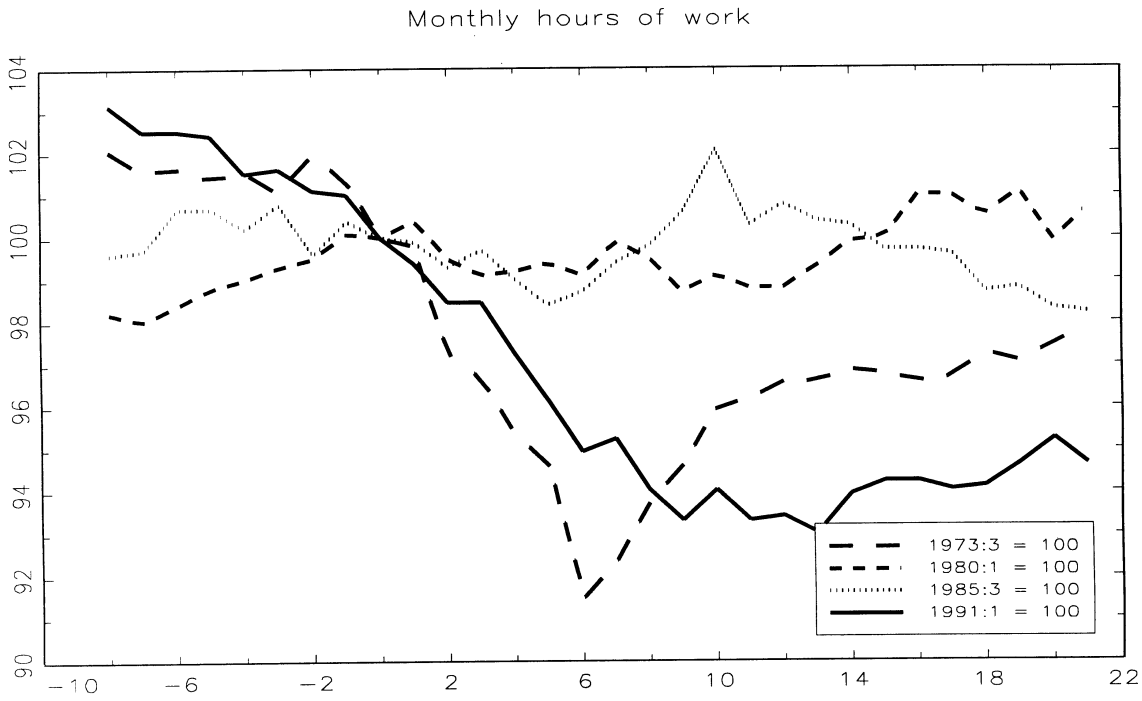
IV -1. A comparison with the previous recessions: the 90's are atypical.

Since 1973, four recessions have affected the Japanese economy : the first one is the consequence of the first oil shock and begins during the second semester of 1973 ; the second corresponds to the second oil shock and is usually dated back to the first semester of 1980. The third recession has already be mentioned as the consequence of the appreciation of Yen, after the second semester of 1985. Finally, the last recession took place during the first semester of 1991 and was caused by internal factors (the bursting out of the bubble economy) as well as external (high Yen, world recession). Does this last episode look like any previous recession (Graph 1) ?

GRAPH 1.A : THE AMPLITUDE OF THE RECESSION : INTERMEDIATE BETWEEN THE FIRST AND SECOND OIL SHOCKS, BUT A MORE SLUGGISH RECOVERY.

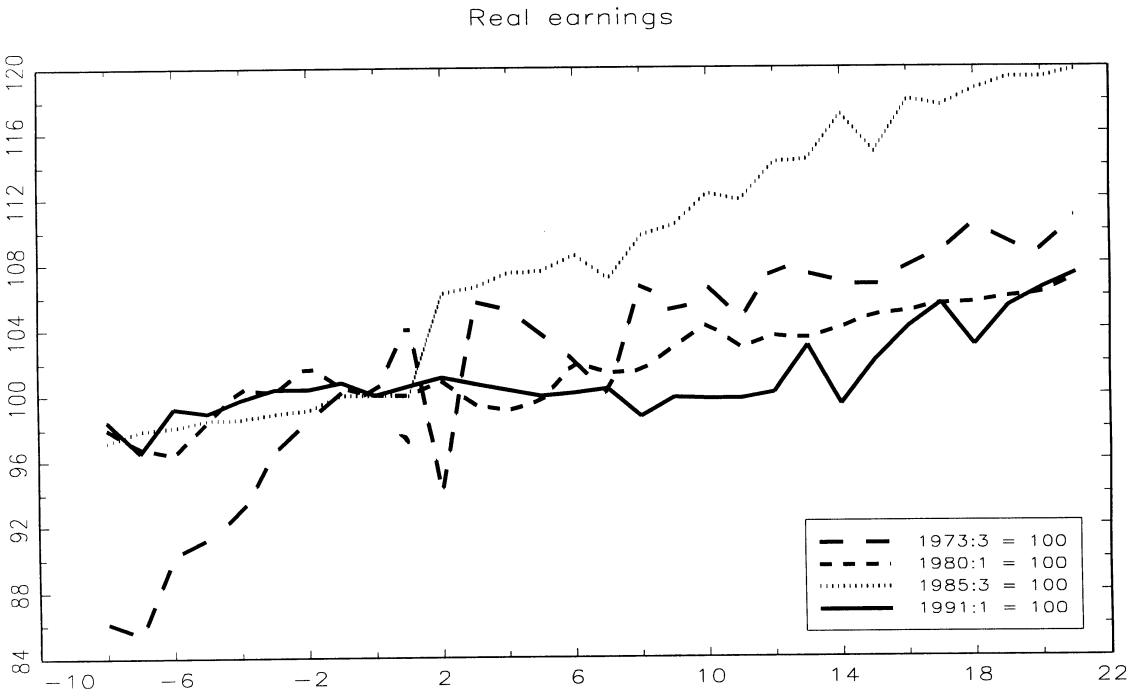


GRAPH 1.B : A FAST AND LARGE REDUCTION OF HOURS WORKED AND A MILD RECOVERY.

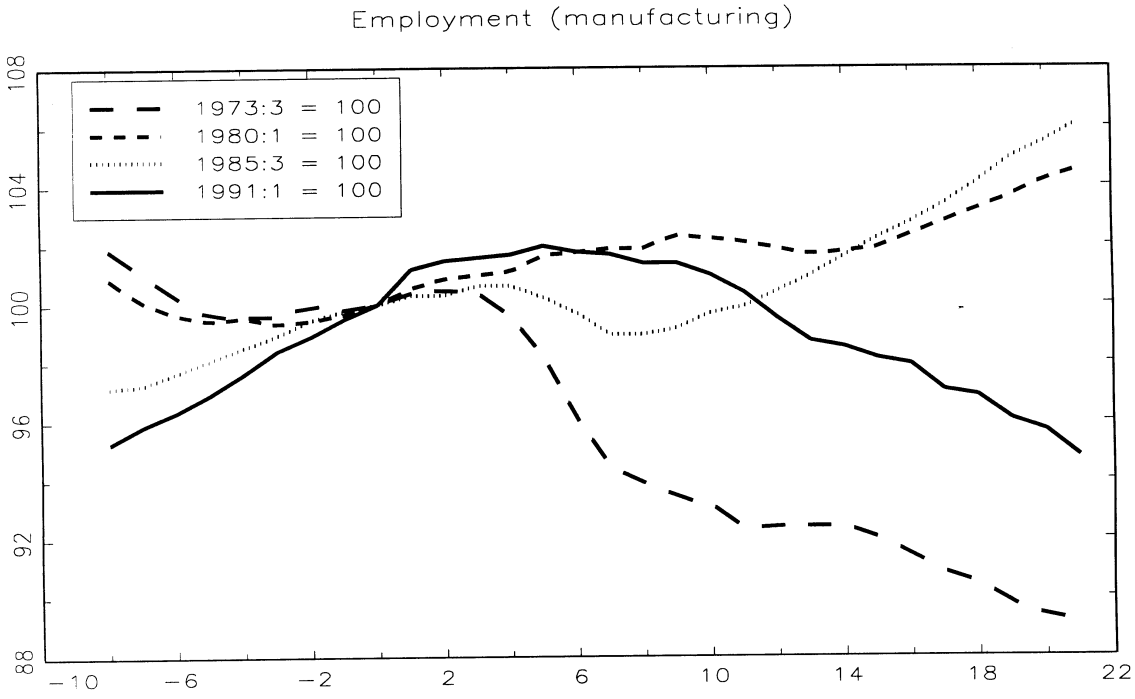


GRAPH 1.C : DECLINE AND THEN SLOW RECOVERY OF LABOR PRODUCTIVITY : AN UNPRECEDENTED EVOLUTION.

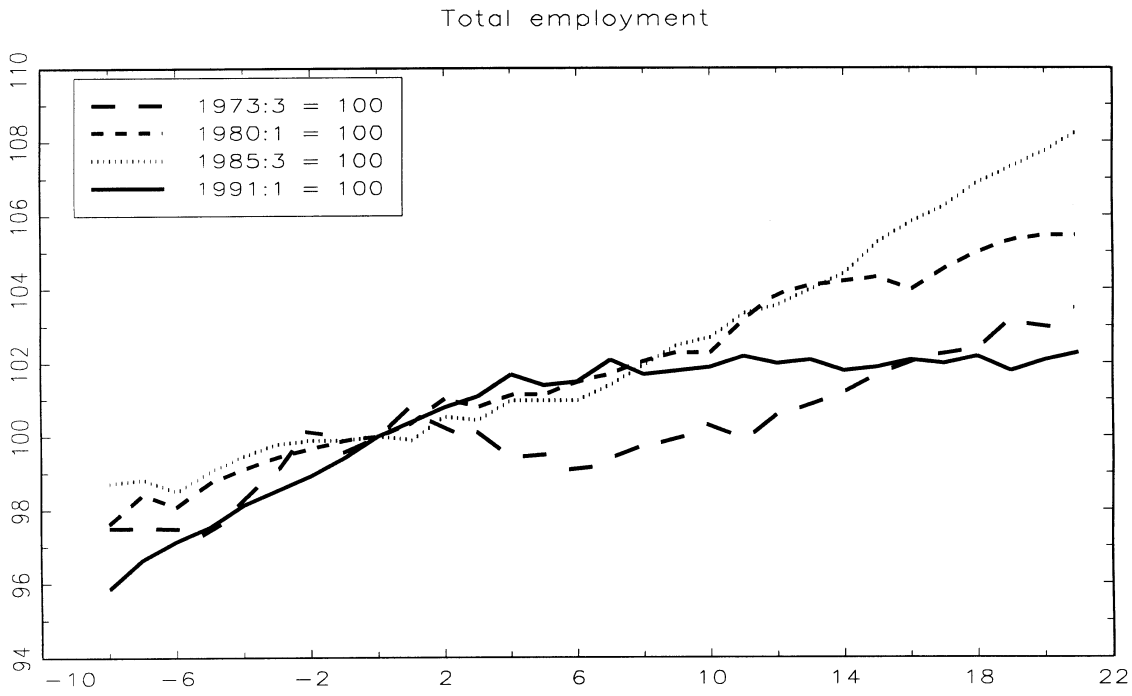
GRAPH 1.D : REAL WAGE IS FIRST NEARLY CONSTANT AND THEN INCREASES MODERATELY.



GRAPH 1.E : A SLOW EROSION OF MANUFACTURING EMPLOYMENT, BUT LESS SEVERE THAN AFTER THE FIRST OIL SHOCK.



GRAPH 1.F : TOTAL EMPLOYMENT IS STAGNATING SINCE 1992.



GRAPH 1 .G : UNEMPLOYMENT VARIES SLOWLY AND MODERATELY BUT REACHES UNPRCEDENTED LEVELS.

First of all, the severity of the fall in industrial production is intermediate between the second and first oil shocks : under this respect, the contemporary situation is not really exceptional. Nevertheless one notes that the recession is milder but longer and the recovery is rather sluggish (Graph 1.a). The absence of a return to fast growth is a novelty with respect to “endaka” (i.e. the rapid Yen appreciation after mid-1985) and the second oil shock.

The previous analysis of the JWLN has shown that *the reduction in hours worked* is the first and easiest method used by firms facing a recession. This tool has been massively used since hours have been reduced by more than 8 % with respect to the peak of the boom (Graph 1.b). Significantly enough, this short run adjustment takes place within a long run trend to work reduction duration, as a response to tensions observed during the bubble years and the recurring demand from unions to reduce duration of work. This is to say that this is a very well established method for reducing labor input as well as the wage bill in order to reduce production cost (S.I. TAKEZAWA (1995):41). This goes along with the aspiration of young workers for whom the central concern of their life is no more the company, but their personal life (S.I. TAKEZAWA (1995):158). This unexpected convergence of interests of companies and workers around work duration reduction allows therefore a lot of flexibility to the Japanese industrial sector. Note that after the second quarter 1994, hours increase again moderately in line with the mild recovery in industrial production. The need for downwards adjustments seem to have become less urgent.

But of course, this evolution has some consequences for productivity and real wage. Under this respect, the contemporary pattern has some similarities with respect to the second oil shock but the *decline of productivity* is more important and the recovery comes later (after 2 years and half) and is sluggish than ever previously (Graph 1.c). In the past, the brief recession periods were used by companies to restructure their production, develop productivity and new products in order to benefit from a strong recovery, led by export or domestic demand. This is not at all the case in the 90’s and this is a major novelty, because the growth potential of the Japanese economy may have been adversely affected by the mismanagement observed during the bubble years, the consequence of partial financial liberalization and specially over-investment in some manufacturing sectors.

However the JWLN exhibits a *large flexibility in wage formation*. Within the companyist sector, the reduction of hours worked, the moderation of wage demand during the shunto, the decrease in bonus according to past financial performance, all these factors imply a slow-down in nominal wage. For secondary jobs, the reduction of activity has a direct impact upon a very competitive wage formation. But simultaneously, after 1994, the consumer price index slow-down, faster than nominal wage, due to large over-capacity. Therefore the real wage first stagnate and then recovers faster than productivity. With respect with the pre 1973 pattern, wage trends seem to have experienced two slow-down : one very significant after the first oil shock, a milder one during the 1991 recession but 5 years later, the pattern of real wage is very similar to that was observed after the second oil shock (Graph 1.d). Even if the HWLN does not imply a formal indexing of real wage with productivity, ex post real wage evolves roughly in line with productivity trends. Consequently, income distribution between wage and profits is smoother than for most typical Fordist WLN (M. BASLE, J. MAZIER, J.F. VIDAL (1994)) : the accumulation is therefore stabilized, even at reduced level. No major and cumulative unbalance is created and this is clearly a strong point for the stability of JWLN and the viability of the accumulation regime.

The path followed by the *manufacturing employment level* is initially similar to that of the second oil shock and then it experiences a continuous decline, at slow rate than after the first oil shocks (Graph 1.e). Five years after the beginning of the recession, employment has not recovered and seems to follow a lagged and similar path by comparison with the first oil shock. Nevertheless, the reduction of manufacturing employment with respect to the peak years is less than 5 % whereas it was around 10 % after 1973. It is therefore erroneous to state that the evolution of manufacturing employment is the more preoccupying since the second World War (J. SIEGEL (1994) : the feelings and statements of observers about the novelty of this episode are built upon partial and biased memories but not necessarily statistical evidence.

The assessment is different, if *total employment* is considered (Graph 1.f) : the near complete stagnation during almost 5 years is quite unprecedented. The dynamism of employment creation in the service sector has been eroded, specially by comparison with the endaka episode.

This new pattern shows up into the evolution of *unemployment* pattern (Graph 1.g). The 90's seem to follow the early 80's, i.e. the pattern subsequent to the second oil shock : the unemployment rate starts around the same level (2,2 %) and slowly climbs up to more than 3 % in the 1994 contrary to 2,6 % in 1984. Of course, this statistic does not fully capture the under employment given the importance of labor hoarding in large firms, discouraged female workers and many other devices according which activity rates in Japan are very sensitive to general macroeconomic conditions (OECD (1990)). But these mechanisms are part of the adjustment process, which makes the resilience of JWLN. Compared with the open employment observed in Europe and to lesser extent in North America, this is quite an achievement. By contrast, unemployment has exploded in Sweden (from 2,3 % on average in the 80's to 8 % in second half of the 90's (OECD (1998, May: 195) : this is an evidence of a major crisis of the post W.W.II Swedish " régulation " mode, whereas the Japanese unemployment is still under the control of the various adjustment devices provided by the companyist and secondary WLN.

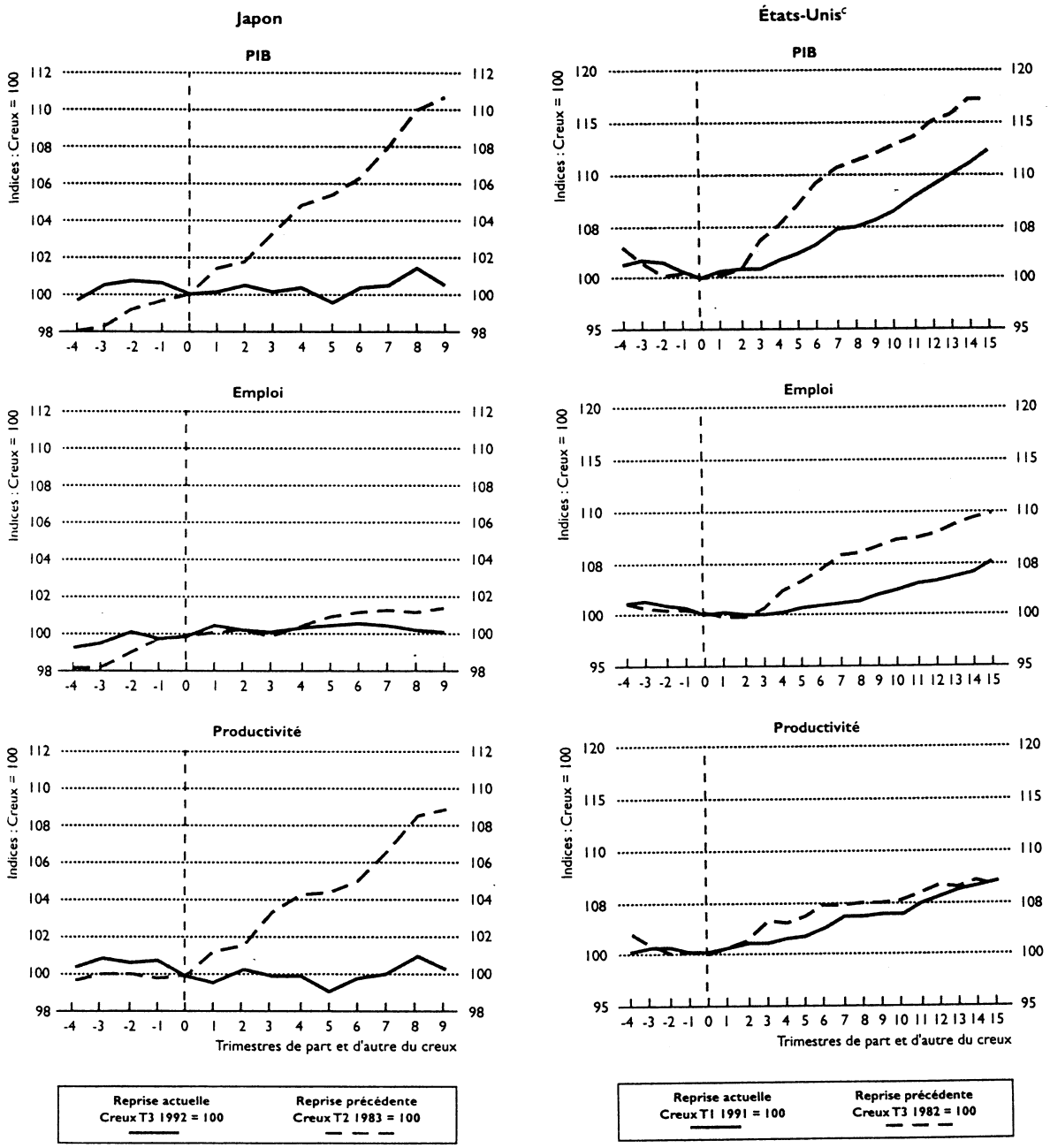
Gauged with respect to Japanese historical records, the current recession and quite sluggish recovery and then a long stagnation are not the simple reproduction of the past: this is a first evidence concerning the hypothesis that the 90's do not exhibit a typical business cycle, but that conversely, they do not display dramatic and cumulative adjustments which would destroy the past capital labor compromise about employment stability. This means that the contemporary Japanese economy is facing *a crisis of the whole "régulation" mode*, but not necessarily of the wage labor nexus. The issue would be about its compatibility with other institutional forms, specially the financial and international regimes (R. BOYER, M. JUILLARD (1996)). Similarly, do international comparisons show any specificity of Japanese evolution with respect to other countries ?

IV -2. Japan compared with OECD countries: a quasi unique pattern.

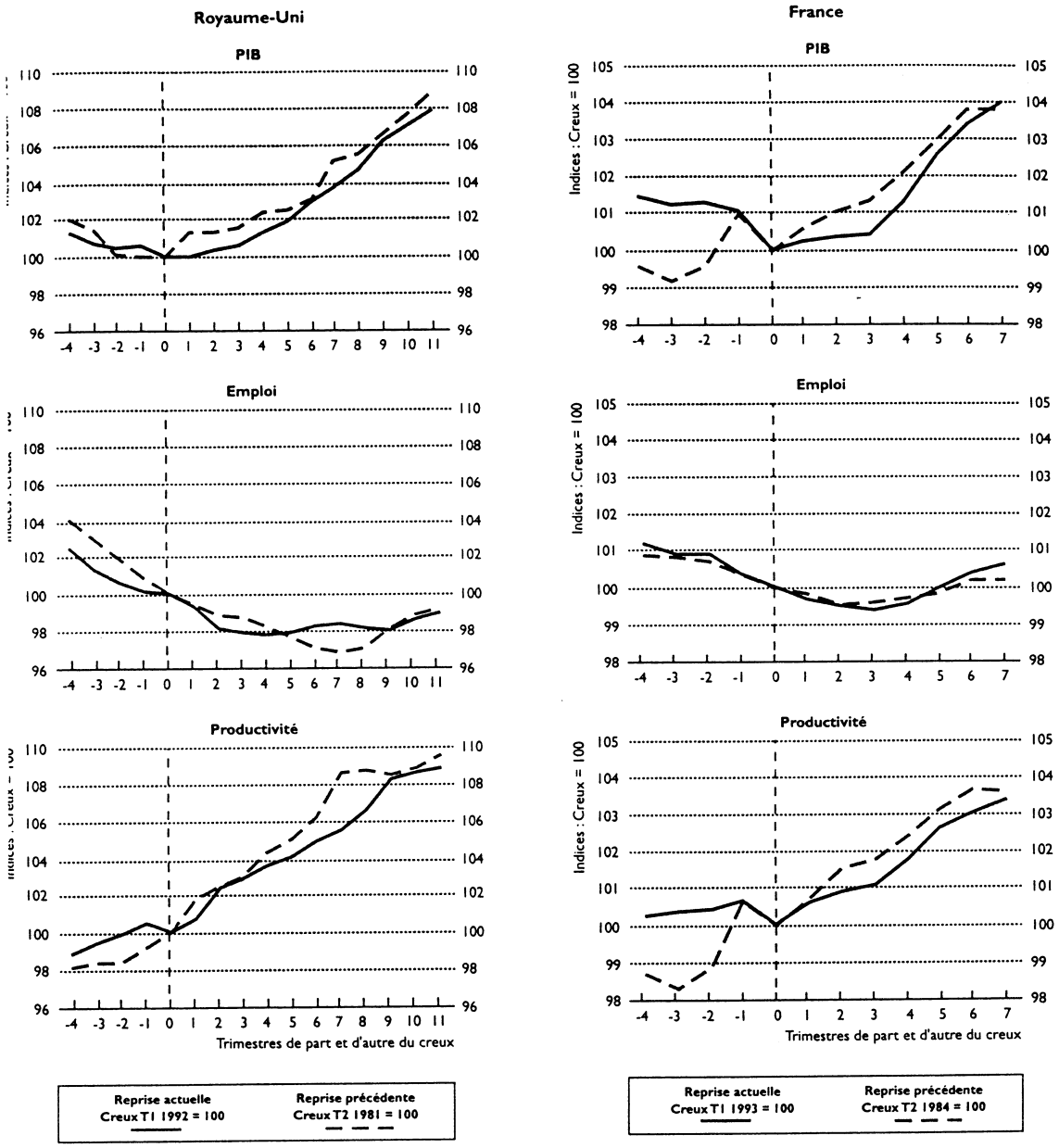
If the JWLN were converging toward a more standard " market governed " WLN, the outcome would be the emergence of strong similarities with United States, United Kingdom and other European countries. This is not at all the case, when one compares the phase of recovery after the early 90's recession (Graph 2).

GRAPH 2 : THE EXCEPTIONALISM OF THE JAPANESE CURRENT RECESSION.

a. By comparison with the US : a very sluggish recovery and a stagnating productivity.



b. The Japanese evolutions do not fit with typical business cycle observed in the UK and even France.



Source : OECD (1995) : *Employment outlook*, Graph I.1, p. 10-15.

On one side, in quite any OECD country, the recovery is less strong than during the previous similar episodes, but the discrepancy is specially important for Japan. Whereas after the second quarter of 1983, the GDP in volume had grown by 10 % during the 8 subsequent quarters, from the second quarter of 1992 to the second quarter of 1994, the same index has been nearly stagnant (Graph 2.a). In the United States, on the contrary, the recovery occurs earlier during the first quarter of 1991 and is propelling a GDP growth around 10 % after 12 quarters. The British recovery is similar to the American one, but in France, the boom is far posterior and more modest (+ 4 % after 7 quarters) i.e. intermediate between Japan and US (Graph 2.b).

On the other side, the Japanese pattern is quite distinct as far as *employment and productivity* are concerned. If traditionally employment adjustments are very sluggish in Japan (M. HASHIMOTO (1993)), this feature is still more overwhelming from 1992 to 1994 : total employment is kept nearly constant (Graph 2.a). This pattern is unique since employment is growing by 8 % over 4 years in the US, even if the so-called " job creating machine " has taken more time to be effective than during 1982 recovery. United Kingdom and France exhibit a U-shaped evolution, which is again different from the Japanese. But the most striking novelty is the near stagnation of average productivity in Japan during more than 4 years, which is not observed elsewhere. In the US, productivity follows exactly the same pattern than during the 80's and in UK the recovery is significant and of the same magnitude. In France, productivity growth is only marginally inferior to that observed during past recoveries...even if the objective for employment policy is to improve the labor content of growth.

Therefore, *Japan is far from converging* toward a standard pattern for growth and labor market adjustments. Employment continues to be adjusted very slowly and partially...but productivity is no more increasing when the recession stops, mainly because it is not followed by a sharp and clear recovery as it used to be the case in the past. According to this very crude statistical evidence, the danger for the JWLN would be not so much entering into a *cumulative and fast destruction* than *economic stagnation* : near stability for production, employment and productivity...quite a new phenomenon for the Japanese economy. According to a second provisional conclusion, labor market and external adjustments have not been more intense than in the past and do not resemble at all to the Anglo-Saxon pattern, which should be the case if the secondary WLN were continuously replacing the companyist WLN.

V - HAS THE JAPANESE WAGE LABOR NEXUS BECOME INCOMPATIBLE WITH AN EVOLVING "REGULATION" MODE?

The incompatibility between the institutional architecture and economic adjustments may take several forms. The last severe unbalance happens when an exceptional shock cannot be dealt with within the existing WLN. Then the crisis becomes more severe if its various components do not form anymore a coherent system, given the external context of the period. At a still higher level, the WLN may be internally coherent but unable to cope with some long run transformations occurring in the " régulation " mode. Finally, according to a old but still stimulating marxian hypothesis, the very success of the JWLN may have led to its endogenous demise, quite independently from any disturbance or constraint emanating from the international economy. Let us examine successively these four hypotheses.

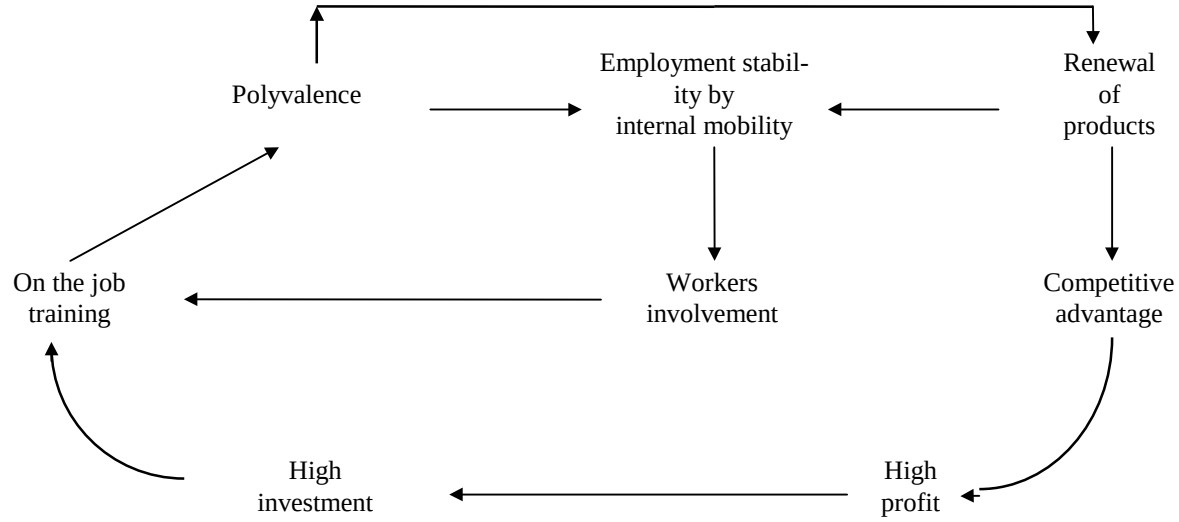
V -1. The economic slow-down puts new pressures upon the institutional forms, specially the Wage Labor Nexus.

There is a third source for a structural crisis of the JWLN. Back to the 60's and 70's, its configuration was calibrated and tuned in order to cope with the economic fluctuations associated to the " régulation " mode. " Each society has the economic fluctuations of its economic structures " to quote the famous statement by Ernest LABROUSSE which could be the motto of "Régulation" Theory (R. BOYER, Y. SAILLARD (1995): 21-29). The JES was then fully functional with respect to the prevailing accumulation regime (Figure 3.a). The virtuous circle associating on the job training, polyvalence, employment stability and workers involvement used to allow rapid productivity increases and after 1973 a renewal of products in order to keep and extend the competitive advantage of the Japanese economy. Given the high growth rate and minor economic fluctuations, job stability was not at all a constraint and was an ingredient for a high profit and high investment economy.

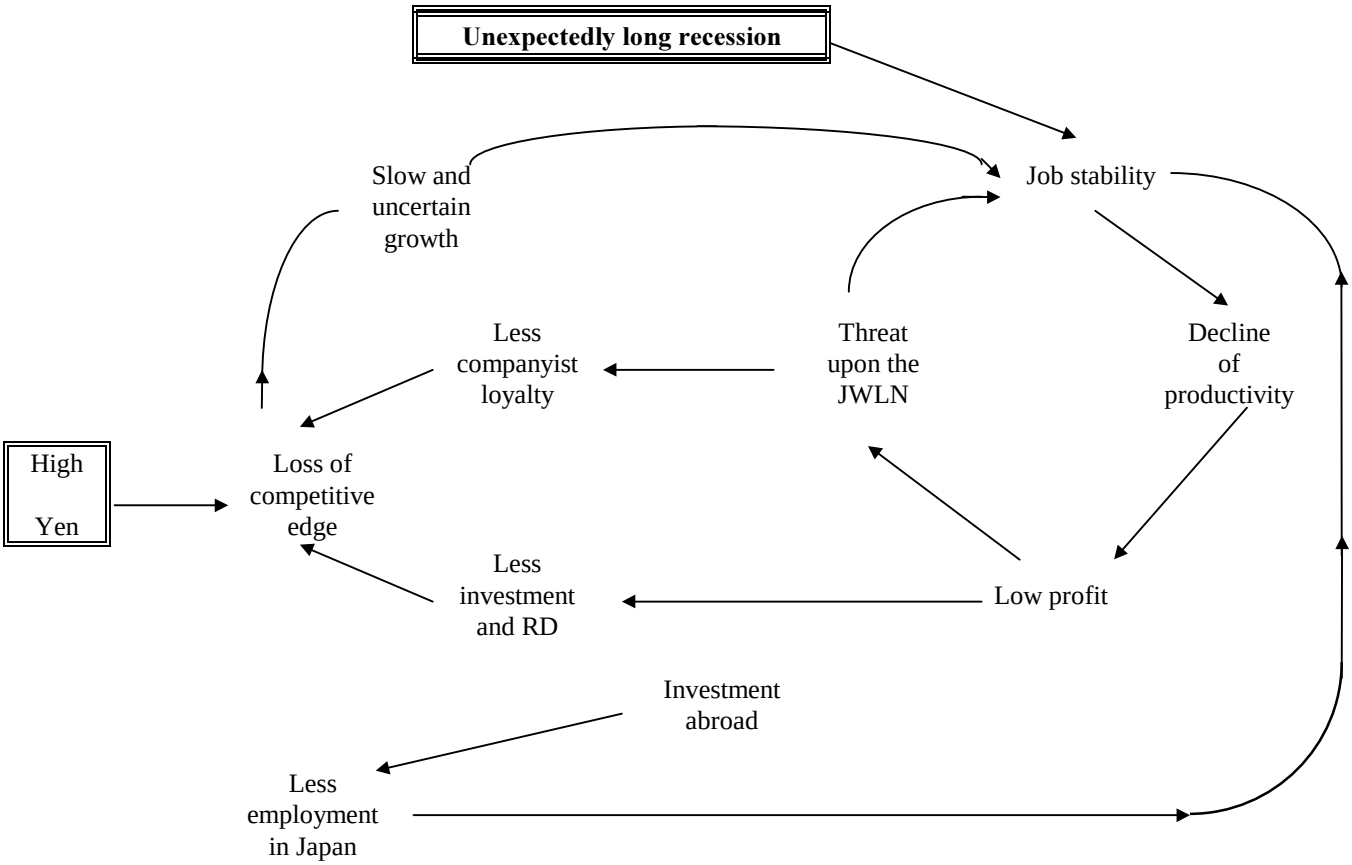
But the Japanese economy has become more and more dependent from the state of the international system and the evolution occurring in the United States. On one side, the Yen is becoming a key currency around the mid 80's and consequently, its exchange rate is no more

FIGURE 3 : FROM A VIRTUOUS CIRCLE TO A STRUCTURAL DESTABILIZATION

a. THE VIRTUOUS CIRCLE OF JAPANESE WAGE LABOR NEXUS



b. UNDER SOME CIRCUMSTANCES, IT MAY BECOME A VICIOUS CIRCLE.



governed by the competitiveness of the Japanese manufacturing but by the vagaries of international finance. On the other side during the 80's, just because the banks and the financial system were piling up large reserves, minimal reforms had to take place, under the general pressure toward financial deregulation (in the Anglo-Saxon meaning of the term). This led to an unprecedented speculative boom in which the housing prices (OCDE (1994): 76-119), the stock market indexes and the debt of the firms skyrocketed. When the bubble burst out, a lot of " non performing assets " have been imposing an heavy burden on the financial situation of the banks and the manufacturing sectors.

Given this new context, the JWLN is submitted to unprecedented strains. Usually recovery was triggered by an export boom. In the 90's, this source of growth is blocked by the very high Yen/Dollar exchange rate and by the de-localization of production facilities abroad. This is a bad news for the companyist WLN, since most of the Japanese exports originate from large corporation. Similarly, firms prefer to reorganize their balance sheet by reducing their debt instead of buying new equipment goods. Such a propensity is reinforced by the over-capacity inherited from the bubble years. Finally, the fast adjustment of the real wage makes Japanese households cautious in their consumption decisions, whereas the relative recovery of the construction of private houses is not sufficient to compensate the other deflationary pressures. All these factors are adding up in explaining the absence of any strong recovery, in spite of the succession of four large programs of public spending.

Thus, a possible vicious circle could now develop from the " régulation " mode to the WLN and conversely (Figure 3.b). An unexpectedly long recession makes quite apparent the static inefficiencies possibly associated to employment stability : productivity has to be kept constant in order to continue to provide the required level of jobs for the core workers. Consequently, the profit rate is lower, even if it does not collapse, which in turn explains why investment is sluggish and why some firms cut their efforts in RD expenditures. The structural component of the competitive advantage is therefore eroded. The persistently high Yen has similarly a deflationary impact upon exports, weakening the price competitiveness of Japanese manufacturers. Under such very specific circumstances, some companies, specially foreign ones may be tempted to denounce the implicit compromise about employment stability.

Is this trend general or limited to some specific firms ?

TABLE 3 : A SURVEY OF SOME CHANGES IN LABOR MANAGEMENT DURING THE CURRENT RECESSION

COMPANY	SOURCE	DIVISION OF LABOR	WORK ORGANIZATION AND CONTROL	LABOR MOBILITY HIRING AND QUITS	WAGE FORMATION	OTHERS
HONDA	**The Economist** July 9th,1994 **Japon Actualités** 6 Décembre 1994		More responsibility to individuals for new car projects	Top managers will retire early, in order to help promotion	Pay by seniority is banished and replaced by individual performance related pay	
NIPPON STEEL	**Japon Actualités** 6 Décembre 1994			Restructuring plan to eliminate 7000 jobs by 1997. Reduce excessive product diversification		
MATSUSHITA	**Japon Actualités** 6 Décembre 1994	Excessive white collar employees (30 %)	Productivity increases obtained from white collar workers			
TOYOTA	**Japon Actualités** 6 Décembre 1994	Excessive number of administrative employees		One in five administrative employees is reassigned to special projects During the hiring process, the name of the University is no more asked to applicant	Drastic simplification of wage formula	
FUJITSU **DAIEI**	**Japon Actualités** 6 Décembre 1994				Individual negotiation of annual wage increases in accordance with competence	
SONY	**Japon Actualités** 27 Juin 1994			During the hiring process, the name of the University is no more asked to applicant		
SANDOZ **YAKUHIN**	**Japon Actualités** 13 Juin 1994			For hiring the name of the University is no more asked 80 mandatory redundancies, according to firms' criteria (5th Sept. 1994)	Threat of a 25-45% wage cut if assigned workers refuse to be fired	The challenge of job stability provokes the creation of an union and management has to come back to employment security
NISSAN **KYUSHU**	**Personal visit**	High degree of automatization	Control of quality by a centralized computer system	Work reduction, transfer to other factories, reduction of temporary workers, no more hiring	No clear change	Competition with domestic and foreign factories

It is important to make now a brief survey of the transformations occurring in the contemporary JWLN.

V -2. The case for an epochal change : many firms are looking for new human resource management.

Until now, the analyses have been focusing upon society wide and major transformations in institutional forms and macroeconomic regularities. But according to RT, a sharp discontinuity as acute as the great American depression is quite exceptional. Basically, a structural crisis can be diagnosed by the inability of existing institutional forms to channel the accumulation regime and the everyday economic behavior of firms and wage earners. It is therefore necessary to dig the transformations occurring at the firms level, in the minute details of the JWLN and then derive possible global outcomes.

The following empirical evidence is derived from two series of sources : first, some personal investigation about the human resource management for some MAZDA and NISSAN plants respectively in Hiroshima and Kyushu, second newspapers (Japan Times), economic magazines (The Economist) or professional press (Japon Actualités). From this very partial information, one may get the impression that nearly all components are affected (Table 3).

Division of labor experiences two major movements. On one side, white collar employees are the main target for restructuring contrary to what happened during endaka. De facto, blue collar work had been permanently rationalized but very rarely administrative and related work. In the 91 recession, managerial, clerical, sales work have shifted from scarcity to oversupply (Japan Institute of Labour (1994: 2). On the other side, during the bubble years, some manufacturing firms have pushed automatization to a degree which nowadays appears excessive.

Labor mobility is enhanced by various measures : early retirement for top managers, restructuring the plant for Nippon Steel and MAZDA (Table 4), reorganization of administrative work in Toyota, pressure for obtaining productivity from white collar workers in MATSUSHITA. Note in passing that early retirement does not mean inactivity since most

wage earners may continue to work for smaller companies. The 1994 reform of the financing of pension funds aims to extend the duration of activity over a life time horizon. Again the dualism of the HWLN is quite important. A more surprising change relates to the routines for hiring new workers. Firms as important as TOYOTA will not ask any more to applicants the name of their University. This seems to imply the development of specific selection strategies centered upon the precise needs of the firms and the talent and competence of the applicants, and more a reliance upon the education system as a screening device.

TABLE 4 : A COMPARISON OF THE REACTION TO PREVIOUS RECESSIONS. THE EXAMPLE OF MAZDA

	FIRST OIL SHOCK	SECOND OIL SHOCK	1991 RECESSION
1. Reduction of overtime	Less hours	Same individual hours but slower pace of the assembly line	
2. Terminate temporary employees contracts			Replace temporary workers by permanent ones
3. Reduction of hiring of new graduates	Quasi vanishing of graduates hiring	Quasi no hiring of graduates	
4. Temporary assignment to other business			Rationalization of middle management
5. Transfer to other business	8000 employees are transferred to the sale department		
6. Strengthen sales	8000 employees are transferred to the sale department		800 designers and engineers are sent to the sale department
7. No overtime			
8. Temporary closure			Recurring periods of plant closure
9. Restructuring	Shift from one job to another	Large restructuring	Shift of indirect labor to direct labor
10. No recruiting	No replacement of 1500 employees du-ring 5 years		No hiring of produc-tion workers
11. Voluntary redundancy			Plan for job reduction over three years
12. Introduction to other new business			
13. Compulsory redundancy			

Source : Personal visit with the help to K. SHIMIZU, January 1995.

Wage formula used to be fairly complex and specific to each firm in order to fit with the requirement of productive organization which may differ from one firm to another (M. HANADA (1992), (1994), K. SHIMIZU (1994), (1999)). The transformations seem twofold. For TOYOTA for instance, the wage formula is drastically simplified while keeping the principle of seniority and remuneration of ability. The HONDA company has implemented a totally opposed reform since pay according to seniority is banished and replaced by individual performance related pay. For FUJISU DAIEI, the strategy is to negotiate individually annual wage increases in relation with competence. Some other companies do not seem to implement any major change for blue collars' wage but rationalize the pay system for managers and clerical work (NISSAN, MAZDA). A final remark : some firms belonging to an internationalized group seem to consider organizing a competition between Japanese and foreign plants in order to get the same production done (NISSAN, Kyushu). This means that in the long run, Japanese workers might be submitted to the same threat as the American and Canadian ones, facing possible delocalization of production to Mexico.

The case study of MAZDA allows a comparison of the present period with two previous recessions (R. BOYER, M. JUILLARD (1995 : 47)). Given the fact that the ordering from 1 to 13 goes along with the severity of the reduction of sales, the 1991 recession is unprecedented since the firm was obliged to stop hiring and announced a program of job reduction for the years 1994 to 1996. No compulsory redundancy was required, but the condition seems to be a recovery in sales. More generally, previously quite successful exporting firms seem to experience unprecedented difficulties which induce them to screen out all their previous labor management routines.

From a more structural point of view, one could argue that the strains within the JWLN are so strong and numerous that new forms are bound to emerge from this trial and error process (Table 5). Let us mention some of them.

The existence of *the same status for white and blue collars* has played major role in stimulating the commitment of Japanese blue collar workers, more efficiently than typical Fordist devices. Nowadays this system is suffering from a very low productivity of white col-

TABLE 5 : THE OLD AND THE EMERGING WAGE LABOR NEXUS

THE JWLN	THE CURRENT DISEQUILIBRIA/TENSIONS	THE NEW FORMS
1. Similar status for white and blue collars	Low productivity of white collars, high pressures over blue collar	Rationalization of white collar jobs, reductions of middle management
2. Synchronization of hiring out of Universities and schools delivering standardized basic knowledge	Need for a continuous hiring process of more diverse talents	***Tsunen saiyô*** 1. « Recruit the person needed when needed » 2. Look for specific competence and do not follow conventional university hierarchy.
3. Professional training by internal mobility	Some skills nurtured by the firm may become obsolete	More eclectic approach about competence : in house training, diverse background hired at mid career, creation of professional tracks for specific skills.
4. Institutionalized wage system based on collective competence enhance-ment	Excessively complex systems resulting from historical stratification	Either drastic simplification (Toyota) or bargaining of individual annual wage (Honda)
5. Synchronization of wage increases across firms and industries	Due to industrial restructuring the productivity performances and abilities to pay are more diverse	Wage earners expect more wage differentials and enterprise unions may follow
6. Job stability for core workers but large variations in hours and for temporary workers	Reduction of stable jobs due to the new pattern for macroeconomic evolution	Add a professional labor market to the internal career Restrict job stability to core competence for the firms
7. Organized mobility within the large firm during the whole career including downwards	Growth slow-down makes adjustments more difficult Excessive diversification of production in reaction to job preservation	Mix internal mobility along with more active labor markets (mid career change)

lars, since it is much more difficult to measure their productivity, whereas sophisticated formula were designed in order to elicit commitment and quality of work from manufacturing workers The issue is now to find out methods in order to get such a rationalization from middle management : will FAYOL replace TAYLOR and FORD among Japanese managers ?

The synchronization of hiring when applicants complete their diploma out of schools or Universities has been a long established tradition at the origin of the creation of the companyist WLN (see section II.2, supra). But of course, some firms may need a continuous hiring process of more diverse talents than calibrated by the present education system. Therefore, some firms have decided to " recruit the person needed when needed " and more practically to look for specific competence, assessed quite independently from the valuing process by college and university. If fully adopted by a majority of firms, this would create the premises of a professional labor market, at odds with the present HWLN.

The formation of competence was obtained mainly by internal training. Given the emergence of new professions which cannot be learnt within the firms and conversely the obsolescence of some previous skills (for instance those of foremen and middle management), some firms may conceive to have a much more eclectic approach about skill formation : in house training for some workers, mid career hiring for some required talents, creation of professional tracks common to several firms for some other specific skills. But of course, this is not an easy process, since to be mobile, professional workers have to display transferable skills, i.e. somehow standardized by norms or common training. One has to remember than the companyist WLN was specially designed in order to curb-down the market power of such an elite of wage earners. Furthermore, what would happen if the very steep wage career offered by the large company was challenged by professional careers offering far higher starting wage ? Passing from one skill labor nexus to another is not an easy task at all (R. BOYER, E. CAROLI (1993)).

Similar and related problems emerge about *wage formation*. Possibly formula inherited from the past have to be updated or simplified. Nevertheless, it is not evident that a purely individualistic bargaining process could easily and quickly replace the old system. First, how to assess competence without explicit rules or procedures to make them comparable across individuals, sectors, regions ? Second, if wages were to be negotiated according to firms'

ability to pay and individual competencies, this would induce large wage differentials and raise equity problems...which used to be solved by previous wage formula and the role of enterprise unions. Third, the ideal of individual bargaining is far from being diffused in Japan ; therefore major uncertainties could result from a too fast shift toward a full individualization of wage.

Job stability could be granted to less than a third of the working population given the fast growth and its stability during the Golden Years. As noted earlier, if stagnation and/or large fluctuations prevail, the firms have to be much more careful in warranting life employment. Nevertheless, as in any country, the core competencies of a company cannot be built by pure market competition and mobility : a minimal stability is necessary to benefit from learning by managing, learning by engineering, learning by doing. Therefore, a restriction of job stability to this core workers would not be detrimental to firms performance quite on the contrary. The creation of professional markets for specific skills (accountants, experts in computer science, marketing,...) would be another solution in order to instill innovation and mobility in some aspects of companies management.

Finally, *organized mobility* has been helpful in the past and has prevented the surge of unemployment, which is plaguing Europe and to some extent North America. Nevertheless, external mobility should not be limited to downward mobility at the end of a career but could include mid career changes... provided that pure market relationship do not invade the functioning of labor markets. Given the exceptionally long 1991 recession, it is not really surprising if companies search for alternative or additional methods for adjusting employment to the level required by macroeconomic evolution.

These numerous changes in labor management call for some interpretations. Do they represent a new epoch in the permanent (or more precisely recurrent) adaptation of the JWLN to changing internal and international circumstances, in such a manner that the whole architecture will not be drastically transformed ? Or on the contrary, do these changes point out a radical move toward a totally new system and possibly convergence towards an Anglo-Saxon WLN, governed by market relationships ?

It is time to check if all these changes observed at the level of scattered firms or anecdotal evidence do alter the main macroeconomic regularities associated to the JWLN.

VI - DO THESE CHANGES SHOW UP INTO AGGREGATE RELATIONS ?

Let us take seriously the hypothesis that the capital labor compromise is irreversibly eroded by all the factors previously described. Then, the last 4 years from 1991 to 1995 would mean a phasing out of past determinants in employment, hours and wages : faster adjustments of both employment and hours and more competitive forces for wage formation. In order to check this prognosis, some recursive estimates have been run over the period 1965-1995, using semestrial data extracted from OECD statistics..

VI -1. Employment : paradoxically more stability after 1973, but seemingly no reversal after 1991.

Manufacturing employment is assumed to adjust with significant lags according to expected and unexpected levels of production. Logically, firms should use hours to react to unexpected variations in production but expand employment if the growth in production is expected and still more considered as permanent. By lack of direct measure, expected output is estimated by a three semesters lagged autoregressive model (Insert 1). This is a simplified estimate with respect to the econometric study run by M. HASHIMOTO ((1993): 153). Instead of estimating employment, hours and inventories, only the variables related to the JWLN are considered here.

Previous research had already pointed out the very slow adjustments process typical of the Japanese manufacturing sectors, with still more sluggish processes after 1973 (R. BOYER (1992): 46). These two results are confirmed even if the data are semestrial and no more annual and cover an extended period until 1993. Three major conclusions emerge :

° On an annual basis, *the speed of adjustment of employment is extremely low* since the lagging term is around 0.966 : Japan is quite exceptional among OECD countries but it is not a real surprise since the companyist compromise deals precisely with the issue of employment stability. Smaller firms too seem to adjust quite slowly to the variation in their environment. Nevertheless it is surprising, and not very convincing, that the impact of unex-

pected output is higher than that of expected out put (0.117 versus 0.004). M. HASHIMOTO had already obtained such a paradoxical results, i.e. the same impact for both shocks.

INSERT 1 : AN ECONOMETRIC ANALYSIS OF MANUFACTURING EMPLOYMENT

In order to get an idea about the adjustment mechanisms affecting employment, we estimate the following equation:

$$N_t = \underset{(1.90)}{0.159} + \underset{(24.0)}{1.783}\, N_{t-1} - \underset{(-11.3)}{0.817}\, N_{t-2} + \underset{(2.1)}{0.004}\, Q_t^* + \underset{(4.32)}{0.117}\, Q_t^u + e_t$$

$R^2 = 0.99$ $\quad D.W. = 1.99$ (t-statistics in parentheses)

where N_t represents the logarithm of employment in period t, Q_t^*, the logarithm of expected production in period t, and Q_t^u, the logarithm of unexpected shocks in the same period, such that $Q_t = Q_t^* + Q_t^u$. Data run on a semester basis from 1965:1 until 1994:2.

Expected production is computed on the basis of the forecast of the following autoregressive model:

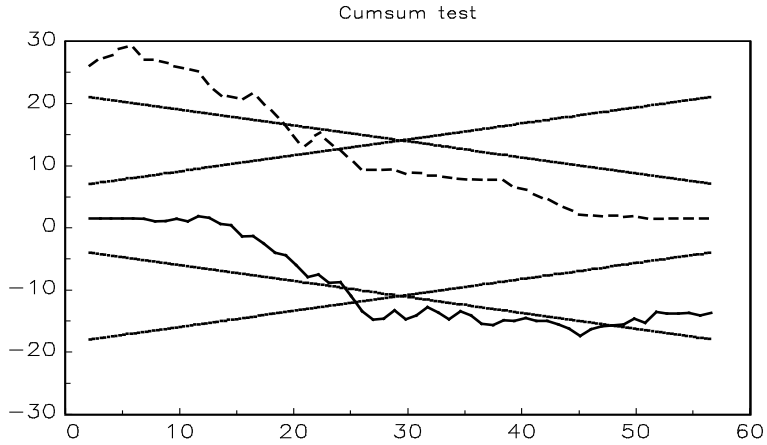
$$dQ_t^* = \underset{(1.8)}{0.01} + \underset{(14.1)}{1.503}\, dQ_{t-1} - \underset{(-8.0)}{1.211}\, dQ_{t-2} + \underset{(4.81)}{0.501}\, dQ_{t-3}$$

$R^2 = 0.79$ $\quad D.W. = 1.93$

Unexpected shocks are computed as $Q_t^u = Q_t - Q_t^*$.

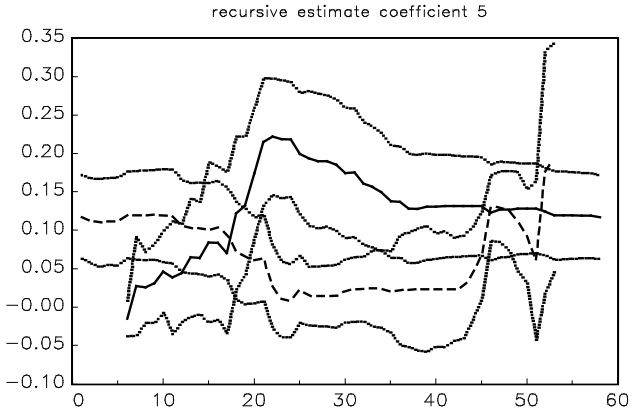
The graph of the CUSUM statistic indicates that this relation is most likely not structurally stable:

GRAPH 3 : CUSUM TEST FOR EMPLOYMENT



The recursive estimates of the elasticity of production shocks indicate a particular volatility of this parameter between the different periods.

GRAPH 4 : ELASTICITY OF PRODUCTION SHOCKS : RECURSIVE ESTIMATES FOR EMPLOYMENT



° Running recursive regressions of the same relation, backward and forward, it turns out that the relation is likely not structurally stable all over the period (Graph 5, Insert 3). The breaking down of the relation is likely to take place around 1974, i.e. after the first oil shocks, which confirms some previous estimates. The elasticity to production shocks is particularly volatile : first increasing until 1974 and then decreasing and stabilizing according to forward estimates (Graph 4, Insert 1). *The lagged coefficient for employment is higher after 1974*, which implies a larger employment stability. The result is interesting since it seems to contradict conventional theory : given a clear slow-down in the growth rate and larger fluctuations firms should have tried to flexibilize their employment. Quite the contrary happened, because this reinforcement of life employment was the counterpart of the acceptance of technical change, innovation and wage moderation.

° *No clear breaking-down has already happened during the 1991 recession*. The statistical tests do not allow to diagnose any structural change for the most recent period. The evidences gathered earlier about human resources management would imply a higher speed of adjustment. By contrast, a repetition of the first oil shock reaction would be associated to the permanence or even the strengthening of job stability. For the time being (i.e. only six semesters, but the results still hold adding some estimates for 1994-1995), a renewed flexibility in employment has not shown up at the aggregate level of employment manufacturing.

Some more desegregated statistical data confirm that employment tenure has not be eroded during the 90's (M. MORISHIMA (1995): 30). For both blue and white collars, large firms and smaller ones, the fraction of workers employed for more than 20 years has increased. Of course, given the succession of cohorts, a possible flexibilization may take place only for incumbent workers, which show up by the fact that the fraction of workers with less than 2 years seniority has increased from 1982 to 1992 between 2 or 3 % for each category. Clearly, if life time employment is eroding, it will take a long time, i.e. the renewal of workers generations and the transformations of companies' human resources management. This could be an explanation why these new policies do yet appear into macroeconomic statistics.

INSERT 2 : AN ECONOMETRIC ANALYSIS OF MANUFACTURING AVERAGE MONTHLY HOURS

We estimate the following equation:

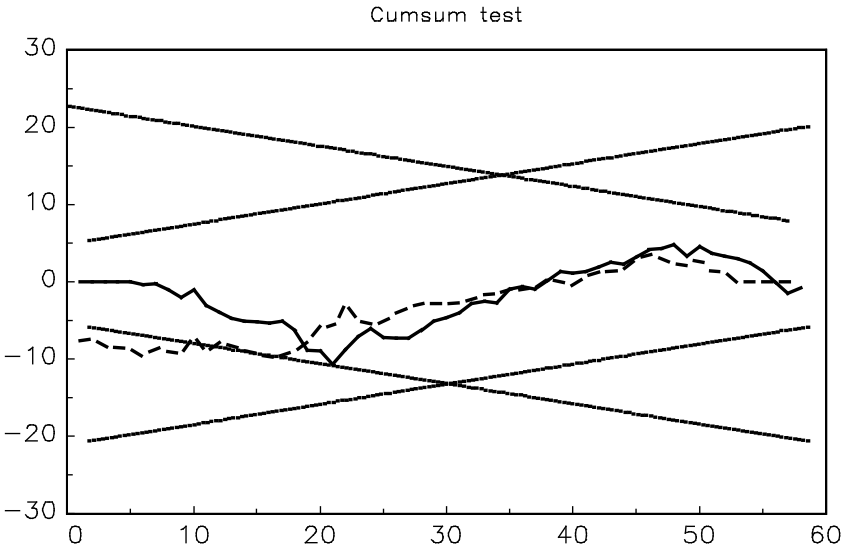
$$H_t = \underset{(3.47)}{0.561} + \underset{(12.7)}{1.236}\, H_{t-1} - \underset{(-3.64)}{0.358}\, H_{t-2} - \underset{(-1.92)}{0.007}\, Q_t^* + \underset{(5.43)}{0.185} Q_t^u + e_t$$

$$R^2 = 0.97 \qquad D.W. = 2.45$$

where H_t represents the logarithm of average monthly hours in period t, Q_t^*, and Q_t^u are as previously defined. Data run on a semester basis from 1965:1 until 1994:2.

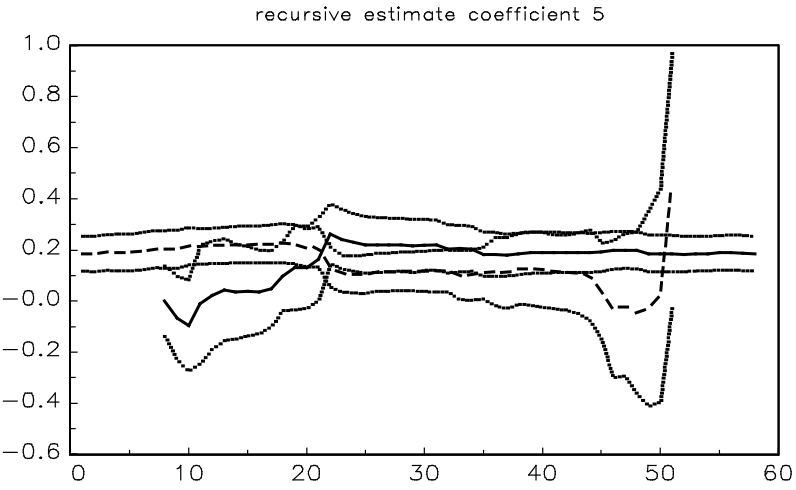
The graph of the CUSUM statistic indicates that this relation is most likely structurally stable.

GRAPH 5 : CUSUM TEST FOR HOUR



Although that there is no indication of significant structural change in the stastistical change, it is not without interest to examine here also, the recursive estimates of the elasticity of unexpected shocks on the average monthly hours.

GRAPH 6 : ELASTICITY OF UNEXPECTED SHOCKS ON HOURS



VI -2. Hours : their variations are used in order to respond to unexpected shocks

When the same econometric exercise is repeated for hours, different results emerge but they seem to confirm again the strength of the companyist compromise : of course, extra hours used to deliver an extra income to workers but it is clear that they have to be varied according to the demand addressed to the firm. There is thus a strong difference with European countries or North America, where work duration is the outcome of public legislation and/or collective bargaining.

° Globally over the period, *hours are more flexible than employment* (Insert 2). On one side, inertia of hours is smaller than inertia in employment (0,878 against 0,966 over one year period) and on the other side, the impact of unexpected output shocks is higher (0,185 against 0,117). This is a the expected hierarchy since it is easier to vary hours for workers already hired than to hire new workers due to screening, hiring and training costs. This hierarchy is the more important, the more uncertain the economic environment is (R.H. TOPEL (1982)). This is specially so for the Japanese HWLN (M. HASHIMOTO (1993), Table 3 comparing US and Japan) : employment near stability has to be compensated by more freedom in adjusting hours.

° Contrary to what was observed for employment, there is seemingly *no structural change* for hours over the whole period 1963-1993 (Graph 5, Insert 2). Apparently, the elasticity of hours with respect to unexpected shocks of output is increasing at the end of the period but this does not yet show up into statistical tests (Graph 6). Two opposite explanations can be given for such a finding: either it is an unfortunate property of the statistical tests, or it is the emerging, but still embryonic, evidence of a new pattern for hours management. It is specially difficult to detect structural changes in real historical time...and this is a core difficulty for RT both from an econometric stand point (M. JUILLARD (1995)) and from a theoretical point of view (J.A. CHARTRES (1995)).

° After all these results are not so surprising since they express *the core of the post W.W. II capital labor accord*. When production slows down and then stagnates in the 90's, firms have interest and are entitled to reduce drastically working hours (see Graph 2. b), since

INSERT 3 : AN ECONOMETRIC ANALYSIS OF WAGE DETERMINATION

The results of estimation are as follows:

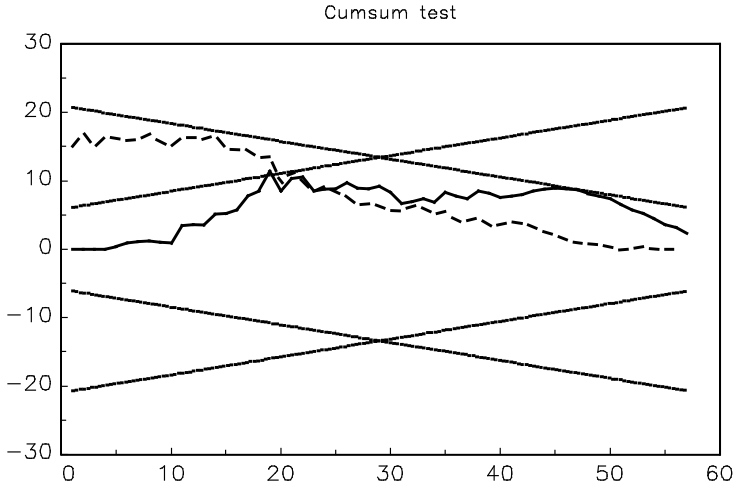
$$\overset{\circ}{WM}_t = \underset{(-3.78)}{-0.016} + \underset{(6.28)}{0.067} V_t / U_t + \underset{(8.46)}{0.769}\, \overset{\circ}{PC}_{t-1} + \underset{(2.82)}{0.222}\, \overset{\circ}{\Psi}_{t-1} + e_t$$

$$\overset{\circ}{R}^2 = 0.84 \qquad D.W. = 2.81$$

where $\overset{\circ}{WM}_t$ indicates the growth rate of manufacturing nominal wage in period t, V_t / U_t is the ratio of the number of vacancies to the number of unemployed people, $\overset{\circ}{PC}_{t-1}$ is the rate of growth of the consumption price index in the previous period and, $\overset{\circ}{\Psi}_{t-1}$, the growth rate of apparent labor productivity in the previous period. The estimation was done on semester data from 1965:2 until 1993:2.

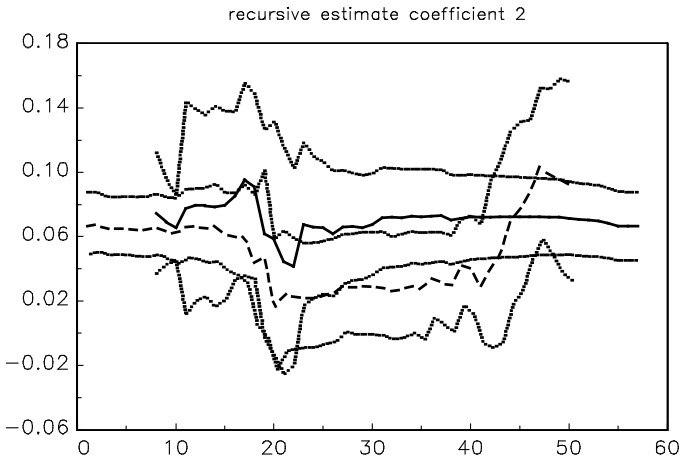
The graph of the CUSUM statistic indicates no suspicion of structural instability:

GRAPH 7 : CUSUM TEST FOR WAGE FORMATION

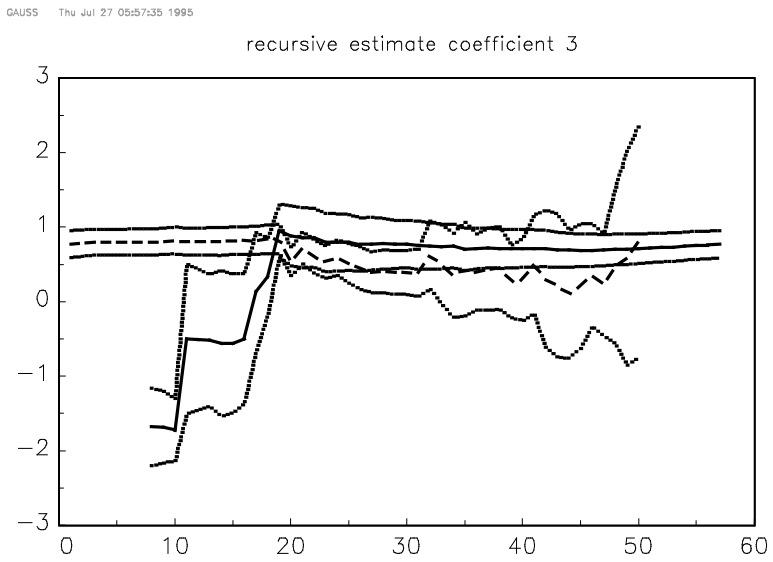


The recursive estimates of the coefficient on V_t / U_t are:

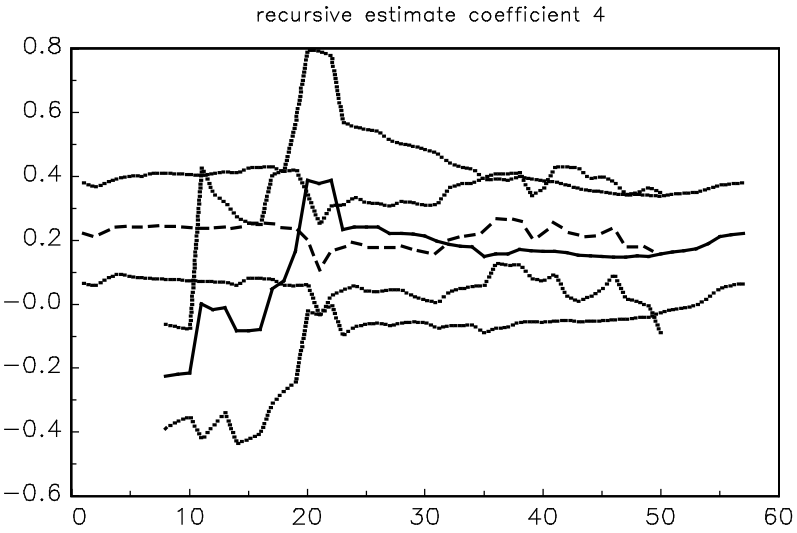
GRAPH 8 : RECURSIVE ESTIMATES FOR THE COEFFICIENT V_t/U_t



GRAPH 9 : RECURSIVE ESTIMATES FOR PRICE INDEXATION $\overset{\circ}{PC}_{t-1}$



GRAPH 10 : RECURSIVE ESTIMATE FOR PRODUCTIVITY INDEXING



working time has always been flexible at the requirement of firms. Incidentally this is a direct consequence of the Toyotist model according which production is demand pulled and no more technology pushed (B. CORIAT (1991)) : working time has to be adapted accordingly. On the other side, young workers have expressed their aspiration to more personal life, whereas in the 80's some unions had demanded large hours reduction in order to compensate the reluctance of new generations with respect to manufacturing work. There is therefore a room for adjusting drastically hours...at the possible cost of less household income and therefore less consumption and domestic demand, if Japan were still a wage led economy (S. BOWLES, R. BOYER (1995)). But more likely an export let growth regime is prevailing (H. UNI (1994)).

But this flexibility in hours variation is usually reinforced by a large sensitivity of wage formation to the macroeconomic context and firms financial position. Does the post oil shock wage formation still apply in the 90's ?

VI -3. Wages : a built in flexibility which muddles through the 90's.

Ideally, testing the stability of the HWLN would imply econometric tests of wage formation according to the size of the firm and the status of workers (sex, education level), since this segmentation has been proved significant and important in explaining average wage formation (A. EBIZUKA, A. ISOGAI, Y. UEMURA (1995)). For simplicity sake and lack of very recent data, the tests have been carried over only for the average wage. Basically, the same formula as found in Economic Planning Agency (1994 : 176) is estimated for a longer period i.e. 1963 to 1993 (Insert 3). Three major conclusions point out :

° Over the whole period, *the basic hypothesis derived from the HWLN* is not rejected by the econometric tests. On one side, any disequilibria on the secondary labor market has an impact on wage formation. For instance, during the bubble years, labor scarcity has triggered nominal wage increases, but conversely the slack which appeared afterwards has curbed down nominal wage. On the other side, within the companyist sector, wage earners benefit from a form of profit or alternatively productivity sharing. During the 90's, the phasing out of productivity induces therefore a quasi-stagnation of real-wage (Graph 2.d) and introduces another built in flexibility. This two factors provide a rather satisfactory explanation of the evolution of the Japanese average wage and point out more adaptability than typical

Fordist formula. Implicitly this is an advantage for the resilience of employment stability which would be not be viable if wage were highly rigid.

° The wage formation seems stable all over the period, with *no clear breaking-down* of the econometric relation (Graph 7, Insert 3). Recursive estimates for the coefficient of labor market disequilibria seem to show first an increase at the end of the 60's and then a decline after the first oil shock (Graph 8, Insert 3). Wage indexing is more difficult to interpret (Graph 9) may be because such a mechanism is only indirect, contrary to what was observed in typical Fordist WLN. Note that the under indexing imply that when consumer prices slow down, wage earners may benefit from an extra real income, which provides a self equilibrating mechanism against possible debt-deflation-depression " à la I. FISHER " (industrial prices tend to decrease and consumer prices to be stable since the 90's in Japan).

° Contrary to previous findings by Japanese regulationnists (H. TOYAMA (1994), Y. HIRANO (1992)) it is difficult to perceive any strengthening of productivity sharing after the first oil shock, since the econometric evidences is quite weak (Graph 10, Insert 3). Again this could be interpreted by the importance of employment stability, more than wage increases for salarymen after the first oil shock. Nor do we observe any sharp breaking-down in the 90's, which tends to invalidate the generality of the change in wage formation, as observed in scattered companies (Table 3, supra). Either they are isolated cases quite atypical or they have not yet had time enough to affect wage formation at the macroeconomic level. In any case, the catastrophic vision provided by Insert 2 is quite extreme...at least as far as past historical record is concerned.

Here comes out a puzzling paradox *: drastic changes into the HWLN are taking place everywhere...except in the macroeconomic statistics !* This would be the equivalent for the SOLOW paradox : « Microelectronics is everywhere in American everyday life, but does not show out into official statistics ». In any case, it is important to note that other research seems to confirm the fact that the Japanese employment system has been less severely affected than usually stated in the financial and economic journals. Internal mobility has been intensively used (D. DIRKS (1998)), in some cases the adjustment of employment has slow-down because it is the core of the companyist compromise (M. NOMURA (1998)), whereas the service sector display a structural flexibility due to a large variety of complementary labor con-

tracts (Th. RIBAULT (1998)). Clearly, the Japanese employment system is in transition, but it is not totally and quickly transformed (D. DIRKS, J.F. HUCHET, Th. RIBAULT (1999)), and the Japanese business management style is hybridizing, by mixing some contractual principles with the conventional methods (H. HASEGAWA, G.D. HOOK (1998)). The notions and tools of RT provide a tentative explanation for this discrepancy between seemingly stable macro-economic regularities on one side, organisational and institutional transformations on the other side.

VII - AN UNPRECEDENTED CRISIS OF THE "REGULATION" MODE.

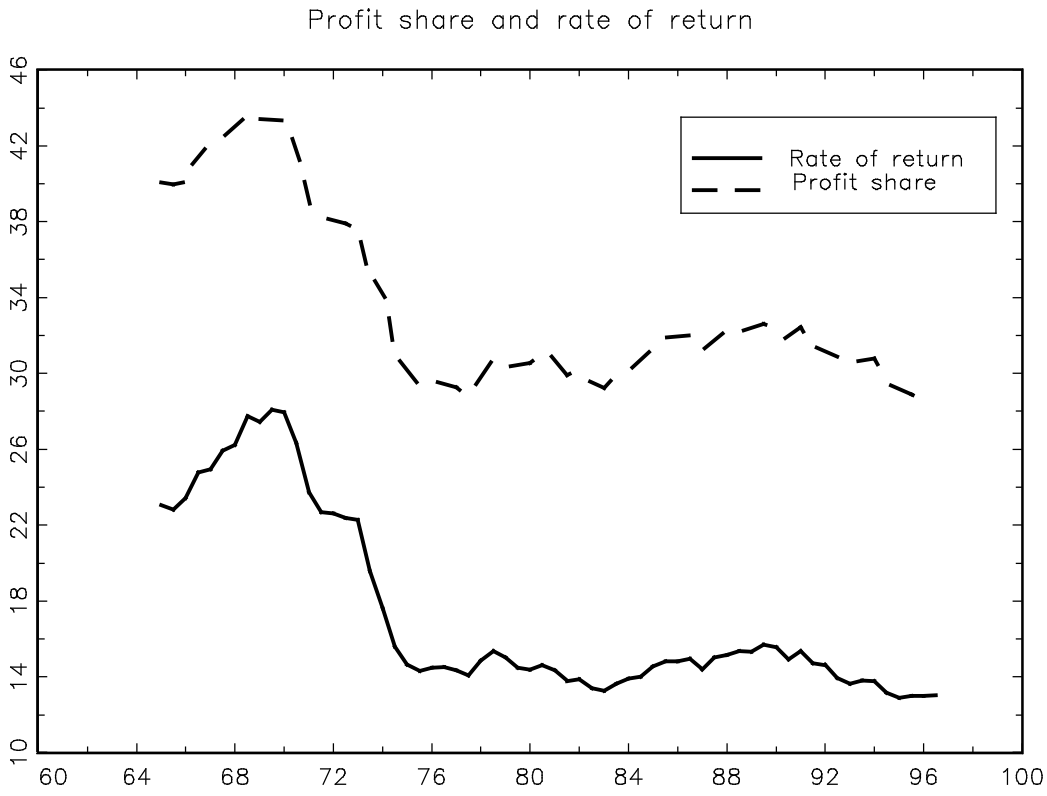
Each structural crisis is largely specific to an accumulation regime and a " régulation " mode, the cumulative collapse of the 1929 crisis in the United States being quite an exception, since then all the criteria for a structural crisis converge. Loss of stability of economic adjustments, counterproductive effects of tentative reforms in institutional forms, inability of private units to work out new compromise out of the crisis. Let us now investigate these three criteria for the contemporary Japanese economy.

VII -1. 1991-1998 : A non-reproductive cycle ?

An economic fluctuation turns from expressing a typical business cycle to triggering a possible cumulative depression when the slow-down of production, the rise in unemployment, the stiffening of competition due to over-capacity and the financial bankruptcies, far from solving the previous unbalances, do exacerbate them. In more analytical terms, the recession does not any more contribute to the self equilibrating process of the profit rate. This is then a non-reproductive cycle (S. BOWLES, D.M. GORDON, T. E. WEISSKOPF (1983)) and this constrains capitalists and workers to try to find out way out of the crisis by structural changes in the institutional forms.

If this framework is applied to the Japanese situation of the 90's, one gets the following provisional hints :

GRAPH 11 : A LOW BUT RATHER STABLE PROFIT RATE AFTER 1991



° Given the large flexibility associated to the HWLN, the economic slow-down has been associated with a parallel and highly *synchronized evolution of productivity and real wage* (compare Graphs 1.c, 1.d, supra). The recession and stagnation does not seem to have created any strong unbalance in income distribution between wage and profit. This is important compared with the oil shock for instance which had induced a drastic and permanent decline in profit shares. The bursting out of the speculative bubble has not triggered a cumulative erosion of profit share, but mainly a decline and then a stabilization.

° One of the key determinant of an accumulation regime is the *level and stability of the rate of profit*. Under this respect, the present situation is far less severe than that observed after the first oil shock. During this earlier episode, the profit rate decreased from 28 % in 1970 to 14 % in 1976, i.e. was halved (Graph 11). No surprise then if the accumulation rate was divided by two, along with the growth rate, in accordance with the common teachings of post Keynesian growth theory as well as classical and Marxian analyses. The profit rate recovered mildly only at the end of the bubble years around 16 % and conversely has been

declining quite moderately during the present crisis. The implicit growth rate associated with such a low profit is lower than previously, but no cumulative forces implying a constant decline of profitability seems to be operating.

Thus, from a purely classical or Marxian point of view, the cycle beginning in 1991 is not at all exceptional and does not point out towards a cumulative depression. Of course, some financial losses are not apparent and may trigger deflationist forces in the future, but they have been mitigated by the noticeable flexibility of the HWLN.

VII -2. Diverging evolution between the wage labor nexus and other institutional forms.

But according to RT, a spectacular economic collapse is not a necessary condition for the entry into a structural crisis. It is sufficient to observe that the institutional forms are continuously eroded by the very effect of the functioning " régulation " mode. Therefore in the long run, the viability of the accumulation regime is blocked by the vanishing of its prerequisites. Entering into a period of stagnation and slow decay of economic institutions is also a possible trajectory, which evidences that the previous accumulation regime is over.

What is the relevant evidence for the contemporary Japanese economy ?

° Due to over-capacity in many manufacturing and service sectors, the well *ordered oligopolistic competition* of the golden years has been replaced by creeping *price wars*. For instance in the distribution system, new forms of organization have stiffened competition and eroded the old system of mark up pricing on top of official manufacturing prices. Similarly, the consumption has shifted from the search for status goods toward a more practical concern for quality and price. Consequently a slow and still embryonic process is underway in order to redraft the forms of competition. The pressures by the American negotiators and World trade organization reinforce these trends.

° *The relation with the world economy* is changing too. First export of manufactured goods is replaced by production abroad by Japanese transplants, which in the long run could bring into Japan the same disease which has been eroding the competitive edge of United Kingdom in the last century, United-States after the 60's. Second, the exchange rate which was a policy instrument is no more so, given the importance of international financial markets.

Therefore, the under-evaluation of the Yen which benefited to the competitiveness of Japan back to the 60's is now replaced by an over-evaluation with respect to the Dollar. Hence, a likely de-industrialization of Japan and the emergence of a strong financial sector, which has partially contradictory interests with the industrial capital.

° *The links between the State and the economy* seem to have changed somehow. Even if Keynesian counter-cyclical policies have never played a major role in the dynamism of the Japanese economy, they used to exert some influence in smoothing short run macroeconomic evolution. Surprisingly many reflationary programs have been decided all over the period, on August 1992 (+ 2,3 % of GDP), April 1993 (+ 2,8 %), September 1993 (+ 1,3 %), February 1994 (+ 3,3 %), September 1995 (1,1 %), and after a period of budgetary austerity, the largest expansionary program took place on April 1998 (3,4 %). None of these plans have yet succeeded and propelled the economy out of the stagnation (OCDE (1998: 76-81). Basically, real income of households is limited, firms are restructuring their balance sheet and exports are limited by the current state of the world economy (de-linking of exchange rates with respect to external trade, surge of foreign direct investment, emulation of competitors by the previous success of Japanese manufacturers). Thus, given the duration of the stagnation, public debt as a proportion of GDP is increasing : public finance is no more self balancing. This is an indirect evidence for a possible structural crisis.

° *The Wage Labor Nexus* is submitted to contradictory forces. On one side, many firms have to innovate and to reform their labor management, wage formula, skill formation,... and the list of change is impressive (Table 3, supra). On the other side, not any radical innovation seem to have replaced the HWLN. Life-employment is a good example of this contradictory evolution. Whereas on 1994 many observers were forecasting a fast transformation of WLN in the direction of more flexibility, specially in terms of employment, the life-employment which was supposed to be dead or nearly dying, is still used by many companies, including reluctant foreign multinationals. The HWLN is transforming itself but not collapsing (Japon Actualité, June 1995).

To summarize the picture is not clear enough to diagnose the entering into an irreversible structural crisis of the accumulation regime. The path of the future is largely open to

the strategy developed by the various economic actors : companies, young generations of workers, banks, public authorities and foreign governments.

VII -3. Have the firms and wage earners a common interest in breaking down the previous compromise?

According to a third definition for a structural crisis, an accumulation regime and a "régulation" mode are bound to vanish when political, financial and economic actors are unable to manufacture any new compromise which would promote a new development mode. The issue is too ambitious to be dealt with fully within such a limited space --and poor knowledge of the internal functioning of Japanese politics--. Therefore the analysis will focus upon the JWLN. Do companies and wage earners have interest to keep the old configuration or do their own interests lead to the search for a follower to the post W.W.II configuration (Table 6)?

TABLE 6 : THE PRO AND CON OF JAPANESE WAGE-LABOR NEXUS

FOR THE FIRM	
Advantages	**Disadvantages**
1. Loyalty and commitment	1. Inflexibility of reduction in work force
2. The development of competencies fits to the company's needs	2. Possible lack of new expertise if needed
3. Accumulation of competencies	3. Possible obsolescence if new productive paradigm
4. Good communication	4. Loss of commitment by lack of career if unequal age cohorts

FOR THE WAGE-EARNERS	
Advantages	**Disadvantages**
1. Higher life cycle income	1. Loss of autonomy
2. Expected job stability	2. Loss of mobility and mid career opportunities
3. Permanent on the job training	3. Possible obsolescence of skills
4. Socialization and fringe benefits within the firm	4. Ostracism and Company-ism

Basically the answer is not evident because the path is open to unexpected events which might shift the balance of costs and advantages from one side to another.

° *Companies* have interest in *keeping the HWLN* if on the job training remains an active source for technical change, if coordination problems remain important in some modern manufacturing sectors, if the competency built upon the manufacturing of a product can be mobilized in the production of the next generation of this product or to related goods. On the contrary, firms will try to *abandon the HWLN* and specially life-employment in large companies if the stagnation is long, if economic fluctuations remain large and difficult to forecast, if the Toyotist productive paradigm becomes obsolete and finally if younger workers are unwilling to enter into the old companyist WLN.

° On the other side, *wage earners* will be eager to keep the HWLN if they adopt a long time horizon and not the short termism typical to North America, if they are still very risk adverse and do not want to confront the basic uncertainty of a typical labor market, if the large companies will continue to provide a significant part of social benefits on top of the general welfare and if no professional training system delivering transferable skill can be put into function. Conversely, if new generations prefer to maximize revenue instead of security, if excluded minorities and the majority of women rebel against the ostracism they are victim of, if a new elite of professional possessing very special and scarce skills decide to express fully their bargaining power, then the HWLN could be replaced by other labor market institutions including for instance active professional markets.

In any case, this is not a matter of months or even years but of one or several decades, since it is the time required for the emergence and functioning of any new mode of "régulation".

VIII - CONCLUSIONS : A CRISIS OF THE "REGULATION" MODE WITH UNCERTAIN PROSPECTS.

It is time to summarize the main conclusions and propose some issues for further investigations.

1. “ Régulation ” theory has already inspired a series of research on the Japanese wage labor nexus, which deliver a rather complete analysis of its originality, functionality with a specific accumulation regime and evolution through time. The so-called Japanese employment system is nor the pure and direct consequence of culture, nor the outcome of a rational calculus for firms in order to cope efficiently with the contemporary competition by quality and innovation. It is the partially unintended outcome of the *basic capital labor compromise* which has been worked out through crisis periods over nearly one century.

2. Contrary to the typical neoclassical view, the minor role attributed to external mobility and labor market adjustment by large companies does not mean an intrinsic and absolute rigidity. Quite on the contrary, *the Japanese wage labor nexus allows a lot of reactivity* of firms facing economic fluctuations, uncertainty and technical change. The employment stability of the large firm has been quite instrumental in inducing learning by doing and catching up with modern foreign technologies and organizations. Possible short run inefficiencies in allocating labor are overcome by dynamic efficiency in building up expertise and productivity and quality increases. The Japanese Wage Labor Nexus is not at all equivalent of a dinosaur devoid of any ability to react to a changing environment !

3. From a purely quantitative point of view, *the 1991’s recession is less severe than the first oil shock* and has been absorbed, until now, rather easily by work duration reduction, wage moderation, internal transfer of workers, withdrawal of older workers and women from the labor market, acceptation by young workers of lower status jobs,... . But whereas the first oil shock was spectacular and therefore immediately triggered an updating of the Japanese Wage Labor Nexus, the challenge of the 90’s are so diverse and contradictory (bursting out of the bubble economy, de-industrialization, replacement of export by foreign investment, de-localization of subcontracting, new aspirations of young workers, breaking down of the post W.W. II political order,...) that it has been difficult for companies and public authorities to work out a fully adequate strategy for redesigning the wage labor nexus.

4. Seemingly, provided that domestic financial crisis be solved and the Asia economies recover, the danger for Japanese economy is less a cumulative collapse of the Japanese Wage Labor Nexus and the related accumulation regime, which would repeat the dramatic

American 1929 Great Depression than *stagnation*. The built in stabilizers of the Japanese Wage Labor Nexus have cushioned the adverse impact of the recession with few remaining disequilibria, except in the domain of financial position of banks and of public accounts. According to a rather likely scenario, the Japanese economy could enter into a new slow growth period, associated with the erosion of the post 1973 accumulation regime and *a continuous adjustment of the Wage Labor Nexus*.

5. A *puzzling paradox* comes out : whereas many firms are struggling in order to reform at the margin or more drastically their labor management, all these changes occurring at the micro level do not show up into macroeconomic statistics. During the 90's, hours, wages, employment and unemployment tend to evolve more or less in line with the past regularities, implied by the functional synergy between companyism and the large pool of secondary jobs. The available evidence does not allow to discriminate among *two opposite interpretations* : either the institutional changes are actually minor and will remain so in the future with only a marginal redesign of the Japanese Wage Labor Nexus, or it is too early to diagnose such a structural transformation which is already taking place but will unfold over one or two decades in order to become fully apparent.

6. In spite of very active strategies in order to innovate and transform the Japanese employment system, conceptually *it is difficult to perceive a follower to the Japanese Wage Labor Nexus*. In particular it is not clear that the companies have a strong interest in totally abandoning the old system, whereas new cohorts of workers do not necessarily ask for a totally new Wage Labor Nexus but more likely an adjustment to their aspirations and the present macroeconomic conditions. For instance, replacing the mix of companyist and secondary Wage Labor Nexus by a *professional Wage Labor Nexus*, similar to the German one, is not an easy task since it calls for a whole redesign of the education system, firm organization, wage formula, labor market functioning and many related institutions.

7. Given all these evidences, it is not too bold to conclude that the contemporary Japanese economy facing *a crisis of its post-World War II "regulation"* with an unprecedented gravity since 1973. Of course, until 1998 no catastrophic deflation and depression took place, and the reforms in the wage labor nexus and the financial systems have been milder and more moderate than expected. Nevertheless, the institutional architecture is no more

coherent and systemic tensions are transferred from a very weak financial system and a rapidly changing international regime to the wage labor nexus and the State interventions. The macro-economic pattern is unique among OECD countries, since the Japanese "régulation" mode was and still is quite exceptional : *any country has the conjuncture of its structure*. Clearly, an old institutional structure is slowly decaying and large corporations and politicians experience a lot of difficulties in working out socially admissible compromises, which would deliver a new and more relevant, regulation mode, tuned to the new financial, international and technological trends. Therefore, according to a Gramscian vision, *an old system does not want to die, but a new one is unable to emerge*. Hence an explanation of the duration of the Japanese crisis and the crucial role of *new political alliances*, a quite general result indeed (S. PALOMBARINI (1997) ; (1998)).

8. " Régulation " theory therefore delivers a diagnosis at odds with conventional labor economics which forecasts the next and irreversible erosion or even collapse of the Japanese employment system, due to its inefficiency and its exceptionalism with respect to the trends observed in market oriented capitalist economies. The actual evolution will depend upon the effective strategies worked out by the main actors in the Japanese society, as well as major events occurring at the international level. *The fate of the Japanese Wage Labor Nexus is largely open*, and may differ drastically whether the international system finally benefit from new rules of games which make possible a joint and stable growth...or if on the contrary it continues to propagate financial instability, competitive wars and radical uncertainty.

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