

SÉRIE SEMINÁRIOS Nº 2/95
DIRETORIA DE PESQUISA

SEMINÁRIOS SOBRE ESTUDOS SOCIAIS E DO TRABALHO

**The Contemporary
Transformations of the
Japanese Wage Labor Nexus
in Historical Retrospect and
Some International
Comparisons**

Robert Boyer

ABRIL DE 1995

ipea
INSTITUTO DE PESQUISA ECONÔMICA APLICADA

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**THE CONTEMPORARY TRANSFORMATIONS OF
THE JAPANESE WAGE LABOR NEXUS IN
HISTORICAL RETROSPECT AND SOME
INTERNATIONAL COMPARISONS.**

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THE CONTEMPORARY TRANSFORMATIONS OF THE JAPANESE WAGE LABOR NEXUS IN HISTORICAL RETROSPECT AND SOME INTERNATIONAL COMPARISONS.

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ABSTRACT

The Japanese economic institutions are currently undergoing some significant transformations under the pressures of an unprecedented recession, recurrent political pressures from the American government and the hollowing of the productive system due to the strong Yen and a rapid delocalization of many manufacturing sectors to Asia. On one side, a culturalist interpretation emphasizes the permanence of typically Japanese features, which would be observed in the long run. On the other side, conventional neoclassical theory considers the end of the Japanese exceptionalism, under the impact of the globalization of world competition and the irreversible opening of the Japanese society to foreign influences.

A more institutional and historical analysis challenges these two conflicting interpretations. The paper investigates more precisely the emergence and the nature of the Japanese wage labor nexus, i.e. the configuration for work organization, skill formation, labor mobility, wage setting, welfare and life style. It is first argued that the contemporary nexus between job stability, wage career, continuous up grading of skill within the large firms, allied with a significant but steady inequality within smaller firms, is not a long term datum of the Japanese society. Back to the beginning of this century, the Japanese leading corporations have deployed explicit strategies in order to stabilize the core workers who were necessary for their competitiveness, whereas the second world war has triggered very important reforms in labor laws, which still play a role in the 90's. The first oil shock has induced another important feature in the emergence of companyism i.e. the acceptance of slower real wage increases in order to preserve competitiveness. The Japanese wage labor nexus has experienced significant transformations during previous episodes : the current recession is not totally unique in the redesign of the previous configuration.

Many observers think that due to globalization the Japanese economy will have to converge towards a standard model, implicitly the American or Anglo-Saxon one. Again, a systematic comparison of the various components of the wage labor nexus (Germany, Japan, France, Great Britain, US, Sweden) suggests that the American or British configurations are only one among a significant variety, which persists or even exacerbates during the last two decades. Under many respects, Japan is close to Germany or even Sweden : the division of labor is built upon competence and not at all a precise task delimitation, whereas incentives and commitment are more important than pure coercion. Labor mobility is mainly internal to the large firms and organized with the help of State subsidies, whereas wage formation is highly responsive to macroeconomic disequilibria and wage career largely firm specific. It turns out that such a configuration is quite efficient when world competition is built upon quality, flexibility and innovation, along with price reductions.

But the major Japanese originality relates to a specific combination mix of decentralization and synchronization. Therefore, the basic features of a skill labor nexus can be embedded into a growth model, with endogenous technical change. The size of the market sets the pace in the division of labor, but the skills of the rank and file workers play a role in promoting marginal and continuous innovations, to be added to the activity of the engineers for more radical innovations. Thus the skill labor nexus largely sets the speed of competence related technical change. The model is then used in order to understand the two phases of Japanese growth and economic performance. From 1950 to 1973, Japan has exploited Fordist principles about division of labor and increasing returns to scale. After the first oil shock, the general slow-down in world trade has induced the most significant decline in growth rate for Japan, but this country has then benefited from a Toyotist wage labor nexus, since it has allowed product differentiation and quick responses to changing demand patterns and volumes.

To conclude, the Japanese wage labor nexus has shown much more adaptability and continuous reforms than usually considered, whereas industrial relations are far from converging towards the Anglo-Saxon model. Consequently, the issue in the 90's is not the collapse nor the immobility of Japanese economic institutions, but their ability to be reformed again in order to cope with the new social demands and international contexts.

O. THE JAPANESE CONTEMPORARY ECONOMY IN THE LIGHT OF REGULATION THEORY.

This approach was first initiated by a long term analysis of the transformations of accumulation regimes for the American capitalism. Then, the same methodology was applied and extended to the French case. Thus the regulationist approach has been implemented and simultaneously generalized by the multiplication of national case studies, from Europe to Latin-America, from Russia to new industrializing Asian countries. At each stage, the basic concepts have been made more precise or redefined, whereas the initial concern for macroeconomics has been extended to a larger variety of tools. The present state of the theory is far different from the configuration of the early beginnings, twenty years ago (R. BOYER, Y. SALLARD (1995)).

The Japanese capitalism poses a special challenge to this emerging theory. Firstly, it is specially important to understand not only the erosion of American fordism but the ability of Japan and possibly Asian NIC's to define an alternative to Western capitalism. Secondly, contrary to other approaches, this is not a matter of mere implementation of an already completed theory but a question of adaptation, search for new definitions and generalization. Thirdly, many Japanese and foreign scholars have already analyzed the accumulation process in the light of regulation theory...but they have not yet reached an agreement about the pre, post or neo-fordism which would characterize the Japanese case (Y. MIYAMACHI, J.A. PECK (1993) ; Y. INOUE, T. YAMADA (1994)).

This is precisely the task of the joint project on the Japanese mode of regulation and the current seminar is devoted to finding out some common results which would emerge from various research. The present paper is only a small part of this process and deals only with the following issue : given the current state of the regulationist theory of the wage labor nexus (WLN), which results do apply to the Japanese case and on the contrary what are the components and the articulation to other institutional forms which are specific ? This introduction briefly presents the major findings derived from past research, argues in favor of an analysis which combines both historical retrospect and comparative analysis and finally points out the major findings derived from such a cross fertilization.

1. The seven pillars of the wage labor nexus analyses.

What have we learnt from the rather large volume of theoretical, applied and historical investigations about WLN ? It may be convenient to sum up these findings under the heading of seven major propositions.

P1 : *Political struggles and strategies out of structural crises are key ingredients in the transformation and emergence of new wage labor nexus.* This means that a pure theory of labor market might be esthetic and quite satisfactory for the theoreticians, but it cannot capture the more essential features of capitalist transformations if so-called « labor markets ».

P2 : *Consequently, even if there are broad historical epochs, the configuration of the WLN is largely specific to each national entity.* Basically, one observes huge variations in the nature of labor laws, the objectives and organizations of unions, the relative importance of private contracts and collective agreements.... « Régulation » theory argues that these configurations cannot be analyzed in terms of imperfections or frictions with respect to a single general case...let it be the fiction of pure and perfect labor market...or typical fordism.

P3 : *For modern capitalist economies, the cohesiveness of the various components of the WLN is a major ingredient of the accumulation regime.* Basically, wage-earners are the majority of the working population and thus work organization and the pay system are crucial in explaining the direction and the speed of technical change, the degree of equality in income distribution. The post W.W.II exceptional growth would not have occurred if the wage-earners had not been inserted into mass-consumption and mass-production.

P4 : *Any wage labor nexus has to be coherent with the other institutional forms in order to sustain a viable accumulation regime.* Economic theory should not look for a single and optimal configuration of labor contracts and industrial relations whatever the social and political context : quite on the contrary the institutional approach builds models which take into account the structural compatibility between the wage labor nexus, the forms of competition, the monetary regime, not to forget the insertion into the international system and the nature of the State. When on the contrary, one observes a mismatch between these

institutional forms, slow growth, potential instabilities and persistence of unemployment are the direct expressions for an unbalanced accumulation regime.

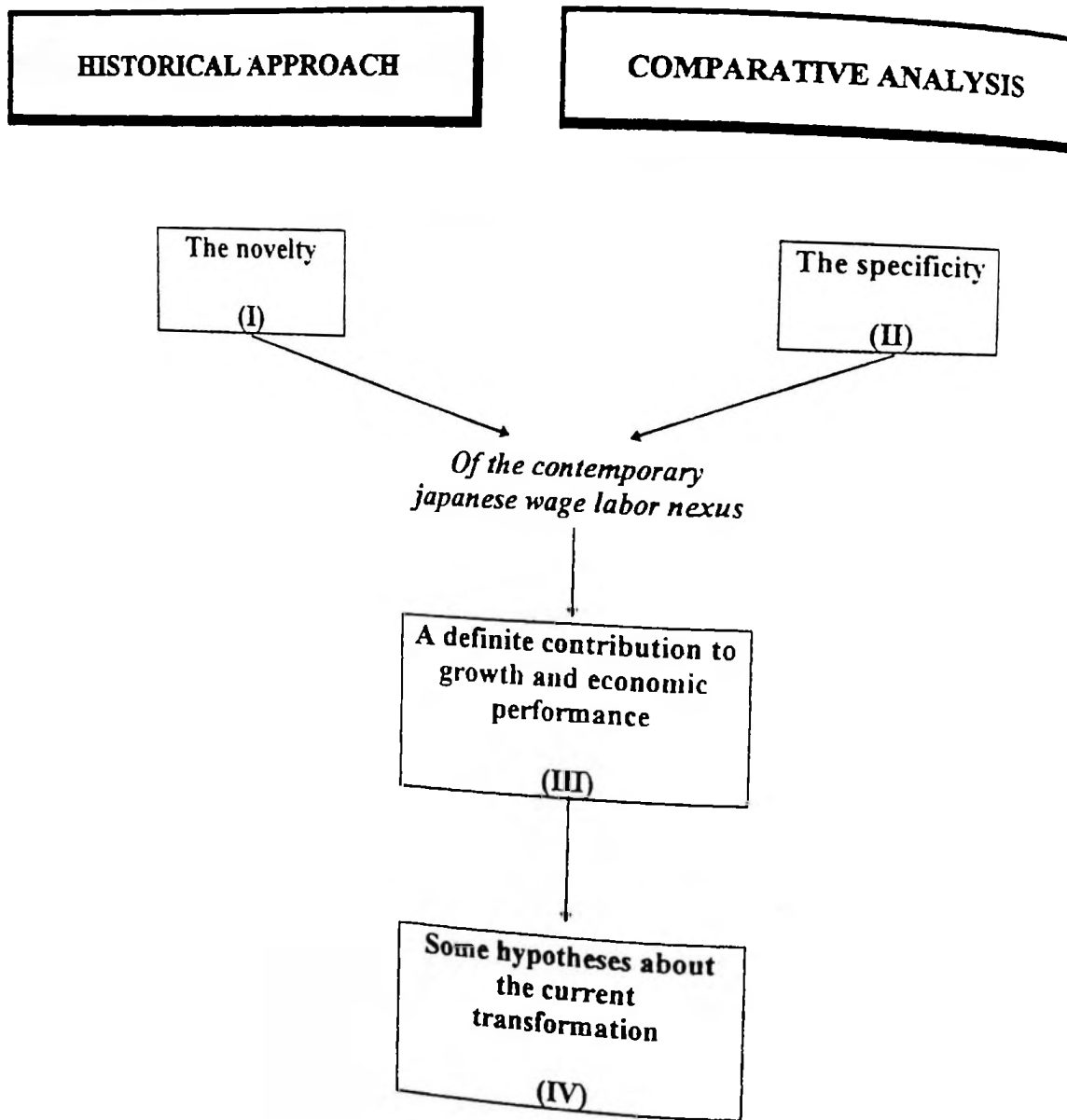
P5 : *The very implementation and success of a WLN triggers slow structural transformations which might end up into a qualitative change in macrodynamics.* Old as well as new neo-classical theory assumes that economic agents optimize their actions in order to converge toward an equilibrium, where by definition all the variables are stationary. By contrast « régulation » theory stresses that the success of a given set of institutional forms puts into motion a slow erosion of their ability to channel the disequilibria and contradictions of accumulation. Adverse stochastic shocks are not to be blamed for the exhaustion of a development mode : very often, they only make apparent the underlying weaknesses of the existing economic organizations and institutions.

P6 : *This process may end up into either a marginal transformation of the « régulation » mode or a structural crisis.* This depends upon the severity of the contradictions which permeate the accumulation regime and the ability of collective actors to bargain and agree upon new social compromises, in order to reconcile the institutional order with the requisites of the accumulation regime. This is not a matter of pure economic rationality or efficiency principles, since the political arena is directly concerned by this aptitude to redesign social relations. It is why, the pattern of structural crises differs so much across countries and epochs.

P7 : *During structural crises, the outcome is largely open and governed by a complex set of strategic economic behaviors and political decisions.* Conventional economic theory is fond of totally deterministic processes, possibly mitigated by stochastic disturbances which in fact are totally exogenous. By contrast, historical investigations suggest that this process is set into motion by deliberate strategies, which do not deliver the expected results given the vanishing of past regularities during structural crises. But, in most if not all cases, the final outcome is quite different from that expected by the best informed and more powerful agents. For instance, few politicians or experts actually forecast that the way out of the great depression of the 30's would be fordism...even if many of its ingredients were present in some scattered analyses.

DIAGRAM 0.1

THE ARGUMENT OF THE PAPER : A BIRD'S EYE VIEW.



Do these conclusions apply to the Japanese transformations of the WLN since W.W.II? This paper provides a rough test of these hypotheses, according to the following method.

2. Combining historical and comparative studies.

Clearly, the Japanese economy is undergoing some significant transformations, but scholars do not agree upon the long term impact of the bursting out the bubble and the current recession.

- At one extreme of the spectrum, some point out that the Japanese wage labor nexus (JWLN) is specific to this country, since its configuration has to be traced back to the very process of constitution of the Japanese society. Basically, the prognosis is that job stability for instance is to remain, since it is deeply rooted into century long traditions.
- At the other extreme, other social scientists argue that Japan might have been an exception in the past, but no more in the future, for globalization of technology, tastes, attitudes. finance and capital will irreversibly erode any national specificity, however strong they might have been in the past. The pure model of theory should apply everywhere, since it is the very characteristics of scientific reasoning to sort out invariant laws. In real economy life, the strength of the theory is progressively imposing itself to rational agents.

The choice is not only a matter of personal persuasion but can be enlightened by two methods (Diagram O.1). On one side, available historical sources and syntheses can actually answer to the underlying key question : has the JWLN remained basically unchanged since one century or has it undergone significant transformations, including complete reversal of basic trends (section I) ? On the other side, many specialists of industrial relations have tried to insert the Japanese configuration within their theories or taxonomies : is it true that the Japanese exceptionalism is eroding through time and does this trend speed up during the last two decades (section II) ? This paper is built upon the mixing of these two kinds of literature, with a special emphasis upon the previous results derived from régulationist research..

A second issue has then to be addressed at : is there any reason to think that the specificity of the JWLN has played a positive role in explaining first the Japanese exceptional post W.W.II growth and second the outstanding competitiveness observed since the first oil shock (section III) ? The new growth theory would imply that these successes would continue for ever, given the path dependency of learning by doing and the specificity of the increasing

returns to scale which are embedded into the educational system, on the job training and the continuous upgrading of quality. Basically, it is far more realistic to carefully investigate the pre-requisites for an ongoing fast and stable growth pattern : they are not automatically satisfied neither by market mechanisms, nor State interventions.

It is even quite unlikely that any economy should remain around a steady and fast growth path : the Harrodian knife-edge instability is no less convincing than the Solowian optimism about the built in stability of the growth process. « Régulation » theory provides a different analysis : dynamic processes are basically non-linear, therefore the economy may experience transitions for one regime to another, as soon as the recurring process of accumulation slowly but constantly alter the institutional forms and ultimately the viability of the prevailing regulation mode. This is specially enlightening for the Japanese wage labor nexus.

But these long run trends have to be combined with the disequilibria associated to the bubble and boom period : the length and severity of the 1991's recession express a significant change in the previous « régulation » mode and conversely these new short run adjustments put a strong pressure upon the viability of the previous configuration of the JWLN. This is specially the case for employment stability, which is more and more difficult to maintain even for large firms. It is important to compare this episode with the two oil shocks and endeka period, in order to diagnose both continuities and changes in the capacity to respond to uncertainty, technical change and foreign competition. This calls for a more detailed analysis of the inner transformations of work organization, internal and external labor mobility, wage responsiveness to macroeconomic evolution as well as firms financial performances. It is important to disentangle between purely short run adjustments which are basically reversible and medium and long run transformations which might challenge the previous configuration of the JWLN. Both macro and sectoral economic indexes and some case studies are to be jointly taken into account in order to deliver some preliminary hypotheses.

Finally, the hypothesis about the structural compatibility of the five institutional forms has to be checked against the current transformation of the Japanese economy. In fact, the major disequilibria and uncertainty are not necessary internal to the JWLN but derive from possible incompatibilities with a more acute foreign competition, a significant financial

liberalization. not to forget the evolution of the international regime and the pressures to open the Japanese market to American and European competitors. It is why any prognosis is difficult for a theory which put forward the lack of any strict determinism in the issue to the present crisis of the Japanese regulation mode. Nevertheless, the relative likelihood of alternative scenarii can be assessed : is there any chance for the JWLN to converge toward an American system, or a German one ? « Régulation » theory suggests a strong inertia of institutional forms, permanent hybridization much more than convergence toward a single configuration for industrial relations. Globalization does not mean the end of history, nor the phasing out and the unimportance of the national state, quite on the contrary. The wage labor nexus might be the best example of this strong national flavor of most institutional forms.

But any methodology has to be assessed according to the potential results it may deliver. Thus, a brief account of the main conclusions of this paper are to be presented in this introduction.

3. The cultural and neo-classical explanations have to be overtaken.

The investigation delivers an assessment of the seven regulationnist hypotheses and still more it provides a specific diagnosis for the present state of JWLN.

C1 : *Typically in Japan employment stability, on the job training, wage career and labor market segmentation are complementary, they are not a cultural legacy but an institutional construction.* Basically, an extreme and excessive labor mobility prevailed one century and again three decades ago. This was not necessarily detrimental to Japanese growth and catching up, quite on the contrary. Furthermore, that most observers nowadays consider as a typically Japanese cultural legacy (cooperation within the firm, acceptance of technical change, search for competitiveness...) has been significantly reinforced and in some cases built after the first oil shock, which had a major impact. Thus, if the JWLN has continuously and pragmatically been adjusted over one century, such changes are not unlikely for the 90's and the next decade. There exists a margin of adaptability and therefore the issue cannot be summarized as the dilemma between cultural « fixism » and neo-classical malleability of the WLN.

C2 : *Many individual components of the JWLN are present in other OECD countries, only their structural compatibility is specific to Japan.* Again, many analysts forget that paternalism, company-ism or micro corporatism have not been invented by Japanese managers but define a well known « attractor » for industrial relations. The inducement to cooperation is not exclusively embedded into society wide cultural values, since by adequate managerial design, some American (or French, or German...) firms have been able to enhance similar behaviors and performances from their employees. The basic difference is that instead of defining the equivalent of island of cooperation with an ocean of adversarial industrial relations and market competition, quite on the contrary, the JWLN impuled by large firms has been permeating the whole economy and supporting an original regulation mode. It is therefore erroneous to try to capture the so-called « Japanese model » by a single device (just in time, bonus system, ohnoism,...), however appealing any monocausal explanation might sound. The JWLN is largely idiosyncratic even if in retrospect theoreticians can find out the social and economic rationales behind the whole spectrum of observed configurations.

C3 : *The Japanese economic performances after 1973 are closely related to a specific skill labor nexus.* For this country it is specially important to complement the wage labor nexus analysis by a study of the methods and organization which are upgrading general competency and professional skills. A large and democratic educational system is combined with in house and on the job training in order to promote social and technical division of labor. Thus technical change is both linked to dynamic increasing returns to scale in line with market expansion and the cumulating of marginal and grass roots innovations. Consequently, the key manufacturing sectors benefit first from rapidly growing markets and after the mid-80's from a constant upgrading of quality and differentiation of products which would be out of reach under a typically fordist WLN. This ability to respond to economic fluctuations, uncertainty and technical change is definitely not fordist. So the growth regime too is significantly different, as exhibited by the contrasted national trajectories of Japan and the US.

C4 : *There is not any wage labor nexus which would be optimal any time and anywhere, as the emergence, the rise and ultimately the current crisis in Japan does suggest.* In fact,

the viability of any WLN is indexed by its match...or mismatch with other institutional forms, which are constantly altered by the very process of growth. Thus internal labor markets call for high and rather stable growth, large investment in RD and training, low real interest rates,.... Employment stability supposes a sufficient product diversity and a large space for internal mobility of labor i.e. a form or another of oligopolistic competition (main bank, joint stock holding, keiretsu). Long working hours, strong work ethics and acceptance of hierarchy and authority within the firm suppose an adequate « habitus », manufactured within the family and the schooling institutions. Finally, a stable and permissive international regime has been quite instrumental in sustaining the JWLN. If on the contrary, any of these pre-requisites are no more fulfilled, the previous configuration might be destabilized. This seems to be concurrently the case at the very moment when every manager or politician was dreaming to « import » such or such component of the JWLN !

C5 : *The Japanese wage labor nexus is currently victim of its own success.* Contrary to the rational expectations school hypothesis, the more carefully designed strategies are unable to imagine ex ante the results of their complex interaction. This triggers a slow erosion of the parameters defining the regulation mode, which up to a threshold leads to unexpected and in any cases unfavorable puzzle. The maturation of Toyotist methods brings an excessive capital deepening, whereas their exportation and imitation call for faster and faster renewal of products, an evolution which mitigates the initial successes. Similarly, the large manufacturing surplus is converted into financial assets, which shifts the relative power away from industry, in favor of banking and exposes the exchange rate to the vagaries of international sophisticated financial markets. Increasing wealth, more education and the internationalization of life styles introduce a comparative elements and new strains into the WLN : company-ism is not necessarily the ideal of younger generations. Finally, the Japanese surplus calls the attention of American and European policy makers about the specificity of the access to the Japanese markets : the pressures for deregulation and import penetration may alter both manufacturing and services and their respective labor compromises. The path dependency of the wage labor nexus is no were more evident than in Japan.

C6: *The bursting out of the bubble economy may trigger the more severe crisis of the Japanese wage labor nexus since 1974.* A surprising long recession, atypical evolution for most macroeconomic variables, costly errors inherited from the booming 80's, conflicting views about the merit of the Japanese management style, as well as strong external pressures in order to redesign many Japanese institutions, including the WLN, all these factors are putting a crude light upon the limits in the adaptability of a system built upon an implicit but strong objective of employment stability. This would be a crisis within the regulation mode, which could be solved by a redefinition of the basic capital labor compromise. But the accumulation regime itself might be undergoing adverse transformations : economies of scope are no more combined with economies of scale, since product differentiation and sophistication and no more increasing returns to scale associated to volume effect are at the core of the Japanese competitiveness since the mid-80's. Simultaneously, real wage has significantly slowed-down and nevertheless the Japanese high wages trigger a flow of low skilled jobs out of Japan. Is this an evidence for the next convergence toward a purely extensive accumulation regime, which would replicate three decades later the American trajectory, including the erosion of manufacturing hegemony ?

C7: *The choice for alternative WLN is not between culturalist immobility or neo-classical flexibility, but among a vast array of scenarii combining institutional inertia with hybridization of foreign models and home cooked innovations.* In the light of a long run historical analysis, the current debate has to be overcome into a much more sophisticated and articulated one. Given the likely trends in the internationalization of Japanese manufacturing and banking, can managers and workers strike a new bargain which would preserve the most valuable features of the old Toyotist WLN, while maintaining a high level for employment ? The paper argues that the American model (totally decentralized and desynchronized industrial relations) as well as the German one (built upon apprenticeships and professional markets) are out of reach in a foreseeable future. Japanese made innovations are eagerly needed. The regulationnist research should contribute to such a debate and propose one or several possible and/or desirable new configurations for the wage-labor nexus.

I - A SINGLE AND STEADY WAGE LABOR NEXUS OR A RECURRENTLY EVOLVING ONE ?

Economists, specially theoreticians, usually exhibit a strong propensity to consider economic adjustments to derive from quasi natural laws, and this is specially so within the realm of pure theory. By professional training they do not want to recognize the historical roots of the phenomenon they study...whereas a lot of empirical evidences show that « régulation » modes are socially constructed. For instance, it is now fashionable to demonstrate the superiority of the JWLN within an extended neo-classical theory...without any clear analysis of the pre-requisites under which this configuration is actually optimal, or at least defines a second best. Going back into the flow of Japanese economic history might be useful in order to disentangle between permanent and transitory features of the JWLN. A case study, a survey of the origins of Japanese subcontracting and the very regulationist investigations provide a striking panorama about the permanent transformations of the Japanese economy.

1. Large turn-over labor flexibility...and economic performance : a comparison of the Japanese and the Indian textile industries in the 20's.

Let us go back to the interwar period and investigate why the Japanese textile manufacturers have been able to increase output per worker by a factor of three and become a leading trader in cotton textile. At this epoch, India too decided to import the more advanced technologies from the industrialized countries, but productivity has been nearly stagnant and the Indian producers have been unable to become competitive on the international markets (S. WOLCOTT (1994)). One country was experiencing life-time employment and the other was exhibiting an impressive but intended turn-over.

A contemporary researcher, convinced by the abundant literature about the superiority of life-time employment as the starting point for on the job training and the strong commitment of rank and file workers, would probably conclude that Japan textile manufacturers were successful precisely because of an early implementation of job stability. For instance, the culturalist interpretation stresses the permanence of goodwill and communitarian cooperation, as the inspiration for the modern Japanese employment system (R. DORE (1987)). Unfortunately, the answer is strictly the opposite : life-time employment seems to have put strong breaks upon an efficient use of imported technologies in India, whereas for Japan, a

large and permanent turn-over has been instrumental in developing rationalization, contracting employment and gaining market shares at the international level. In other words, in the 20's « the Japanese industry made a virtue out of lack of commitment » according to the suggestive sentence of S. WOLCOTT (1994), whose research is heavily used by the present section.

From a regulationist perspective, such a counter-intuitive outcome deserves an explanation. Basically, it is more easy to import machines than to implement or design the relevant organization : the same tools were used in India and Japan, but different social relations prevented to adopt the same organization. In India, the related rationalization has been blocked by male and permanent workers who were defending their long term interests the more aggressively, the more stable was their employment. By contrast in Japan, the reduction of wage and the decline of employment associated to the new technology have been accepted since teenagers, young girls between 15 and 18 years old, typically stayed in the industry for less than 2 years. If they were not satisfied by wage or working conditions, they expressed their reluctance via exit, not voice as was observed in India. Paradoxically, the high turn-over of the labor force was quite instrumental in extracting the best performance out of imported equipment. Thus, whereas wages used to increase more than productivity in India, the opposite configuration was observed in Japan and helped in the surge of the Japanese manufacturers in the textile sector.

By comparison with the contemporary JWLN, what are the missing links during the interwar period in Japan as well as in India ? Five hints can be derived from this case study :

- i) During this period, the textile industry used to require *low skills*, easily acquired by a quick on the job training. Thus, stable employment was not at all needed in order to recover hiring and training costs, which are nowadays far more higher than in the 20's. Interestingly enough, the current industrialization patterns in many Asian countries do belong to the same Taylorist or early Fordist labor process. Therefore, the typical JWLN is not necessarily exported to these countries. This is a possible interpretation of the discrepancy between transplants and the reference factory specially in terms of labor management (T. ABO (1995)).

- ii) *Strong and independent workers organizations* may block the rationalization of work and the decline of employment which is typically associated with the adoption of new and imported technologies. The dead end of the Indian strategy reminds that this could have been the possible trajectory for Japan too : from 1946 to 1952, the Japanese workers have been struggling against management, they tried to impose limits to rationalization and prevent an unequal share of the dividends associated with modern technologies. For instance, the car manufacturers, specially TOYOTA, have run into severe troubles (M.A. CUSUMANO (1989)). A contrario, one understand better why the large Japanese companies have been so active in their labor strategies just to prevent the domination of a strong, unified and vocal labor union. The current position of RENGO (The Japan Institute of Labor (1994:p. 50-51) does not derive from any cultural propensity of Japanese workers in favor of enterprise unionism but this is the partially intended outcome of decade long strategies deployed by large firms (A. GARANTO (1994) ; F. SHIMOYAMA (1994)).
- iii) *The availability or on the contrary the absence of some social relations or institutions may play a crucial role in the viability of a given WLN.* For instance the Indian manufacturers clearly perceived that the male and permanent workers should be replaced by more malleable young women, following the same track as the Japanese manufacturers. The current status of the Indian women totally prevented such a pattern of industrialization. Conversely, in contemporary Japan, some social demands emanating from young generations or women may significantly alter the configuration of the JWLN. This is the part of truth put forward by the culturalist interpretation, with nevertheless two caveats. First, culture is only a component of the puzzle, not necessarily the leading or central piece...since the pattern of industrialization may itself drastically alter the so-called cultural or traditional values. Is not the contemporary Japan quite different from the ruined economy which comes out of the second W.W. ? Second, « the culture of today is the outcome of a forgotten innovation of the day before yesterday ». Ideally, social scientists should analyze jointly the process of economic development as well as the transformation of cultural values and forms of organization which it causes and simultaneously from which it benefits.
- iv) *Job stability alone is not sufficient to promote competency enhancement and company-ism.* Again, the Indian case is quite enlightening : the permanent workers used their bargaining power in order to block productive reorganization, efficiency enhancement and

INSERT I.1 : THE JWLN HAS BEEN TRANSFORMING ITSELF OVER A CENTURY LONG PERIOD.

Toshihiro NISHIGUCHI (1994) provides a stimulating panorama of subcontracting in Japan and thus comes to challenge most of the conventional theories which assume a large invariance of typically Japanese features.

1. Before W.W.I, high labor turnover for high manufacturing firms, without any lifetime commitment:

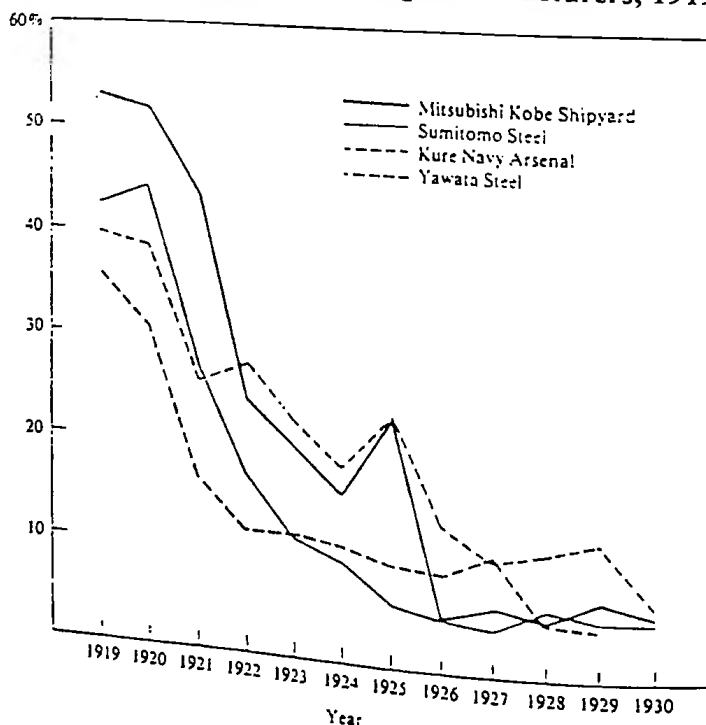
Table I.1 : Length of Service of Skilled Workers, 1903

No. of Years	Metalworkers		Printing Workers	
	Number	Percent	Number	Percent
Under 0.5	1,258	12.9	650	23.8
0.5-1	3,853	39.6	498	18.3
1-2	645	6.6	511	18.8
2-3	1,730	17.8	323	11.8
3-5	1,112	11.4	310	11.4
5 or more	1,134	11.7	433	15.9
Total:	9,733	100.0	2,725	100.0

Source: Sumiya, 1966:50. Original Source, Ministry of Agriculture and Commerce (1903). *Shokko jijo* (Conditions of workers), vol. 2, p. 223

2. After W.W.I, the creation of internal labor markets takes the form of :
- Replacement of « watari shokunin » in by firm-specific job classifications.
 - Recruitment of elementary school leavers as apprentices.
 - In-house technical education and company training schools.
 - Pay, bonus and retirement pay based on the length of service.

Figure I.1 : Labor turnover at large manufacturers, 1919-1930.



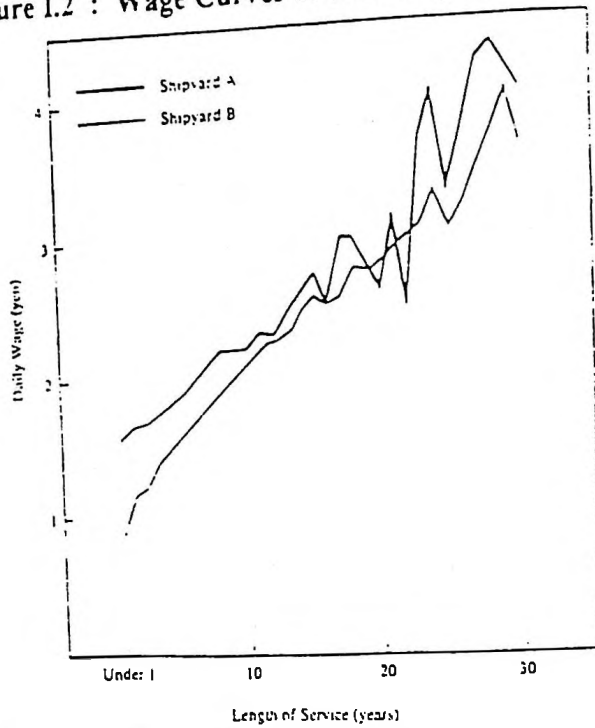
extract the maximum wage increases, whatever the cost might be for the long run viability of their own industry...and ultimately their own jobs. Therefore, modern economic theory of institutions should not insist so much about the rationality of the Japanese employment system, independently from the other components of the labor contract, such as the pay system, the skill content and the importance of learning by doing effects. For instance, trust does not necessarily emerge from the provision of life-time employment by the firm. Society wide factors have to be plugged into the micro-economic analysis. The findings of S. WOLCOTT (1994), however specific, strongly support a vision of the WLN as a set of complementary institutional devices, not as deriving from a single set of founding principles.

v) *The industrialization of Japan was initially built upon a quite competitive WLN, not a proxy of the contemporary Toyotist configuration.* The changing patterns of Japanese industrialization is well documented by numerous historical investigations (K. OHKAWA (1957) ; M. SHINOHARA (1970) ; S. TSURU (1977)). In line with some development theories, Japan has progressively evolved from a mainly agricultural, low wage and low skill economy toward a highly industrialized, high wage, high skill configuration (R. MINAMI (1973)). Such structural changes could not have no impact upon the WLN, even in the more restrictive vision of neo-classical economists : labor scarcity, technical change, international specialization have drastically changed and thus the optimal response of the firm cannot stay unchanged over such a long period. But then, if the JWLN has drastically be altered over one century, without clearly converging toward a pure labor market configuration, any believer in the next collapse of the Japanese employment system (Japan Actualité (1994) ; J. SIEGEL (1992)) should clearly articulate the reason why such irreversible forces have not operated previously and why on the contrary, they would be so powerful nowadays to put a definite end to the so-called « Japanese exceptionalism ».

2. A fiction of a typical and unchanged Japanese employment system : one century of economic history revisited.

These hints can be confirmed by a more systematic survey of the transformations of industrial relations in line with subcontracting in Japan over one century. Insert I.1 summarizes the illuminating synthesis by T. NISHIGUCHI (1994). The conventional hypothesis of a large invariance and immobility of the JWLN is strongly refuted : five contrasted periods are observed in which the domination of professional markets, internal markets or competitive

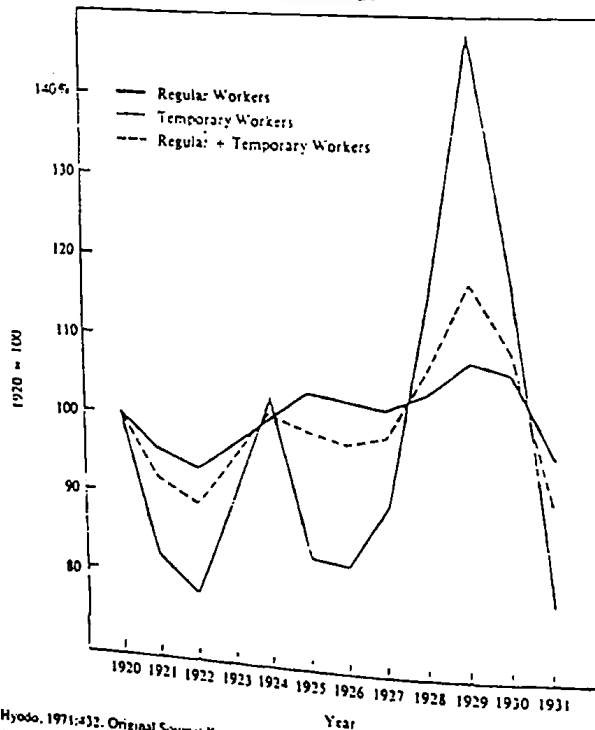
INSERT I.1 (follows 1)
 Figure I.2 : Wage Curves at Two Shipyards, circa 1925.



Source: Hazama, 1973:522. Original Source: *Shinai seisaku jiko* (Social policy bulletin), vol. 77, pp. 51-52

3. In the 1920's, the large manufacturers respond to uncertainties by the deliberate creation of a regulatory labor mechanism : temporary workers.

Figure I.3 : Employment Fluctuations of Regular and Temporary Workers at Yawata Steel 1920-31.



Source: Hyodo, 1971:432. Original Source: *Yawata seisakusho goju nen shi* (A fifty-year history of Yawata steel), 1950. Fukyo (Attached tables).

forces alternate. Each epoch tries to solve the major unbalances inherited from the previous configuration...and so on, without any clear long term equilibrium around which the economy would oscillate.

i) *Back in 1900, Japan used to experience professional labor markets, German style.* From the previous comparison of India and Japan textile manufacturers may prompt a logical inference : is not the high labor turnover directly associated with low skills ? This is not at all the case in Japan for metal workers and printing workers which were highly qualified in 1903 : most of them had completed a 3 years apprenticeship period in which they used to invest in the specific skills required by their occupations. Nevertheless, these two sectors were exhibiting a very high labor turnover, respectively 52,5% and 42,1 % per year (Table I.1). The same disease seems to affect most of manufacturing sectors, all over industrialized or industrializing countries : let us remember that this was at the origin of Henry FORD 5 S a days, even if this major innovation did not make an epochal change (R. BOYER, A. ORLEAN (1991)).

But the Japanese and the American configurations are somehow different. For the American car industry, the huge turnover was the consequence of hard assembly work and a high substitutability of low skilled workers. Of course, the Japanese metal and printing workers were much more skilled, but their abilities could be transferred from one job to another, given the common training and apprenticeship they had shared. The artisans of passage (Watari Shokunin) were expressing their market power by going from one place to another, mobilizing the acquaintances they had built during their formative years. This reminds the Parisian highly skilled craftsmen of the end of the XIXth century...or even the contemporary professional markets operating in Germany (D. MARSDEN (1990)). This configuration is specially interesting for the contemporary analysis of the transformations of the JWLN : some experts and human resources managers contemplate to implement professional labor markets, German style...without clearly perceiving that this option had been explored one century ago. But a series of structural transformations have progressively contrasted the German and Japanese configurations for training and employment systems (S. UMETAMI (1980) ; Institute for International Cooperation (1985)). Any reform proposal has to take into account the partial irreversibility of some strategic choices or bifurcations in the past.

INSERT I.1 (follows 2)

4. After W.W.II, enterprises, unions are recognized, but union density declines after 1949 and wages differentials widen, which creates an incentive for subcontracting and two tiers wage-labor nexus.

Table I.2 : Union Density, 1946-60

(As of June of each year)

Year	Percent
1946	39.5%
1947	45.3
1948	53.0
1949	55.8
1950	46.2
1951	42.6
1952	40.3
1953	36.3
1954	35.5
1955	35.6
1956	33.5
1957	33.6
1958	32.7
1959	32.1
1960	32.2

Table I.3 : Interscale Wage Differentials
(in cash) Manufacturing Industries,
1950-55.

(500 or more = 100)

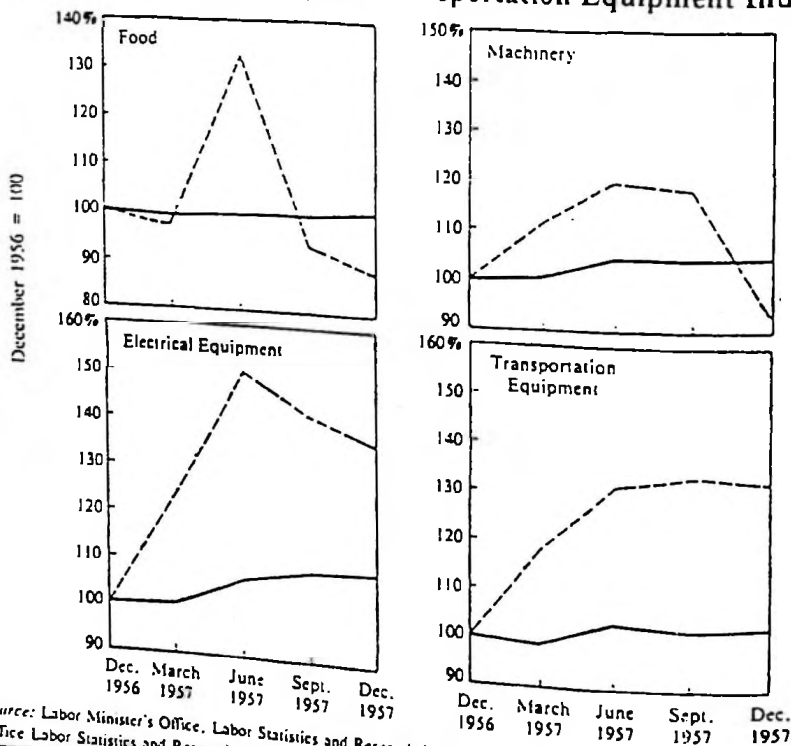
Year	No. of Employees per Establishment		
	500 or More	100-499	30-99
1950	100.0	83.1	67.3
1951	100.0	79.5	61.3
1952	100.0	79.1	58.8
1953	100.0	79.3	59.8
1954	100.0	77.8	60.0
1955	100.0	74.3	58.8

Source: Nakamura, Hideichiro, et al., 1981:74. Original Source: Ministry of Labor, *Matsuii kintō tokei chosa* (Monthly statistical survey of labor)

Source: Labor Minister's Office, Statistics and Information Bureau, 1978:31, 42

5. Again during the mid-50's, temporary workers play a major role in responding to economic fluctuations.

Figure I.4 : Employment Fluctuations of Regular and Temporary Workers in the Food, Machinery, Electrical Equipment, and Transportation Equipment Industries, 1956-57



Source: Labor Minister's Office, Labor Statistics and Research Bureau, 1958:109. Original Source: Labor Minister's Office Labor Statistics and Research Bureau, 1958, *Rinjika ni kansuru jicchi chosa* (Fieldwork survey of temporary workers)

ii) *Internal labor markets are an organizational invention implemented around the 20's*
 During this period, historians observe a significant departure from the previous professional labor markets. Basically, the large Japanese firms tried to break up the traditional handicraft mode of production, in designing a series of complementary devices in order to curb down the previous large turnover of workers. Actually, the large steel manufacturers and shipyards benefit from a drastic reduction of labor mobility from 50 % to less than 10 % (Figure I.1). This is not the simple expression of sectoral or macroeconomic constraints or general labor scarcity, since labor turnover remains quite high for smaller firms. Clearly, these are the early beginnings of the coexistence and articulation of two contrasted segments of the labor markets, respectively internal (or primary) and secondary (P DOERINGER, M. PIORE (1971)).

One of the major changes relate to the implementation of in-house training and specific job classifications. Instead of relying upon the uncertain practice of hiring workers from the general job market of « watari shokunin », the large firms instituted the periodic recruitment of elementary school leavers as apprentices. The teaching used to concern job related topics and try to instill a disciplinary regime adequate to the commitment to the firm. But then, the pay system had to differ from the previous practice of paying the conventional i.e. the market wage. It was necessary to create a wage career according which the income of workers was increasing along with the length of service (Figure I.2). Similarly, bonus and retirement pay based on the duration of stay within the firm did encourage employment stability, a basic requisite for the viability of the training provided by the firms in order to be less dependent from the professional markets. These are the early origins of the contemporary employment system. It might be embedded into cultural values distinct from the western ones but it is too the outcome of an explicit strategy of large firms in order to control the supply of skills. It is important to note that the same trends are observed in the United States, Germany and France at the same period. This is not a specifically Japanese configuration of the WLN.

iii) *The constitution of secondary labor market is necessary to respond to uncertainty and economic fluctuations.* The very constitution of an organized internal career for the workers of large manufacturing firms is not sufficient to replace the role of the previous professional market and their large malleability in response to changing demand and technical change. Of course, internal job mobility can be a solution, but the external shocks have to be moderate

INSERT I.1 (Follows 3)

....and one observes a resegmentation of labor markets.

Table I.4 : Percentage of Temporary Workers in the Regular Work Force in Manufacturing Industries, 1956-59.

(As of December of each year)

Year	No. of Employees per Establishment:			
	Total	500 or more	100-499	30-99
1956	7.4%	8.4%	8.4%	4.7%
1957	6.4	9.3	7.1	2.0
1958	6.0	8.7	6.4	2.3
1959	7.7	11.9	7.4	2.5

Table I.5 : Percentage of Temporary Workers in the Regular Work at Establishments with 500 or More Employees, 1956 and 1969.

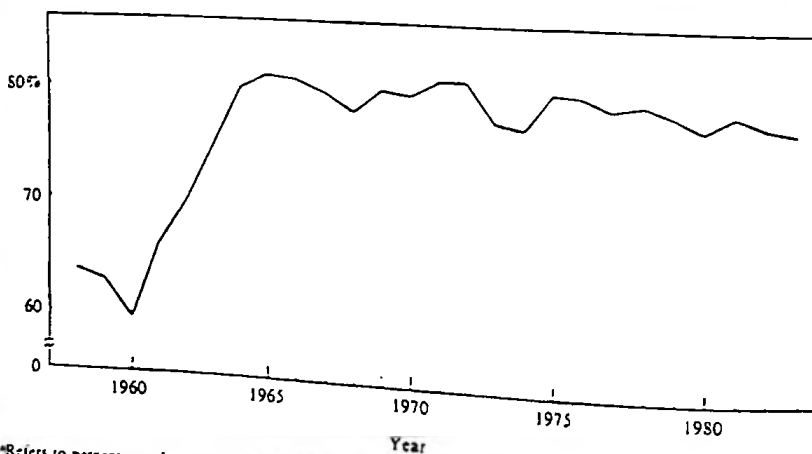
(As of December of each year)

Year	No. of Employees per Establishment:			
	Manufacturing	Machinery	Electrical	Transportation Equipment
1956	8.4%	12.6%	14.9%	12.2%
1959	11.9	16.4	22.6	14.4

Source: Ministry of Labor, Labor Statistics and Research Bureau, 1960:41, *Rodo hakusho—Rodo keisai no bunseki* (Labor white paper: Analysis of labor economy). Original Source: Ministry of Labor, *Rodo ida chosa* (Survey on labor mobility), for respective years.

6. After 1960, the dualism recedes since wage differentials are reduced....

Figure I.5 : Interscale wage differentials in manufacturing industries, 1958-1983.



*Refers to percentage of average regular salary in cash for males at firms with 10 to 99 employees, as opposed to the same at firms with 1,000 or more employees (= 100).

Source: SMEA, 1985b:23. Original Source: Ministry of Labor, *Basic Statistical Research on Wage Structure*.

given the limited size of any individual firm and the lack of product differentiation, since at that epoch most of the firms were largely dependent upon a single product, with minor variations in quality or scope. Therefore, from 1920 to 1930, the stabilization of the employment of regular workers in large firms has been associated with the creation of a pool of temporary workers : basically, they are used as buffer stocks, since they are hired during booms and laid off during recessions or depressions (Figure I.3).

Therefore, the very implementation of the new company-ist WLN calls for the development of its dialectical opposite, i.e. temporary workers. This historical evidence is specially important for contemporary discussions. From a purely theoretical point of views one could imagine that the internal labor markets are able to respond to any uncertainty and economic fluctuations by a variety of adjustment variables : reduction of work duration, internal job mobility, shift from direct production to training, downward adjustment of bonus, wage moderation, transfer of manpower from one factory to another, to subcontractors or affiliated firms (K. KOIKE (1981) ; K. KOIKE, T. INOKI (1990)). Nevertheless, from an historical standpoint, it is very important to observe the *simultaneity* and the joint emergence of company-ism and the status of temporary workers or more generally non regular workers. The stability of the employment of the core wage earners is partially allowed and complemented by the adjustment cost incurred by the workers at the periphery, the content of which may vary from one period to another, from one sector to another.

iv) *After W.W.II, the recognition of unions widens the differences between primary and secondary jobs.* Among the fundamental structural changes in the Japanese economy, the end of the second World War corresponds to an institutionalization of unions, largely protected by law and the surge of firm specific unions to which both blue collar workers and white collar employees belong : these are two distinctive features of the JWLN. The enterprise unions are as segmented as craft unions in Britain, but they are not built at all on precise job demarcations, a distinction that could not be overcome even in Sweden (See section II). Many authors agree that this is an epochal change for the Japanese industrial relations, even if the new institutionalization builds upon previous trends (F. SHIMOYAMA (1994) ; L.F. HEIN (1994)).

INSERT I.1 (follows 4)

Table I.6 : Union Density, 1960-77.

(As of June each year)

Year	Percent
1960	32.25
1961	34.5
1962	34.7
1963	34.7
1964	35.0
1965	34.8
1966	34.2
1967	34.1
1968	34.4
1969	35.2
1970	35.4
1971	34.8
1972	34.5
1973	33.1
1974	33.9
1975	34.4
1976	33.7
1977	33.2

Source: Labor Minister's Office, Statistics and Information Bureau, 1978-31.

..... and there is no significant decline of unionization nor in general, neither in small firms.

Table I.7 : Distribution of Union Members in All Industries, 1956, 1966, and 1976.

Size of Firm ^a	1956	1966	1976
1,000 or more	2,093,725 (33.0%)	3,477,677 (33.7)	4,188,813 (33.9%)
500-999	1,097,545 (17.3)	1,747,090 (16.9)	2,001,714 (16.2)
100-499	2,297,413 (36.2)	3,726,788 (36.2)	4,467,285 (36.1)
99 or less	861,674 (13.6)	1,356,565 (13.2)	1,716,476 (13.9)
Total:	6,350,357 (100.0) ^b	10,308,120 (100.0)	12,374,288 (100.0) ^b

^aNumber of union members per *tan'i Kumiai* (union organization, corresponding roughly to an establishment)

^bBecause of rounding off, the percentage figures for 1956 and 1976 do not add up to 100

Source: Labor Minister's Office, Statistics and Information Bureau, 1978.70-71.

On one side, union density reaches unprecedented levels and culminates in 1949 (Table I.2) but then undergoes a significant decline, which can be interpreted as the outcome of the large firms strategies in order to curb down any strong and independent power of unions. They therefore develop their internal control of workers, specially concerning wages. From 1950 to 1955, it pays more and more to workers to belong to large firms, since wage differentials are widening (Table I.3). Simultaneously, the stability of regular workers is reinforced...but temporary workers play a significant role in adjusting the manpower requirements of the large firms (Figure I.4). The historical evidence collected by T. NISHIGUCHI (1994: chapter 3) gives a strong support to the hypothesis that labor market segmentation is a crucial device in the viability of the status granted to the core workers (H. UEMURA, A. EBIZUKA (1994)). Clearly, whereas the percentage of temporary workers is declining from 1956 to 1959 for smaller firms, it is increasing for the larger one. This implies a kind of structural complementary between the high wage and employment stability warranted to the core workers and the lower wage and larger employment instability which is in counterpart necessary to impose to temporary workers (Table I.4). This is specially so for the manufacturing firms which are at the origin of the Japanese success and competitiveness, i.e. in machinery, electrical goods and the car industry (Table I.5).

- v) *The high growth of the 60's creates labor scarcity and induces large firms to internalize a larger fraction of their work forces.* The transformations in the WLN and of the other institutional forms turned out to be quite successful in supporting an unprecedented accumulation regime. A high investment rate allows a very rapid growth rate which progressively exhaust the agricultural excess labor supply (R. MINAMI (1973)) and therefore launch and legitimize a high skill high wage strategy (L.E. HEIN (1994)). Actually, after 1965, wage differentials are significantly reduced and remain nearly constant until the early 80's (Figure I.5). During this period, union density remains constant even if the total number of unionized workers is increasing (Table I.6). The diffusion of unionization is not limited to the larger firms since the smaller ones experience a lower but a nearly constant union density (Table I.7).

INSERT 1.1 (follows 5)

7. Acute labor shortages induce manufacturers to «internalize» their temporary workers. The example of Toyota.

Table 1.8 : Temporary and Seasonal Workers at TOYOTA, 1946-1979.

Year*	Total Work Force	Temporary Workers	Seasonal Workers	All Marginal Workers
1946	6,463			
1947	6,345			
1948	6,481			
1949	7,457			
1950	5,398			
1951	5,315			
1952	5,228			
1953	5,291			
1954	5,249			
1955	5,162			
1956	5,061			
1957	5,904	5.9%		5.9%
1958	6,050	12.1		12.1
1959	7,210	12.2		12.2
1960	9,720	21.9		21.9
1961	11,963	42.6		42.6
1962	13,442	30.2		30.2
1963	15,999	26.5		26.5
1964	20,938	16.0		16.7
1965	22,595	10.8	0.7%	14.5
1966	25,580	11.9	3.7	14.0
1967	30,380	11.2	1.1	12.6
1968	34,078	7.9	1.4	10.3
1969	36,689	6.1	2.6	9.8
1970	40,365	5.0	3.7	7.8
1971	40,918	5.0	2.8	7.8
1972	41,256	3.4	5.1	8.5
1973	42,892	1.2	1.6	2.8
1974	44,880	2.2	1.5	3.7
1975	44,584	1.9		1.9
1976	44,474			
1977	44,798			
1978	45,203			
1979	45,233			

*As of August for 1946-49, May for 1950, September for 1951, November for 1952-74, and June for 1975-79.

*Between 1975 and 1979, Toyota stopped employing temporary and seasonal workers (*Chunichi Shinbun*, June 9, 1979, quoted in Fujita, 1980:131).

Source: Adapted from Yamashita, 1980:148-49. Original Sources: Toyota, 1958:663, 1963:80-; Ministry of Finance, *Yaku shoken hakokusho: Toyota* (Report on securities: Toyota), 1961-79.

Source: Toshihiro NISHIGUCHI (1994), p. 20, 25, 27, 31, 57, 58, 68, 69, 91, 93 et 99.

All these factors, both economic (high growth and rapid productivity increases, labor shortages) and institutional (recognition of the role of unions, general access to education, democratization of the Japanese society, status of women) converge toward strong pressures in favor of the internalization of temporary workers. The pattern of TOYOTA's chronology (Table I.8) is not exceptional and seems to correspond to the strategy implemented by most of the large manufacturing Japanese companies in the 70's : before the oil shock, temporary, seasonal and marginal workers tended to be incorporated within the main firm or the first rank subcontractors.

Therefore, nearly three quarters of the XXth century were necessary in order to finally manufacture the well known and celebrated Japanese employment system : leading role of large firms providing job stability, in-house training and wage career, as an ideal to be emulated by smaller firms. One could imagine that non-regular workers could be a minor and vanishing exception to a JWLN : the internal labor market flexibility would largely replace the external and competitive labor markets adjustments. But this was not at all the end of history for capital and labor : the two oil shocks, the endeka and ultimately the 1991 recession have significantly altered the model of the early 70's, largely idealized by theoreticians who were prone to forget its historical origins its pre-requisites and internal weaknesses.

3. The 1st oil shock : a catharsis in the formation of the contemporary JWLN.

The regulationists have already gathered a series of evidences about such changes :

- i) The decline of unions is changing the power relationship between managers and wage earners : this could be an endogenous phenomenon (J. REBITZER, T. TSURU (1994)).
- ii) The spring offensive seems to have structurally changed around the mid Seventies : the leading sectors are no more the same and the logic is quite different (moderating wage increases in order to preserve the competitiveness of the manufacturing sector) (T. TSURU (1991)).
- iii) Actually, average wage formation has experienced a structural transformation around the mid Seventies (H. TOYAMA (1994) ; R. BOYER (1991)).

iv) Wage shares represent a declining proportion of total income since the mid Seventies (H
UNI (1994)).

To conclude the Japanese economy evolved from rather low wage and average skills in the Fifties to high wage and high skill in the Nineties, and this process permeates the specificity of the accumulation regime. The end product is mass-consumption and mass-production, but with significant differences on the consumption as well as the production side : more differentiated goods, absence of a strict task delimitation allowing fast implementation of organizational and technical innovations....

This conclusion is specially important for two reasons. First « régulation » theory insists upon the continuous alteration of the institutional forms due to the very success of their implementation. Second, the Japanese capitalism is well known for its pragmatism in responding to a series of crises or challenges (the reconstruction, the first oil shock, the yen appreciation,...). The bursting out of the bubble boom is another episode of such a periodic rearrangement of the JWLN. But before investigating the contemporary transformations, it is important to characterize the core components of the capital labor compromise (II) and then to relate them to the macro-economic performances of Japan (III).

II - WHAT IS SPECIFIC TO THE CONTEMPORARY JAPANESE WAGE LABOR NEXUS (JWLN) ?

Let us stop the historical retrospective about the genesis of the Japanese configuration and adopt now a comparative analysis in order to put the so-called national specificity in the context of contemporary variety of industrial relations. The present section combines two different approaches. One can first review the features already pointed out by previous regulationist or political economy analyses : shop floor democratization, involvement and commitment induced or coerced, original productivity or profit sharing at the firm level, strong segmentation of the wage labor nexus, role of family and hierarchy in work ethics. Second, it may be convenient to present the arguments according to the five components of wage labor nexus : work organization, social and technical division of labor, labor mobility, wage determination, indirect wage and life style. This section ends by an updated synthesis of the

position of Japan within a general taxonomy of the WLN. This analysis is motivated by some of the following questions : What are the major differences between Japan and US in terms of WLN ? Is the JWLN a functional equivalent of the German WLN ? Why France has not followed the Japanese trajectory after the two oil shocks in spite of common features (large internal markets, selection of elite according to school merits, developmentist state...)

1. Work organization : competence much more than task.

Typically Fordist organizations rely on a very precise division of tasks which opposes production to management, conception and engineering. Therefore, education is organized mainly in order to fulfill the most prestigious jobs and allocate the less successful individuals to routine tasks. Such a division is not totally absent from the Japanese case, but it is mitigated by two important differences. First, the insertion of wage earners within the firms is not defined by the tasks they are supposed to comply, but by the belonging to the same entity and the acceptance of its objectives. Therefore, the enhancement of current and still more potential competency is a key principle operating in large firms : the wage systems are therefore defined much more with respect to the individual than to the job presently fulfilled (B. REYNAUD (1994)). This is thus, quite different from Fordism or Taylorism, still embedded in the American and British societies.

But the JWLN is not the only one to embody such a feature. Comparative studies suggest that Germany and Sweden share the same concern for high skills and their permanent enhancement, without any clear barrier imposed by strict job demarcations (R. BOYER, J.P. DURAND (1993)). But the Japanese configuration is quite specific with respect to the precise institutional organization of skill formation. In Germany, a long established and recurrently reformed apprenticeship system delivers large but well defined qualifications which can be used in a variety of firms : this is the origin of the professional markets typical of this country. In Sweden, public authorities have in charge to organize the upgrading of skills when some industries become obsolete and no more competitive : the upgrading of competency takes place ex post on selected individual at specific period of their professional career.

**TABLE II.1 : WIDELY DIFFUSED GENERAL EDUCATION AND ON JOB TRAINING :
THE FIRST SPECIFICITY OF THE JAPANESE WAGE-LABOR NEXUS.**

	<p>OBJECTIVE : <i>Promote continuous up-grading of skills</i></p>		
	GERMANY	JAPAN	SWEDEN
CONFIGURATION			
1. NATURE OF CURRICULUM	Combines theory and practice	Learning of technical routines and social codes	Technical and theoretical
2. PLACE OF TRAINING	Alternatively firms and technical schools	On the job learning and via technical centers within the large firms	Public and regional training institutes
3. IMPACT UPON WAGE	Low wage during apprenticeship, but wage career afterwards	Low wages for hires and then rather steep wage career	Very limited direct impact, since earnings differentials by skills are quite knitted but indirectly, training promotes a high value added high wage economy
4. TRANSFERABILITY	Theoretically very large, somehow limited within large firms	Not transferability, hence job tenure for large firms	Labour mobility is organized by public agencies simultaneously in charge of training, unemployment benefits and job creation
5. ROLE OF LABOUR MARKETS	Occupational market for skilled workers	Segmented labour markets help in sustaining specific skill investment and job tenure	Highly organized but unemployment plays a role in wage bargaining
6. STATE INTERVENTION	Largely indirect, via incentives and decentralized negotiations	Minimal for vocational training, prominent for general education	Overwhelming in labour institutions and active employment policies
STRENGTHS AND WEAKNESSES	<ul style="list-style-type: none"> • Wide spectrum of skills within one occupation • Good response to incremental innovations • Possibly eroded by the rise of enrollment into universities • Sluggish and inefficient response to radical innovations 	<ul style="list-style-type: none"> • Fast learning and good response to technical change • Incentive to product innovation and diversification • Pressure upon job tenure during more severe or unexpected downturns • Possible conflict with young generations expectations 	<ul style="list-style-type: none"> • Defensive labour flexibilities flow wages, low skills used to be ruled out • Incentive and lubricant for constant up grading of productivity • The reduction of wage differential may be detrimental to workers incentives • The quest for employment triggers wage inflation and possible disruptions of industrial relations

The evolution of the last century has delivered a quite different system for Japan (see I.2, supra). Contrary to Germany, the vocational training is rather limited and not very efficient, but professional skills are delivered by the combination of two different logic (Table II.1). First, a generalist educational system is designed in order to deliver good basic knowledge to the quasi-totality of each age cohort, without any concern for the professionalization of any educational track. Then, the achievements at school are the selecting devices for allocating the various individual to the companies. The larger and the most prestigious ones subsequently organize the technical and professional training, by running their own training center and still more by organizing a systematic rotation of the new hires to across large number of jobs and tasks within the firm. Therefore, an idiosyncratic and largely non transferable knowledge is cumulated, homogenizing the competency and expectations of the manpower pool. This is the *second* distinctive feature of the JWLN

This configuration has clear advantages : a very good fit of the skills to the needs of the firm, a stimulation of the commitment for the firm and the stability of its work force, an ability to develop marginal innovations at the shop floor level. But it is not without constraints and rigidities. If for instance technical change becomes more radical than incremental, then it might be difficult to retrain the incumbent workers. Similarly, the system is effective only for large companies with multiple divisions and a large variety of products. Under many respects, the German system is superior. It is not necessarily better for radical innovation but it allows a mobility from one firm to another, gives some power to workers and their organizations quite independently from the belonging to a single company for the complete professional life cycle.

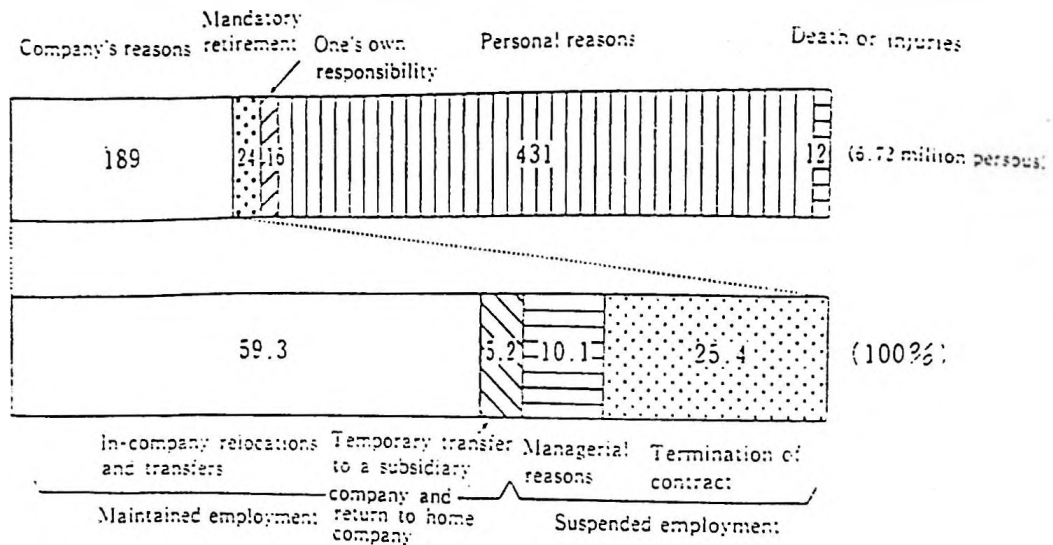
2. A labor mobility organized by the large firms with the help of the State.

A logical consequence of this pattern of skill development is that labor mobility cannot be organized massively via the adjustments of labor markets (Insert II.1). On one side, since each qualification is largely related to a given firm, a major uncertainty about quality of each workers prevents any organized market. Therefore, in the absence of a professional market (with some exceptions for some generic skills), the transfer for one occupation to another has to be organized by the large firms themselves. On the other side, the internal mobility is the only method in order to recoup large training costs due to the length of the learning period. For both these reasons, layoffs are quite limited indeed in the global outflow of workers into

INSERT II.1 : THE LABOR MOBILITY IN JAPAN IS INTRAFIRM AND ORGANIZED RATHER THAN EXTERNALLY IMPLEMENTED BY THE LABOR MARKET : A SECOND SPECIFICITY.

1. « Suspended » employment is only a limited fraction of labor mobility.

Figure II.1 : Breakdown of an Outflow of Workers from Establishments



Source : The Japan Institute of Labor (1994), p. 41.

2. Public subsidies to employment adjustments help the strategies of firms.

Table II.2 : Designated firms and employment adjustment subsidy

	Designated industries (1000) (1)	Workers (1000) (2)	Share of:		Subsidy (million yen) (5)
			Firms (%) (3)	workers (%) (4)	
1975	281	7218	31.2	31.0	55225
1976	71	1618	7.2	7.0	5433
1977	32	856	3.1	3.5	3292
1978	218	3422	20.4	14.6	6797
1979	207	2941	18.3	12.5	2427
1980	38	508	3.1	3.1	2747
1981	153	1699	11.9	6.6	9331
1982	326	3664	24.3	14.5	9886
1983	343	4701	24.7	18.0	16170
1984	241	3185	17.1	12.0	6337
1985	206	2370	14.3	8.8	4777
1986	90	1661	6.3	6.8	19832
1987	118	2322	7.9	8.4	39279
1988	76	1479	5.0	5.3	26565
1989	54	652	3.4	2.3	16379
1990	62	634	3.8	2.1	4982
1991	25	280	1.5	0.9	2332
1992	0	0	0	0	3283
1993	85	1957	4.7	5.9	

Source: Ministry of labor

Source : BLUMENTHAL T. (1993), p 21.

and out establishments (Figure II.1). For instance, internal relocation and temporary transfer to a subsidiary represent nearly 60 % of the total moves initiated by companies. Of course, the non renewal of temporary contracts and the decision to quit by workers are the two other more frequent methods for labor mobility. By international standards, the importance of this internal mobility is quite exceptional for Japan.

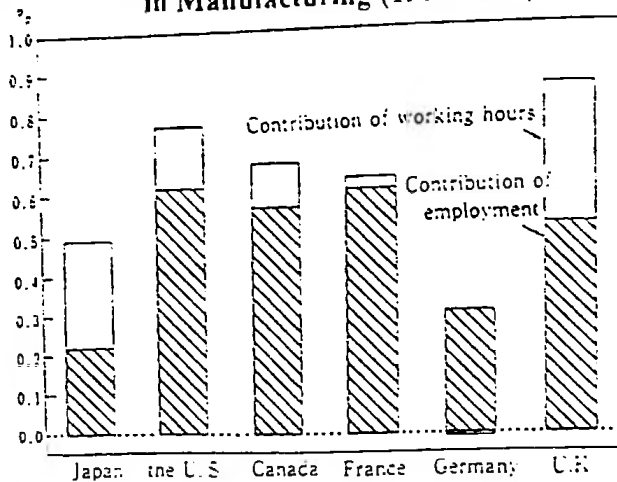
Since the special law protecting employment during restructuring periods, public subsidies help to smooth the adjustment process during major industrial crisis (Table II.2). The first oil shock, the second and endeka have experienced a significant intervention of the State : between 12 and 31 % of workers have been covered by such a mechanism during peak years (T. BLUMENTHAL (1993)). The success of this kind of intervention is quite surprising for non-Japanese, specially in the light of neo-classical theory of self interest. When an equivalent tool was suggested in France in 1994, all the firms rushed to declare that they were incurring excess labor in order to get subsidies from the State : the measure had to be withdrawn less than one week after being announced (R. BOYER (1994)). By contrast, the Japanese success relies upon a continuous exchange of information among the public administration and the firms and a recurrent bargaining prevents the conventional opportunism to destroy such a subsidy to restructuring (M. OKUNO-FUJWARA (1993)). Furthermore contrary to the Italian C.I.G. (casa integrazione guadagni), the duration and the scope is precisely delimited to crisis ridden sectors, according to well established statistical evidences or observable events.

The interaction of firms strategies and government interventions may explain a well known specificity of the Japanese economy : among major OECD countries, it experiences the lowest elasticity of man hours labor with respect to production (Figure II.1). Under this respect, Japan is closer to Germany than to most Fordist economies such as US or France. Furthermore, after 1974, the reaction of the Japanese WLN to economic fluctuations has drastically changed : the fluctuations of employment become smaller and are compensated by larger adjustments of work duration (Table II.3).

Typically American Fordism relies upon layoffs and not so much significant variations of hours and wages since these variables used to be negotiated and embedded into collective agreements binding for a period of three years. By contrast, the JWLN is hierarchically organized in order to make layoffs the measure of last resort, not the more frequently used in

INSERT II.1 (follows 1)

3. Hence a low elasticity of manufacturing employment with respect to output.
 Figure II.2 : Variations in Man-hour Labor Input to 1% Change of Production Growth in Manufacturing (1984-1991)



Source : Estimated by Labour Economy Affairs Division, Ministry of Labour, from Ministry of Labour, *Monthly Labour Survey*; Statistics Bureau, Management and Coordination Agency, *Labour Force Survey*; Ministry of International Trade and Industry, *Trade and Industry Statistics Bank of Japan, Annual Report on Foreign Economic Statistics*; ILO "Year Book of Labour Statistics." U.S. Department of Labour, "Employment and Earnings." U.S. Department of Commerce, "Survey of Current Business."

Source : The Japan Institute of Labor (1994), p. 39.

Table II.3 : The fluctuations of production, total hours, employment and work duration:

① 生産、労働投入量等の変動 an international comparison.

		1961~73年	1974~93年	全期間
日本	生産	5.51	6.15	7.55
	労働投入量	3.29	2.69	3.25
	雇用者数	3.59	1.89	3.14
	労働時間	1.18	2.06	1.79
アメリカ	生産	5.08	5.44	5.28
	労働投入量	4.32	4.66	4.62
	雇用者数	3.50	3.80	3.79
	労働時間	1.30	1.50	1.42
ドイツ	生産	4.83	4.71	5.02
	労働投入量	4.66	4.45	4.64
	雇用者数	3.46	3.83	3.77
	労働時間	1.72	1.55	1.62
イギリス	生産	4.43	4.75	4.82
	労働投入量	3.09	3.77	3.71
	雇用者数	1.84	3.05	2.95
	労働時間	1.73	1.70	1.72

② 雇用調整係数

	1960~73年	1974~93年	全期間
日本	0.13	0.04	0.08
アメリカ	0.32	0.45	0.33
ドイツ	0.22	0.14	0.09
イギリス	0.13	0.21	0.15

(備考) 1. 通商産業省「通産統計」、労働省「毎月労働統計調査」、日本銀行「卸売物価指数」、OECD「Main Economic Indicators」、ドイツ連邦銀行「Monthly Report」により作成。
 2. 製造業の四半期データを用いて計算。
 3. 労働投入量=雇用者数×労働時間。
 4. ①は、各項目の前年同期比の標準偏差。「全期間」については、トレンド部分除去後の標準偏差。
 5. ②は、雇用調整係数の推計に基づき、1から前期の雇用数にかかるパラメータを引いたものであり、その値が大きいほど雇用調整のスピードが速いことを意味している(付注3-6参照)。
 6. イギリスについては63年以降のデータを使用した。

Source : Economic Planning Agency (1994), p. 326.

INSERT II.1 (follows 2)

4. And smoother evolution for employment in Japan than in the US, even for the more internationalized sectors, such as the car industry.

Figure II.3 : Employment, production and domestic demand in Japan

図5-9 雇用、生産、国内需要の増減率：日本

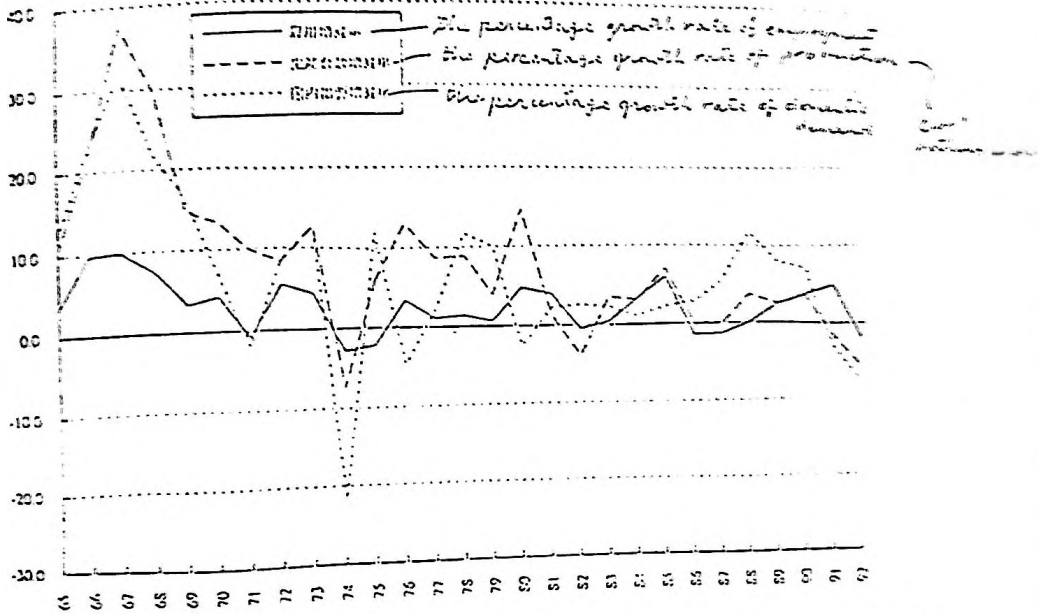
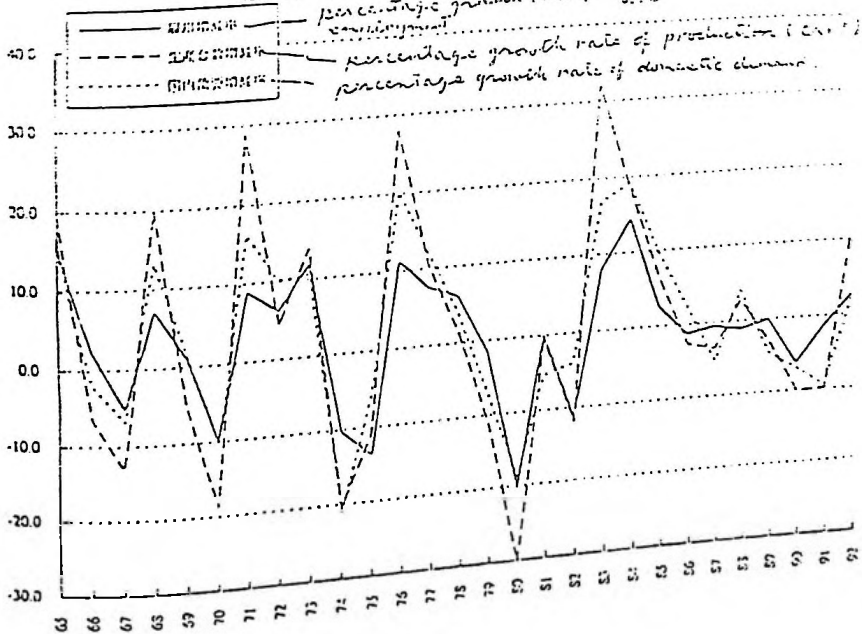


Figure II.4 : Employment, production and domestic demand in US

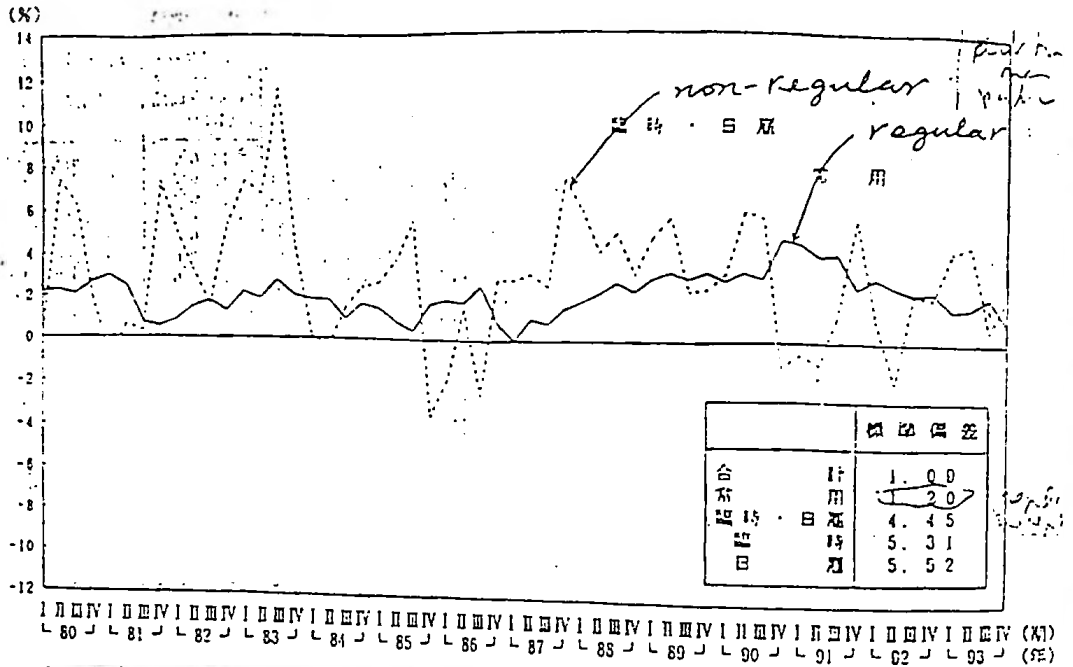
図5-10 雇用、生産、国内需要の増減率：アメリカ



INSERT II.1 (follows 3)

5. Furthermore, non regular workers help in responding to economic fluctuations.

Figure II.5 : Regular/Non-regular workers



(注) 1. 総務庁「労働力調査」により作成。
 2. 平均偏差は、1969～93年の期間について計算した。

Source : Economic Planning Agency (1994). p 327

reaction to any unfavorable shock. This is not a macroeconomic artifact which would derive from major differences in the sectoral composition of the Japanese and American economies. In the car industry for instance, whereas the manufacturers are competing for the same markets, the production fluctuations are far milder in Japan (Figure II.3 and II.4). The divergence of adjustment pattern is still more striking for employment : the mild Japanese fluctuations express the rapid growth of production and the importance of internal labor markets (ITAMI (1994)). On the contrary, for American manufacturers, adjusting quickly and completely employment level to the evolution of sales, for it is perceived as the normal tool for profit restoration.

This second, and important Japanese specificity does not mean that economic fluctuations and disturbances are easily and completely absorbed under the system of employment stability. Beneath the smooth adjustment of total employment, there exists a clear inequality. Regular workers do enjoy a quasi employment stability, but the non regular workers have to bear a large fraction of the cost of adjustment, during booms as well as during recessions (Figure II.5). Thus, the contemporary JWLN still exhibits a strong complementarity between two labor contracts (see section I.2 supra). This feature is important in understanding the wage systems designed and implemented by large firms : the life-time income differentials between primary and secondary workers are somehow linked to employment stability and commitment for the wage earners of large firms.

3. Complex but competency enhancing wage systems.

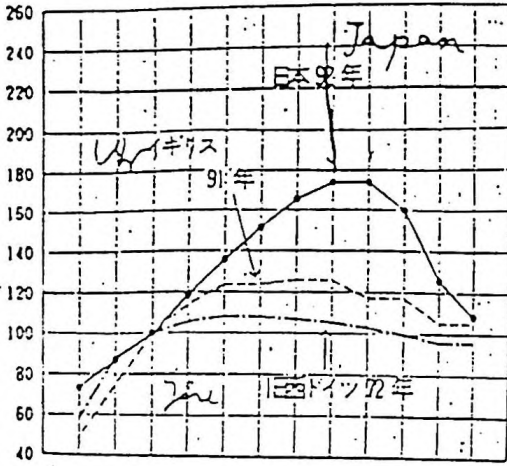
The brief historical retrospect has already mentioned the introduction of seniority wage system back in the 20's, precisely to stabilize skilled workers. This core feature in the construction of internal career is specially important in Japan, much more than in any other OECD countries, with the possible exception of France. This has been widely documented by comparisons between Japan and US (M. HASHIMOTO, J. RAISIAN (1985) ; (1989)). But the same specificity comes out of the wage profiles in Japan, UK and Germany (Figure II.6). Both UK and Germany are characterized by active professional labor markets (D. MARSDEN (1990)), therefore seniority has not a strong impact upon production workers as well as clerks and engineers income. When these professional markets are perfectly developed as in Germany, the wage profile is nearly flat, in strong opposition with the Japanese configuration.

INSERT II.2 : AN ORIGINAL MIX OF MICRO AND MACRO DETERMINANTS FOR WAGE FORMATION : A THIRD SPECIFICITY OF JAPAN

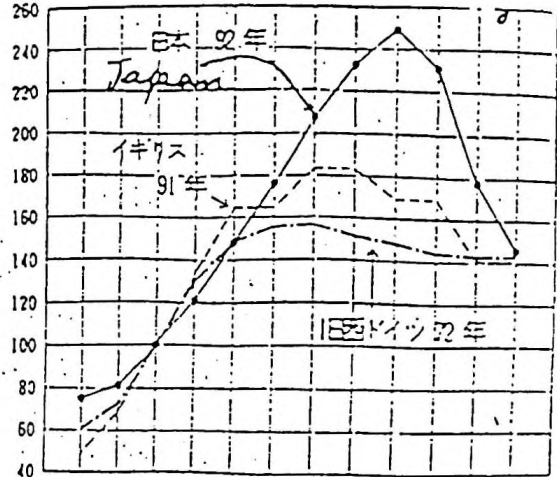
1. Steep wage profiles along with seniority : an incentive for commitment and job stability.

Figure II.6 : An international comparison of wage profiles.

① 生産労働者



② 管理・事務・技術労働者

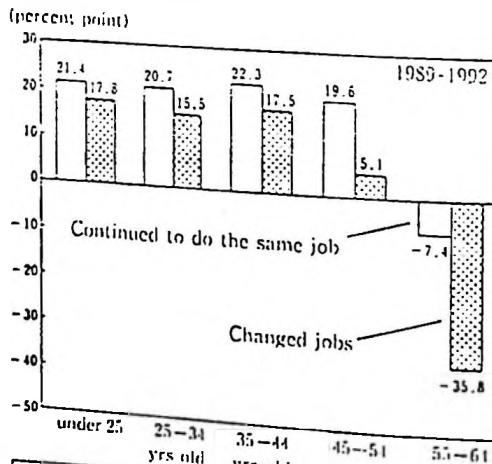


-17 -19 -21 -23 -25 -27 -29 -31 -33 -35 -37 -39 -41 -43 -45 -47 -49 -51 -53 -55 -57 -59 -61 65 (歳)

Source : Economic Planning Agency (1994), p. 324.

2. Mid career change of firm is quite detrimental to wage-earners income : this is a hidden factor of commitment.

Figure II.7 : D.I. of Wage Fluctuations at Time of Job Change by Age Group



Gap in wage fluctuation D.I. b/w "continued to do the same job" and "changed jobs" (percentage points)

	under 25	25-34 yrs old	35-44 yrs old	45-51 yrs old	55-61 yrs old
1984-88	2.6	6.7	4.2	10.2	20.1
1989-92	3.6	5.2	4.8	11.5	28.4

Source : Specially tabulated by Policy Planning and Research Department, Ministry of Labour, using Ministry of Labour, Survey on Employment Trends

Source : The Japan Institute of Labor (1994), p. 46.

Under this respect, there is not any continuity between the Japanese company-ism and the German highly skilled workers : they belong to totally different institutional settings.

There is another difference between Japan and US In North America, when skilled workers jump from one firm to another, on average their income is better off since they better exploit job market opportunities, provided they do not form erroneous and excessive expectations about their value on the labor market. Quite on the contrary in Japan when a worker of a large company decides to leave at mid-career, most of the time he (but not she) experience an important drop of their income, more or less acute according to the rank of their new company (affiliate firm, first rank subcontractor, second rank subcontractor...). This loss of income is specially large for experienced workers near the retirement age (Figure II.7).

This difference of status and income is clearly perceived by any blue collar worker or salaryman. Therefore, even if in Japan the rate of open unemployment is fairly low, the equivalent of the cost of job loss can be a disciplinary devices in order to maintain the cohesiveness of the workers belonging to the large company. In other words, the segmentation of the WLN is the equivalent of the low unemployment benefits and significant risk of unemployment in North America. Nevertheless, the monitoring of long term commitment in Japan is rather different from the more short run oriented American control over labor intensity.(S. BOWLES (1991)).

Let us note that how the three features of the JWLN are complementary : the development of firms related skills extends the internal mobility of employees and make employment stability interesting for both the firm and the workers. But as mentioned by H. UEMURA and A. EBIZKA (1994), this virtuous circle is immersed into a hierarchical ranking of the WLN in Japan. This raises the issue of the role of social inequality in the stability of company-ism.

4. Education, sexual discrimination and firm size : three factors in the stratification of the JWLN.

In Japan income inequalities, even if relatively limited by comparison with US, are both static and dynamic. Let us first consider the wage obtained by the new entrants into the labor market on 1993 (Table II.4). At the beginning of the career, income differentials are

INSERT II.2 (follows 1)

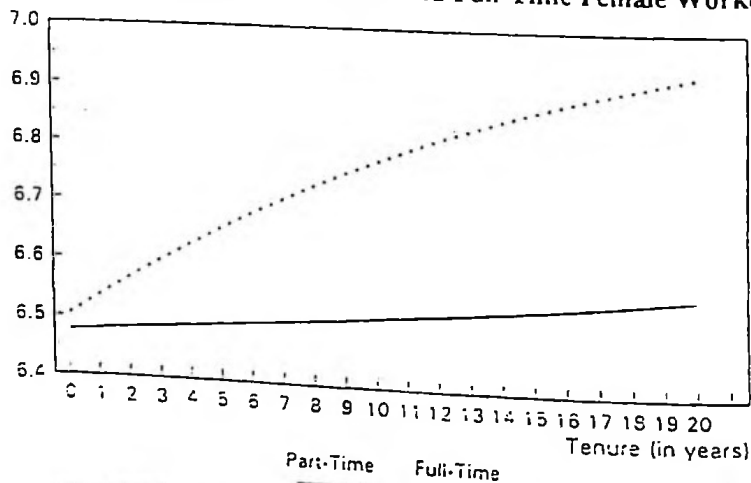
3. A major inequality between females and males : This is less a matter of starting salary than of access to full-time jobs and the related career.

Table II.4 : Average starting salary by gender and company size (May-June 1993)

OFFICE WORK		More than 500 employees (1)	Less than 500 employees (2)	Company Influence of size (1)/(2)
Males	University (a)	187.326	183.021	1,023
	High School (b)	150.039	148.831	1,008
	Influence of Education (a)/(b)	1,249	1,223	1,015
Females	University (d)	178.537	177.105	1,008
	High School (e)	143.815	143.056	1,005
	Influence of Education (d)/(e)	1,241	1,238	1,003
Influence of gender	- For University graduates (f)=(a)/(d)	1,049	1,033	1,015
	- For High school leavers (g)=(b)/(e)	1,043	1,040	1,002

Source : Computed from JETRO (1994), p. 118.

Figure II.8 : Wage-Tenure Profiles of Part-Time and Full-Time Female Workers in Japan



Source: Authors' simulations using data from Bureau of Statistics, Employment Status Survey, 1987.

Source : HOUSEMAN S.N., OSAWA M. (1994), p. 55.

relatively limited. The main discriminating factor is the length of education, which can be interpreted either as an evidence for the role of human capital formation, or as a screening device for selecting the most talented and/or the most hard working individuals. Basically, extending education from high school to university delivers around 24 % for starting income, whatever the size of the firm or the sex of the wage earner.

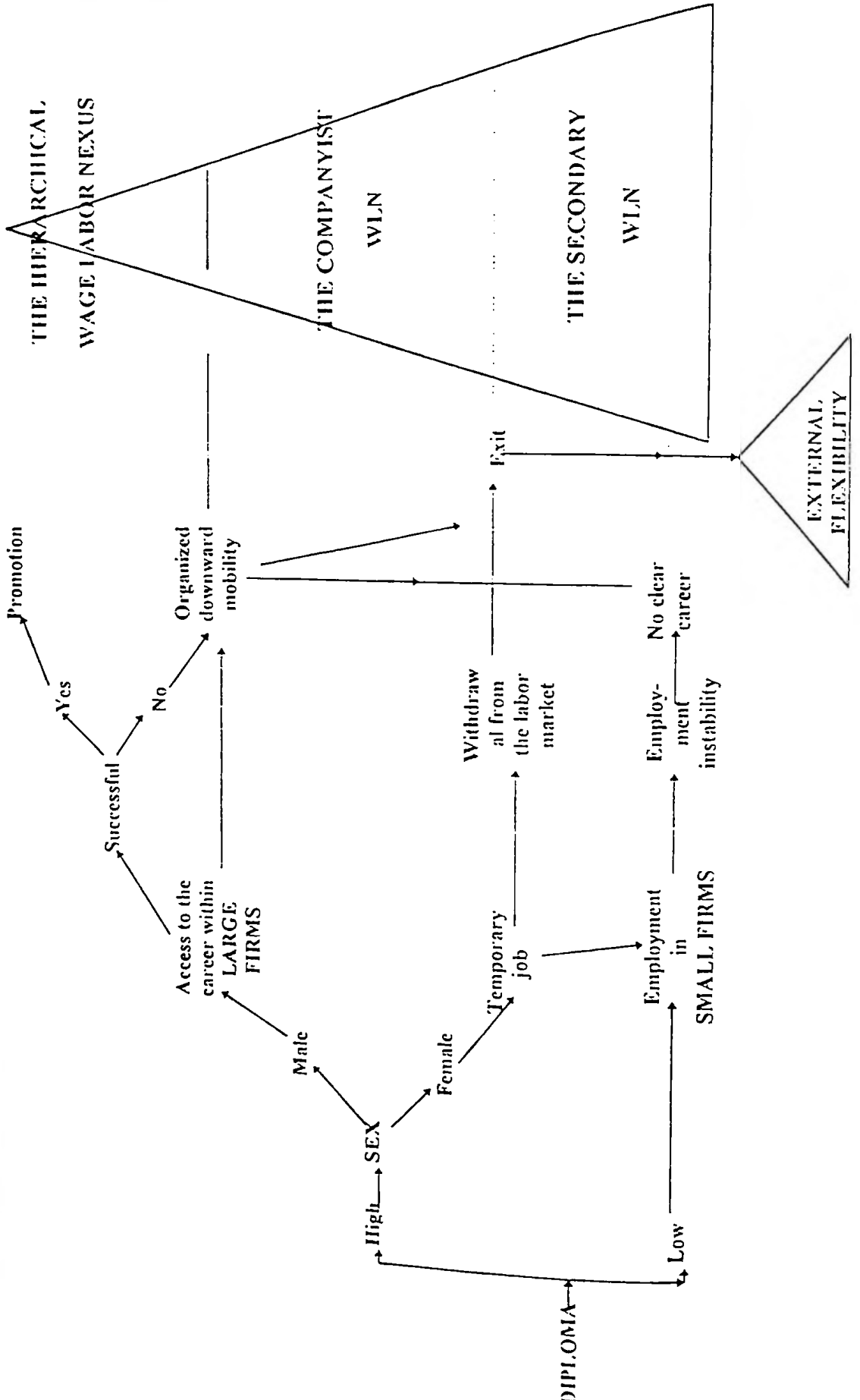
Then, the second discriminating factor relates precisely to the issue of sexual division of labor. On average for the same diploma and identical size of the firm, male workers get between 3 % and 5 % more for their starting wage. It is interesting to note that this difference is slightly less for small firms. Finally, the third variable is the size of the firm...but at the initial stage of the career, the impact is minimal indeed : it is significant only for university and male workers, not at all for women with low education.

But this is only a static snapshot of income differentials since now time and length of career has to be introduced...and this makes a big difference (Figure II.8). In fact, the basic discrimination largely derive from the observation that women mainly occupy part-time job with not any career potential, whereas male workers are the vast majority of full time regular workers (S. HOUSEMAN, M. OSAWA (1994)). Therefore, the major inequality expresses itself at the level of a complete professional cycle : even if women get the same diploma than men, they are basically not entitled to enter a professional career...with some minor exceptions. The distribution of activity rate by age is a good evidence of the Japanese exceptionalism under this respect...even if the gap is very slowly reducing through time (The Japan Institute of Labour (1994)).

What are thus the relevant stratifications of the WLN to take into account in order to capture and formalize its impact upon productivity and wage increases (Table II.5) ? May be Japan shares with France the commonsocial belief that elite should be selected via meritocracy in accordance with achievements in the education system. (R. DORE Ed. (1967)). Then, the large companies and the public administration choose among the best performers. For men, this opens the perspective of a career during which income will grow along with seniority, until the crucial period where they have to prove that they have been exceptionally efficient to continue to be promoted to the higher responsibility. If they are not, they have to experience a more or less important decline of their status and income. The women does not face this strong

TABLE II.5 :

A VERY SIMPLIFIED SYNOPSIS OF THE THREE MAJOR DISCRIMINATING FACTORS IN THE STRUCTURING OF THE JWL/N.



competition, since they are rarely entitled to enter the same track as salaried men : therefore they are to choose between the withdrawal from the labor market (and then devote themselves exclusively to family and child raising) or part time and temporary jobs in smaller firms and a quasi stagnant income. Nevertheless, women play a role in macroeconomic adjustments, precisely in responding to economic fluctuations via their entry into or withdrawal of the labor market

Consequently, from a macroeconomic standpoint, the opposition between core male workers and a series of less favorable status might be the more relevant...specially for wage formation.

5. Macroeconomic wage formation : an original mix of decentralization and coordination.

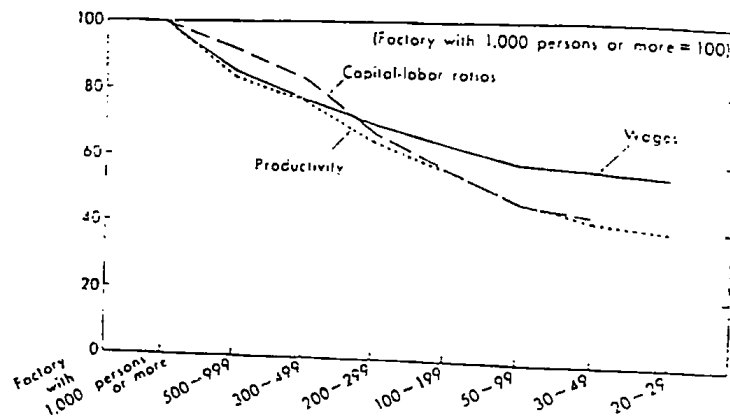
Given this dualism, the Japanese wage formation is rather original. From the previous institutional description one could infer two contrasted functioning of the labor market. Either the large companies exert a leadership in wage formation and they impose it to the rest of the economy (M. AOKI (1988)) : this would imply a medium long term productivity or profit sharing. Or the competitive pressure exerted by smaller firms is strong enough to induce an overall rather competitive wage formation. For instance, many econometric studies have found an impressive sensitiveness of nominal wage to labor market unbalances...and this would not necessarily derive from discrepancies in the measurement of Japanese unemployment (K. ODAKA (1980) ; K. TAIRA (1983) ; C. SORENTINO (1984)).

Many econometric analyses suggest a composite wage formation, in which both mechanisms interact. First of all, from a static point of view, the small firms pay lower wage but their productivity is still lower, which means that the large firms experience extra profits due to the fact that they pay wage inferior to what they could pay given a higher degree of mechanization and larger productivity levels (Figure II.9). Therefore, the potential accumulation rate is higher and large firm may invest more easily in productive investment, training and RD expenditures. Secondly, the large company benefits from the wage moderation induced by a large pool of secondary jobs in the smaller firms. One recognizes the well known argument about the role of the level of reservation wage in models of efficiency wage

INSERT II.2 (follows 2)

4. A second source of inequality : small firms pay lower wage, but large firms nevertheless experience extra-profits since their productivity is still larger than wage differentials.

Figure II.9 :

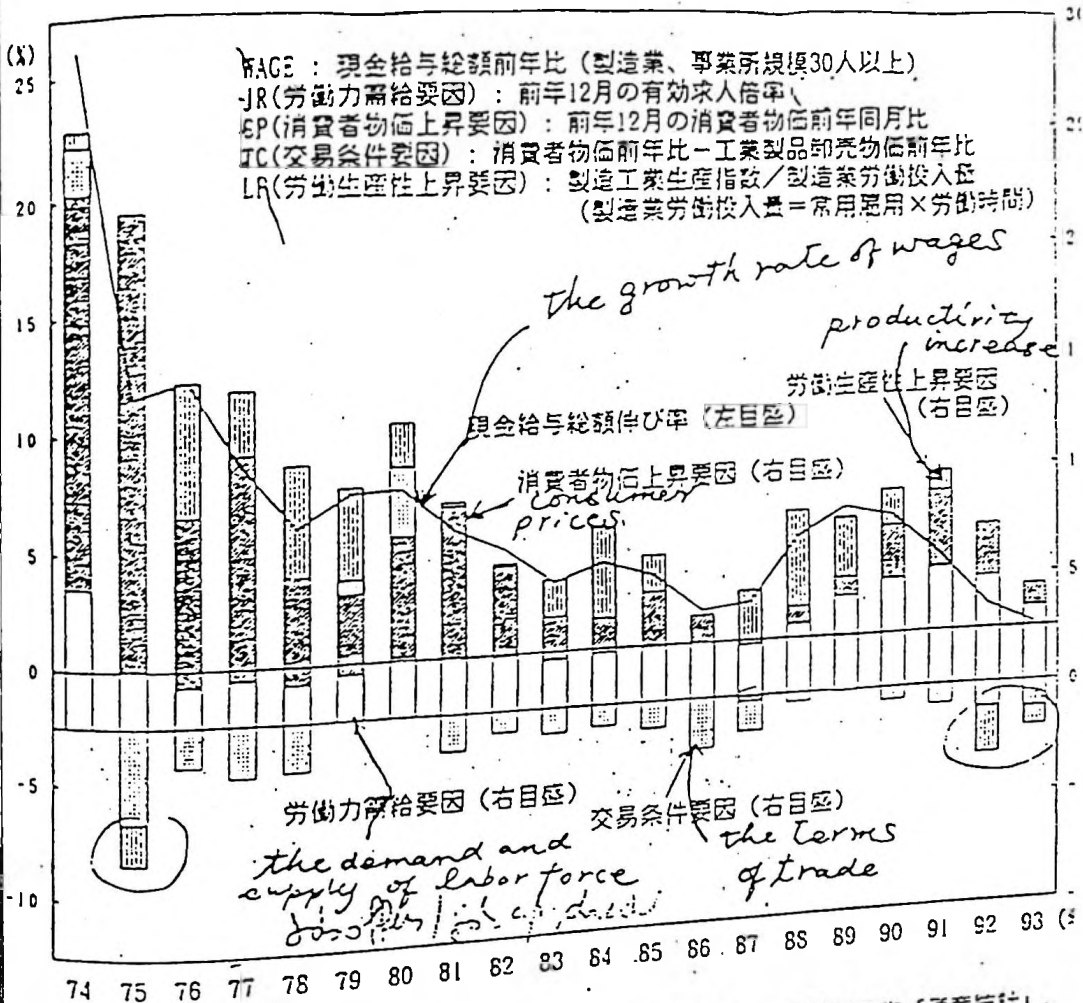


Source : The Tsuneta Yano Memorial Society Ed.(1994), p. 58.

INSERT II.2 (follows 3)

5. Thus at the macro level, wage formation is quite sensitive to labor market unbalances and economic performances.

Figure II.10 : The factors to determine the growth of wages (manufacturing annual growth rates)



(備考) 1. 労働省「毎月勤労統計調査」、職業安定業務統計、通商産業省「通産統計」、総務庁「消費者物価指数」、日本銀行「卸売物価指数」により作成。
 2. 推計式は以下の通り。

$$WAGE = -2.484 + 3.775 JR + 0.922 CP - 0.418 TC + 0.590 LP$$

(-1.44) (2.49) (12.21) (-3.09) (4.34)

$R^2 = 0.90$ 、 $SE = 1.78$ 、 $DW = 1.99$ 、推定期間：74~93年 (年データ)

formation in the corporate sector (S. BOWLES (1991)) : the secondary labor market would set the basic wage, on top of which the primary sector would add a premium in order to preserve employment stability, commitment and higher productivity

Time series econometric analyses of manufacturing wage formation tends to confirm this hierarchical approach (Figure II.10). On one side, the disequilibrium between job offers and vacancies has a significant role in wage moderation, which expresses the competitive pressure exerted by the secondary labor market. On the other side, both productivity variations and terms of trade capture the possible impact of the large company micro corporatism (R. BOYER (1992)) or the principle of the informational rents sharing (M. AOKI (1988)). Furthermore, the nominal wage is indexed with respect to consumer prices, more or less in line with what would forecast an analysis of Fordism, since it is the method for maintaining living standards whatever the evolution of inflation. Nevertheless, this might be a spurious correlation since consumer price varies along the current macroeconomic state of the Japanese economy, specially capacity utilization. Price indexation could well be the indirect outcome of the global Japanese « régulation » mode, including price competition and rather a competitive wage labor nexus.

It is important to note that the econometric equation displayed by Figure II.10 has interesting macroeconomic properties. Contrary to a typically Fordist one, if an adverse productivity shock occurs, it is immediately influencing nominal wage formation, contrary to the medium term indexation which is observed in the United States or in France. Thus, in Japan the profit share should be less affected every thing being equal. Contrary to a Swedish model of wage formation in a small open economy, when the price of export are increasing more rapidly than imports, in Japan workers accept lower wage increases in order to preserve firm competitiveness and their employment. This feature seems posterior to the first oil shock, since the 60's and early 70's experienced a quite different adjustment pattern. Clearly there is a *learning process* operating in Japan about wage formation, which nowadays embodies the maintenance of the competitiveness of the exporting sector...which was not the case before 1973. Therefore, the challenge of the 1991 recession is not so much a reform in wage formation --at least at the macro level-- but the viability of employment stability (Section VI *infra*).

INSERT II.3 : THE JAPANESE WAGE LABOR NEXUS : BETWEEN NORTH AMERICAN DECENTRALIZATION AND GERMAN COORDINATION.

1. Low and declining unionization.

Table II.6 : Union Membership and Coverage

Country	Membership			Coverage (%)	
	Total	Public/Private ^a	Change	Total	Change
Australia	42	2.1	Declining	85 (awards)	Stable
Austria	60	1.4	Declining	?	?
France	14	3.2	Declining	90	Stable
Germany	33	1.5	Declining	90	Stable
Italy	39	1.7	Declining	39	Declining
Japan	25	2.4	Declining	25 - *	Declining
Netherlands	25	2.4	Declining	100	Stable
Spain	10-15	n.a.	-	75	Growing
Sweden	55	1.0	Increasing	?	?
U.K.	49	1.5	Declining	?	?
USA	16	2.8	Declining	20	Declining

- * Ratio of public sector to market sector membership rates in 1988 (Visser, 1993, Table 4.9).
 * In companies where at least 74 percent of employees belong to the union, non-union members also receive working conditions specified in the union contract.

2. Highly fragmented enterprise unions..

Table II.7 : Union Structure

Country	Number of Unions		Altern. Represent. Available	Organizational Basis
	Total	In Barg. Unit		
Australia	299	Multiple	No	Craft
Austria	15	1	Yes	Industry
France	-	Multiple	Yes	Industry
Germany	24	Multiple	Yes	Variable
Italy	-	Multiple	No	Enterprise
Japan	72,222	1	Yes	Industry
Netherlands	251	Multiple	Yes	Industry/Enterprise
Spain	-	?	Yes	Industry/BCAVC
Sweden	70	2-3	No	Craft/Industrial
U.K.	230	Multiple	No	Craft/Industrial
USA	120	1+	No	Craft/Industrial

BC = blue collar; WC = white collar

3.but good synchronization and coordination via shunto.

Table II.8 : Bargaining Structure

Country	Level(s) of Negotiation	Changes	Number of Contracts	Wage Drift?***
Australia	Federal/State awards	Stable	-	25%
Austria	Industry (Fed./State)	Stable	608+	Yes
France	Industry/Enterprise	Decentral.	32,000	Yes
Germany	Industry (reg./comp.)	Stable	-	?
Italy	Industry/plant	Decentral.	72,222	No
Japan	Enterprise	Stable	849*	Yes
Netherlands	Industry/company	Decentral.	4,000	Yes
Spain	Economy/Ind./Enterprise	?	4**	40-50%
Sweden	Economy/Industry	Decentral.	-	Decl.
U.K.	Industry/company	Decentral.	120,000+	No
USA	Plant/company multi-employ	Decentral.	-	No

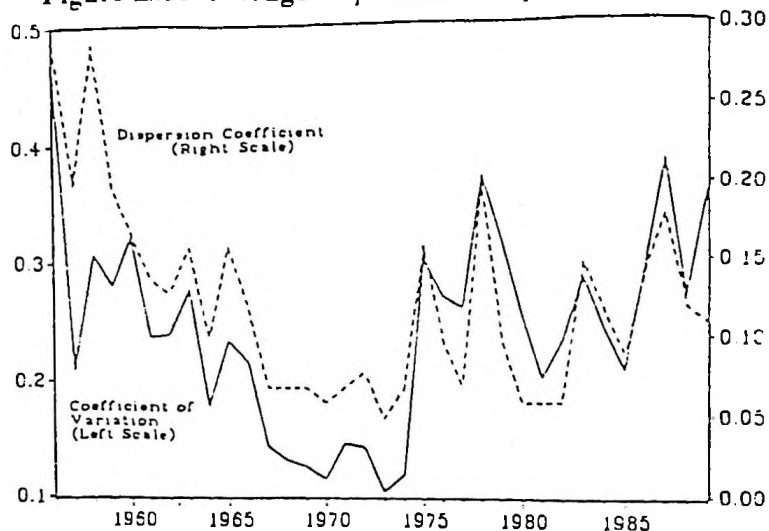
- * Plus single-term agreements
 ** Plus industry-level implementation agreements
 *** Numbers express wage drift as a percent of earnings

Source : J. HARTOG, J. THEEUWES (1993), p. 423, 425 and 427.

INSERT II.3 (follows 1)

4. But wage dispersion decreases until 1974 and then increases, which suggests a weakening of spillover effects.....

Figure II.11 : Wage dispersion in Japan 1956-1989.



Dispersion coefficient for the amount of wage increases is defined as :
 $(\text{third quartile} - \text{first quartile}) / (\text{median} \times 2)$

5. The leading industries for wage setting are mainly the exporting ones competitiveness is taken into account by wage formation

Table II.9 : Leading and non leading industries.

Key Industries	Non-key Industries
(1) Chemicals	(1) Food and Tobacco
(2) Steel	(2) Pulp and Paper
(3) Electrical	(3) Petroleum Products
(4) Motor Vehicle	(4) Rubber
(5) Ship Building	(5) Cement
(6) Private Railroad Transportation	(6) Electric Wire and Cable
	(7) Machinery and Fabricated Metal
	(8) Wholesale and Retail Trade
	(9) Electric Services
	(10) Gas Production and Distribution

Source : T. TSURU (1992), p. 24 and 26.

6. Japan within a taxonomy for the WLN : quite distinct from Fordism

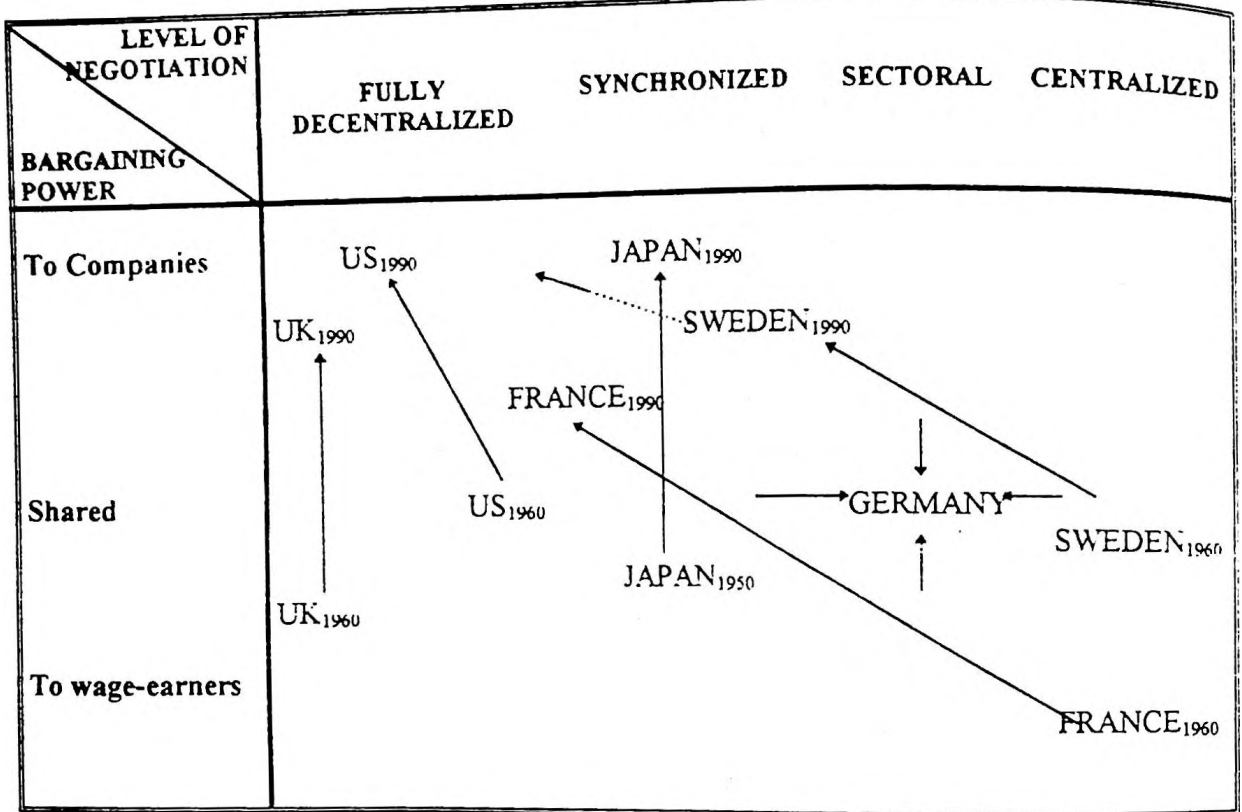
It is time now to draw a synthesis about the generality or on the contrary the specificity of the JWLN. Most of the literature focuses exclusively upon the impact of the level of wage bargaining upon the macroeconomic performance, mainly unemployment. For « Regulation » theory this issue must be related to the cohesiveness of a given WLN and its compatibility with the accumulation regime. These two questions will be discussed successively.

A recent comparative survey provides an interesting starting point (J. HARTOG, J. THEEUWES (1993)). Japan exhibits a quite low unionization membership, only superior to the French, Spanish and American one (Table II.6). The declining influence of unions is shared with most OECD countries : the Japanese trajectory derives from past companies strategies in order to erode and then internalize unions power (see I.2 supra) and nowadays the loss of relevance and legitimacy of unions seem nearly irreversible (J. REBITZER, T. TSURU (1994)). The major singularity of Japan derives indeed from its reliance to enterprise union, quite an extreme case (Table II.7) : It is why previous regulationist research has captured this specificity under the headings of micro corporatism and company-ism. A second distinctive feature opposes Japan to UK. In the later, very decentralized negotiations usually lead to large wage drifts, since any labor scarcity is immediately converted into wage demands, which spill-over from one company to another, or from one craft to the other (R. DORE, R. BOYER, Z. MARS (1994)). In the former, since the mid 70's, shunto negotiations introduce a wage moderation which spill-over from the less efficient firm to the more competitive one : the wage drift is specially low in Japan, since the large firms do not overbid in order to poach workers (Table II.8).

In other words, the institution of shunto and its reform after the oil shock (T. TSURU (1992)) are preventing the British disease of accelerating wage even if the context of poor competitiveness and high unemployment. On the one hand, the synchronization and the optimization of the wage with respect to the varied interests of small and large firms, managers and workers allows very small dispersion of wage increases (Figure II.11). Nevertheless, the wage disparities increase again after 1974, may be because the restructuring of manufacturing sectors is more important than previously. But on the other hand, the inner dynamic between business community and unions has prevented the perverse evolution which led to the collapse of the Swedish corporatism : in Japan, the key industries in wage formation do not belong to

FIGURE II.12 : THE INSTITUTIONS BEHIND AVERAGE WAGE FORMATION AND THEIR EVOLUTION THROUGH TIME.

A. A taxonomy



B.Their impact upon macroeconomic performance and social stratification.

CONFIGURATION	MACROECONOMIC AND SOCIAL IMPACT			
	Inflation	Unemployment	Productivity	Inequalities
<i>Full decentralization :</i>				
C1 - And power to the wage-earners	++	+	+/?	++
C2 - And power to the companies	-	+/?	-/?	++
<i>Synchronized :</i>				
C3 - And power to wage-earners	+	-	+	-
C4 - And power to firms	-	-	+	?/-
<i>Sectoral negotiation :</i>				
C5 - Sheltered economy	+	+	+	-
C6 - Open economy	-	?	+	-
<i>Centralized and shared power :</i>				
C7 - Sheltered economy	+	-	+	--
C8 - Open economy	-	--	++	--

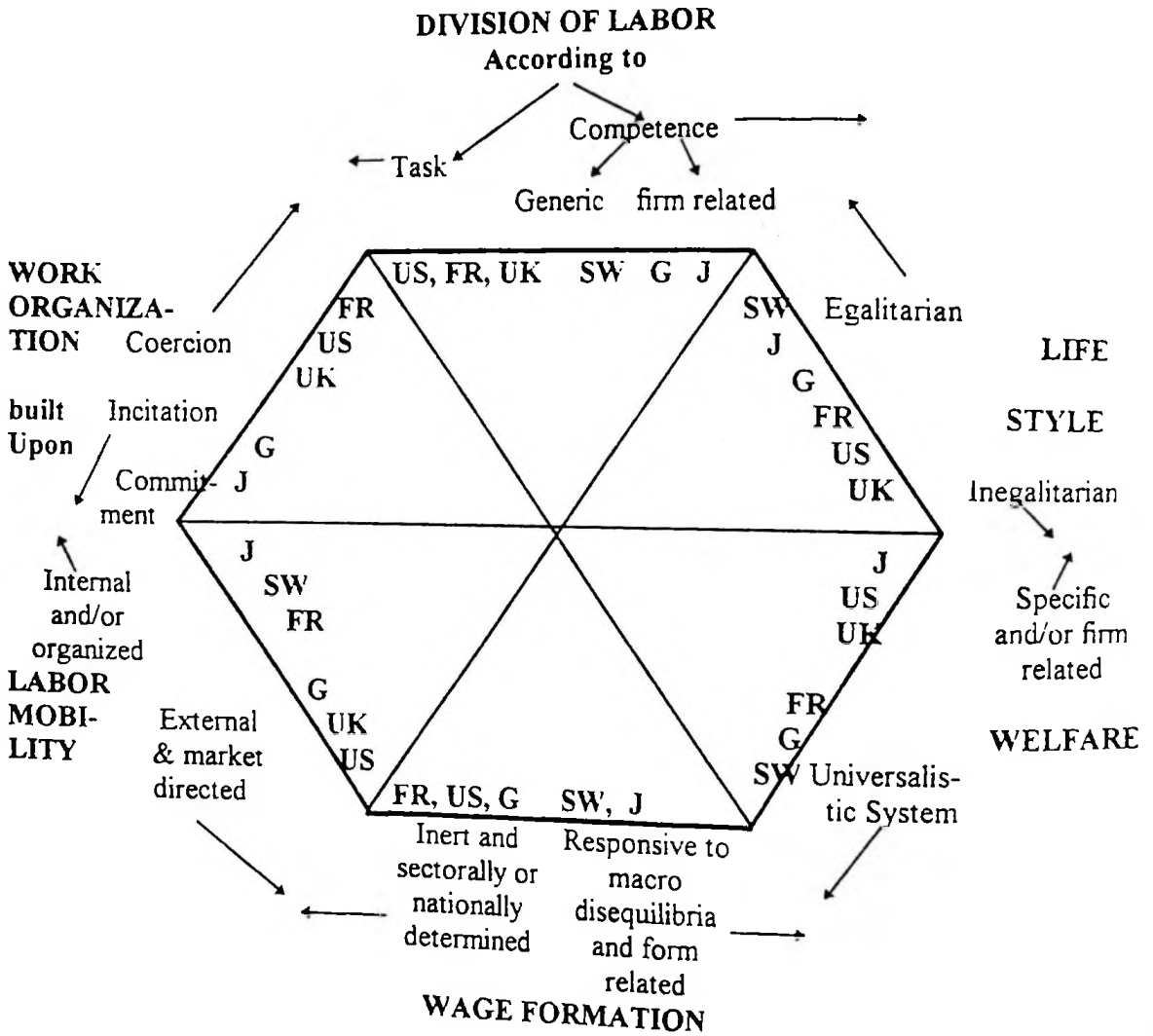
the public or the sectors sheltered from foreign competition but to the export sector (Table II.9). This warrants that external and long run competitiveness is taken into account in *average* wage formation and the hierarchical structure of the JWL prevents any significant wage drift.

Under this respect, Japan contradicts the famous statement by L. CALMFORS and J. DRIFFILL (1988) according which only fully centralized or fully decentralized wage bargaining systems are compatible with full employment (Figure II.12). A strong bargaining power of the firms and the synchronization by Shunto provide a fine tuning of nominal wage formation which fully takes into account competitiveness and employment preservation. By contrast, the highly centralized Swedish and French configurations do not resist to the strengthening of foreign competition and financial deregulation. The rather or totally decentralized negotiations of UK and US are not totally satisfactory, since they deliver poor employment and/or increasing social inequalities. Paradoxically, the micro corporatist Japanese model has proved an unexpected resilience and adaptability.

But wage formation is only a component of the whole of JWL. 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 II.13) :

- 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 in Germany. In any case, the principle of division of labor is quite different from American Fordism.
- 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 incitative pay systems. In Japan, 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 in the context of a highly individualistic society (S.I. TAKEZAWA, A.M. WHITEHILL (1981); J. R. LINCOLN, A. L. KALLEBERG (1990)).

FIGURE II.13 : A TAXONOMY FOR WLN AND AN ANALYTICAL DEFINITION FOR THE JWLN



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

- *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 clan 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. Is the Japanese WLN suggests the merit of an organization of labor mobility ?

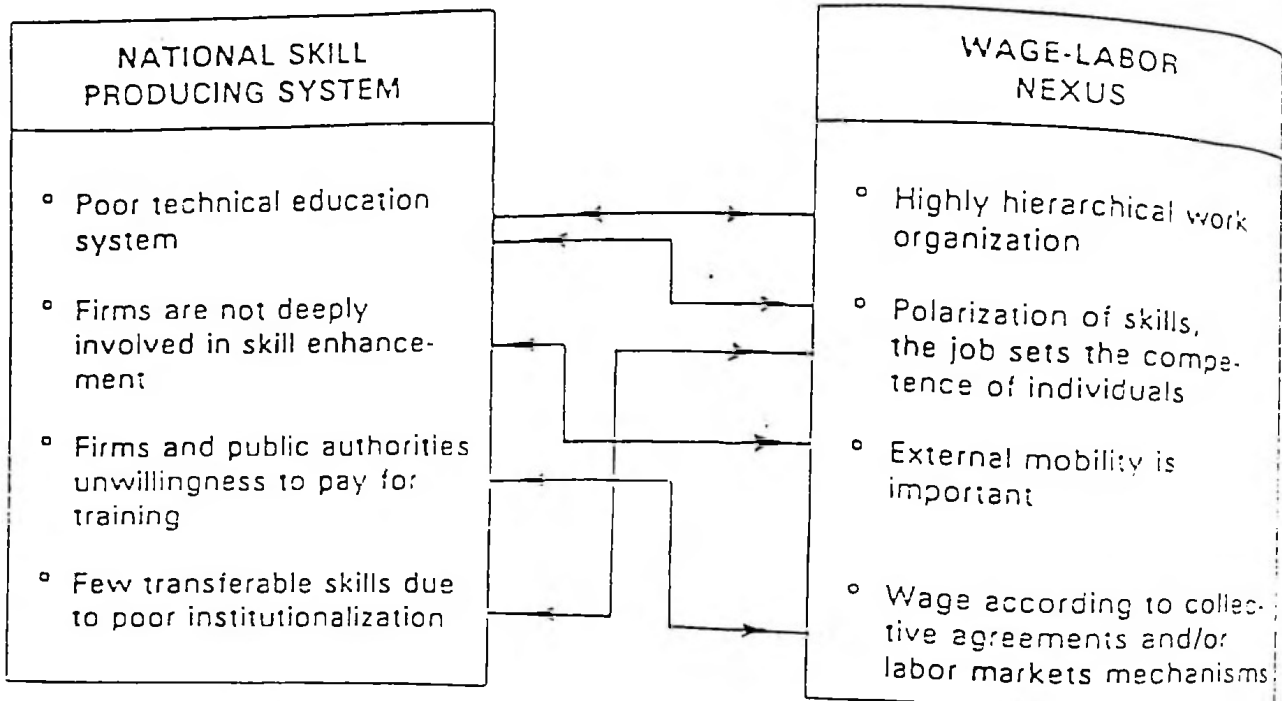
- Concerning *wage formation* the bottom line is not any a priori preference for centralization or decentralization, but the reactiveness to macroeconomic context and the cure for unemployment. Again international comparisons oppose relatively inert wage formation and sectoral or national level bargaining (France, US) to a *high responsiveness* to macro disequilibria and *firm related pay system* (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. The degree of labor market dualism introduces some significant differences 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 one, can use their influence in designing a form of *company-ist welfare*, in order to attract and stabilize skilled workers (Japan and US). Surprisingly enough, social inequalities have not been very large in Japan, in spite of the underdevelopment of a full Welfare State.

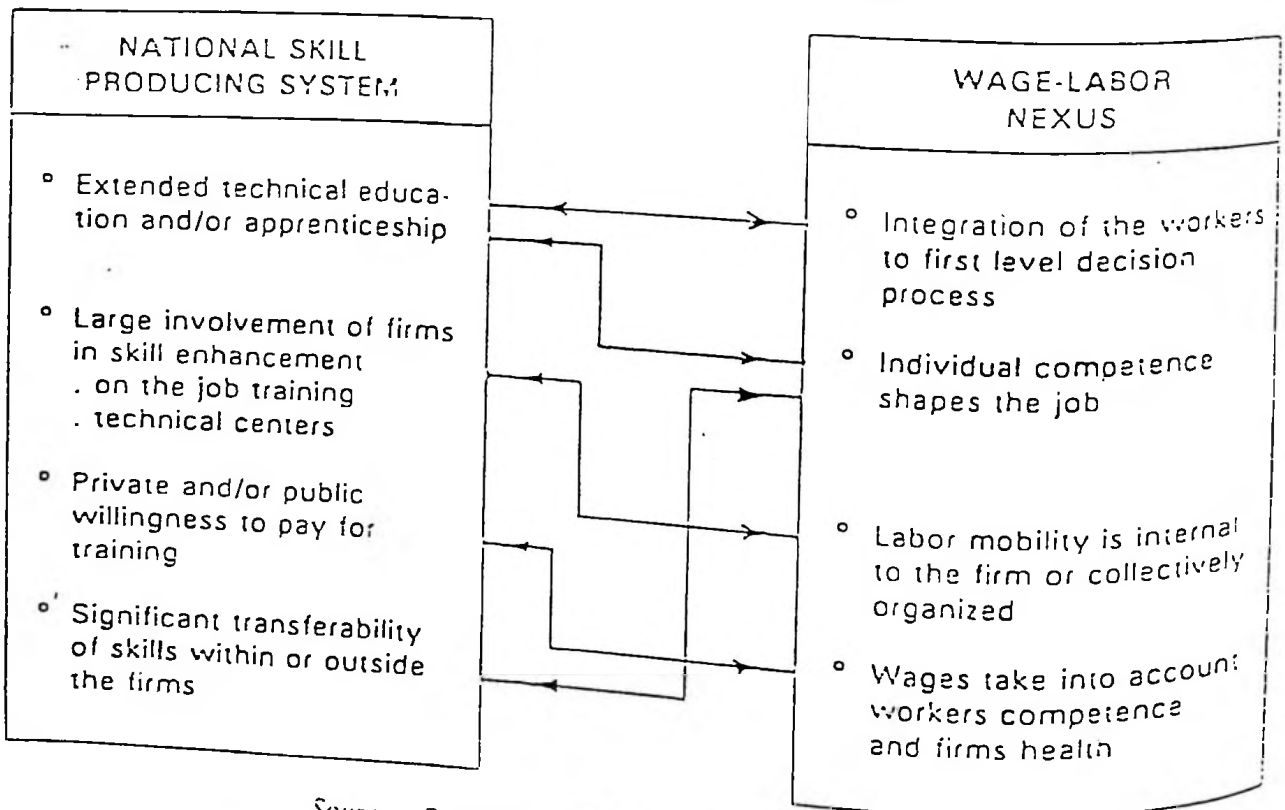
- Finally, *life style* may be elitist or equalitarian, according to the degree of income and wealth inequality. This is up to the degree of labor market segmentation, the nature of the political process which leads or does not lead to progressive taxation. Under this respect,

TABLE II.10 : WORK ORGANIZATION AND SOCIAL DIVISION OF LABOR IN JAPAN: CLOSER TO THE NEW SKILL-LABOR NEXUS THAN TO FORDISM.

A. FORDISM



B. THE NEW SKILL-LABOR NEXUS



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 new accumulation regimes built upon social differentiation of consumption patterns (R. BOYER (1993)).

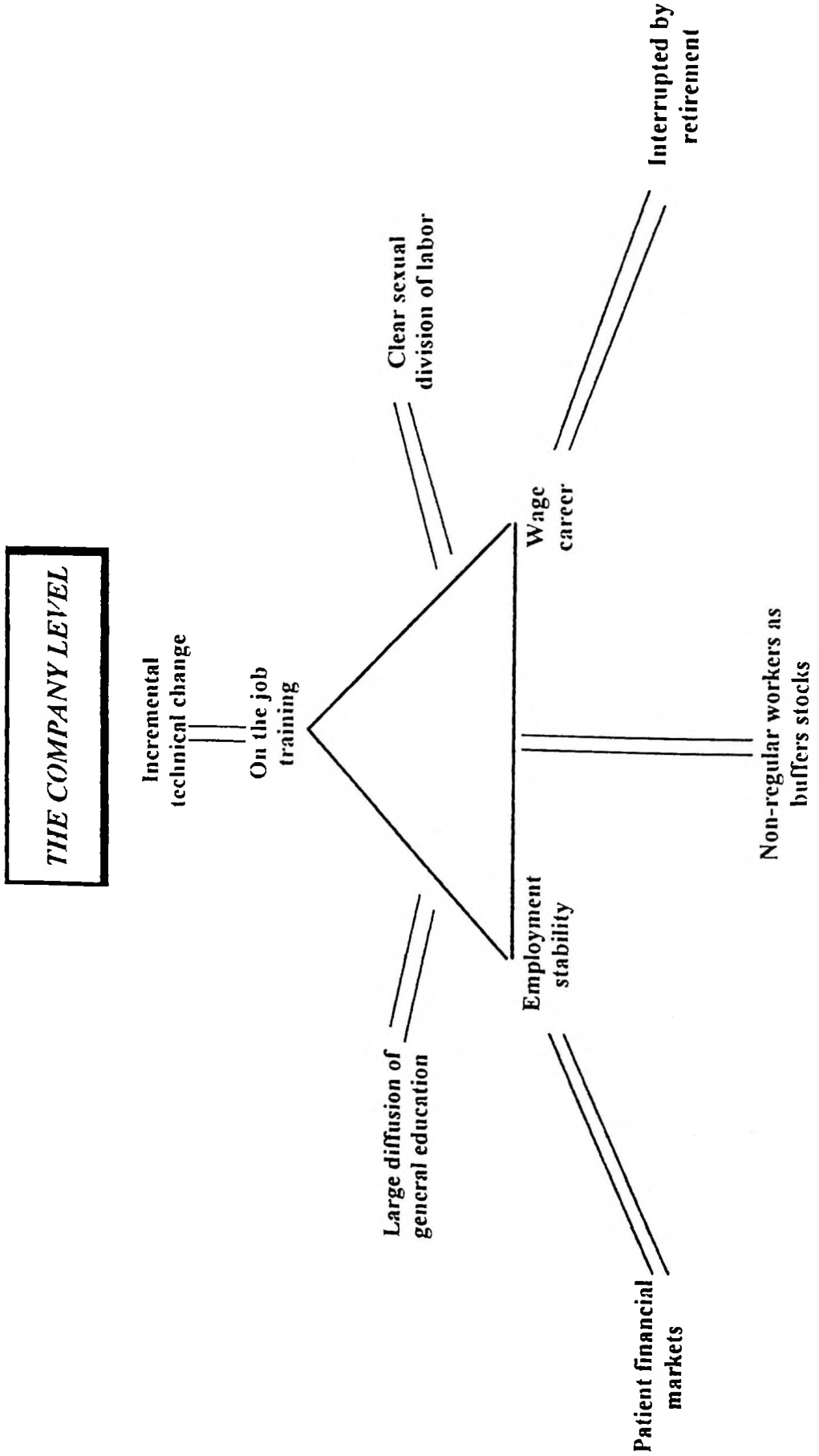
From this brief synthesis, one central conclusion emerges. The Japanese wage labor nexus is at the other end of the spectrum, with respect to the American ones for 5 or 6 components : it would be daring to label as Fordist such a WLN. Clearly, the JWLN belongs to a different brand, which is a possible follower and alternative to the Fordist WLN. 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 (Table II. 10). 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.

III - THE CONTRIBUTION OF THE JAPANESE WAGE LABOR NEXUS TO THE ECONOMIC PERFORMANCE OF TWO LAST DECADES.

The task is now to understand what has been the impact of the JWLN upon the Japanese growth pattern since World War II. Most of the previous developments were analyses at the micro level of the firm. Therefore, a major task for economic theory is to derive some macroeconomic regularities from the interactions of firms, unions, banks and government. It is not an easy task but « régulation » theory proposes a methodology based on the socialization of individual strategies by institutional forms. Then, it is possible to generalize the concept of wage labor nexus into the notion of skill labor nexus, which stresses the role of worker competence in shaping technical change, a quite important feature for Japan (and Germany). Finally, rough simulations of a simple growth model are used in order to explain firstly the exceptional growth and subsequently the strong and steady competitiveness of the Japanese economy.

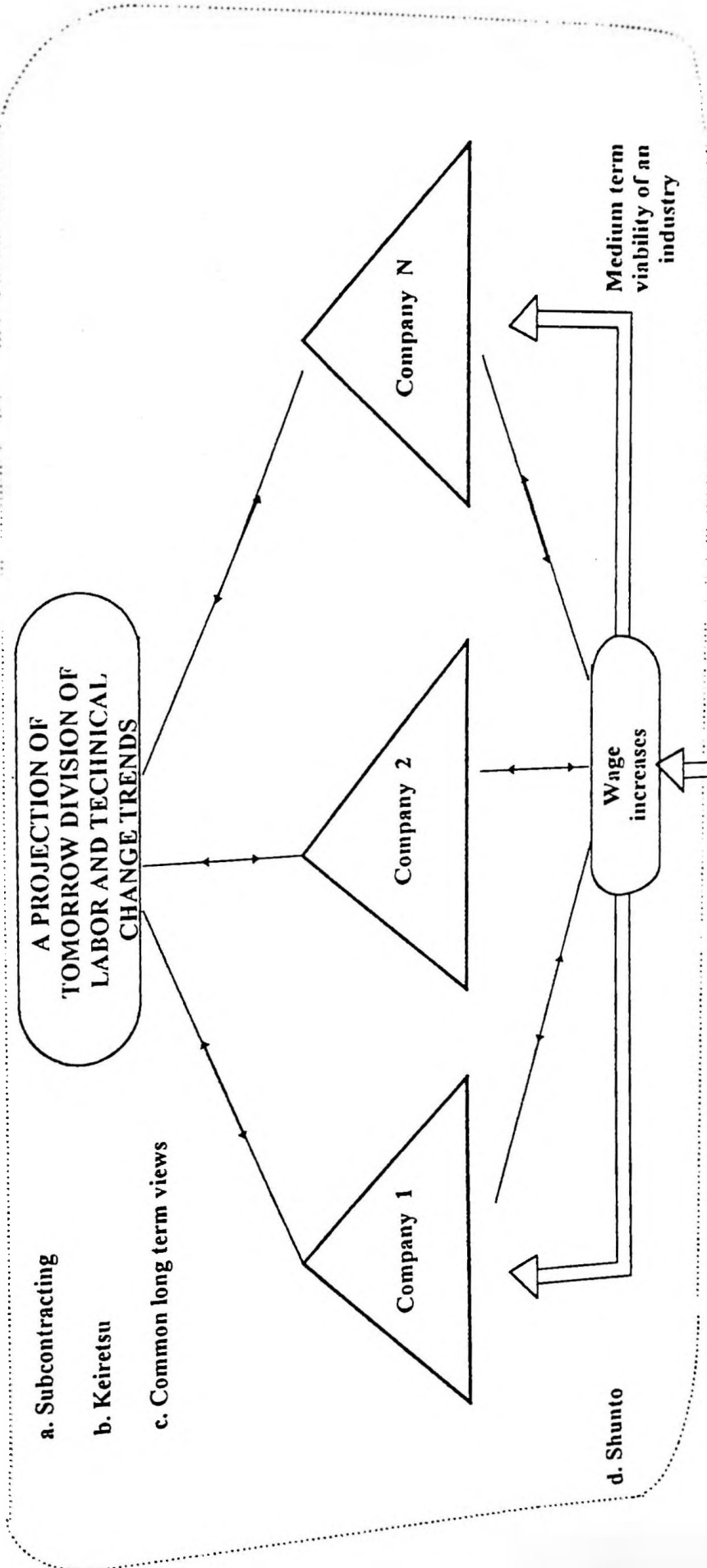
DIAGRAM III.1 : RATHER DIFFUSED COMPONENTS BUT A UNIQUE MIX : THE REAL SPECIFICITY OF THE JAPANESE WAGE LABOR NEXUS.

A. A micro corporatism embedded into dense social relationships.



B. Coordination mechanisms which take into account national competitiveness.

THE NATIONAL ECONOMY



a. Subcontracting

b. Keiretsu

c. Common long term views

d. Shunto

Medium term viability of an industry

EXTERNAL COMPETITIVENESS

1. From the micro regularities of the JWLN to the macro accumulation regime.

Old neo-classical theory used to rely upon the fiction of the representative agent in order to derive explicit macroeconomic consequences from a purely micro analysis. Any reasonable economist can easily be convinced that this stratagem raises as many difficulties and dead ends, but it has at least the merit of introducing a lot of simplicity in a nearly intractable issue. More recently, some pioneers have rediscovered that the law of large numbers allows a much more satisfactory link between scattered and stochastic individual behaviors and some macro regularities. It is a promising avenue for future research.

The strategy of the institutionalists is quite different. If modern economies generally exhibit some predictability, it is precisely because individual actions which would be largely randomized in a pure institutional vacuum are channeled or constrained by the rules and the interactions among economic agents. Any regularity observed at the aggregate level is thus indexed with respect to the institutional forms. In some extreme cases, the institutional setting totally determines the macroeconomic outcome, but in strict generality, only a careful analysis of the strategic behaviors allows to derive the properties of the related game. Furthermore, evolutionary games do use the role of large numbers, and derive properties of a complete system which are no more the mere extrapolation of the representative agent.

Why do national trajectories differ so much, specially since the first oil shock (R. BOYER, Y. SAILLARD Eds (1995)) ? Because previously seemingly Fordist and homogenous institutions across countries do look more and more distinct as time elapses, since the underlying structures were different indeed and the firms, the unions and the government made quite different strategic choices after the 2 oil shocks. Concerning Japan, a two steps analysis is required :

- *At the company level*, the same complementarity between employment stability, on the job training and wage career seems to prevail what ever the minor divergence in management style (Diagram III.1. A). Furthermore, each company is immersed into the same economic and social relations concerning the access to general education, to credit, to labor market segmentation, retirement practices and the same clear sexual division of labor between « salaried men » and house-wives. There is thus one chance that aggregating all these firms,

the macroeconomist gets some rather well defined regularities, for instance in terms of wage formation and productivity increases.

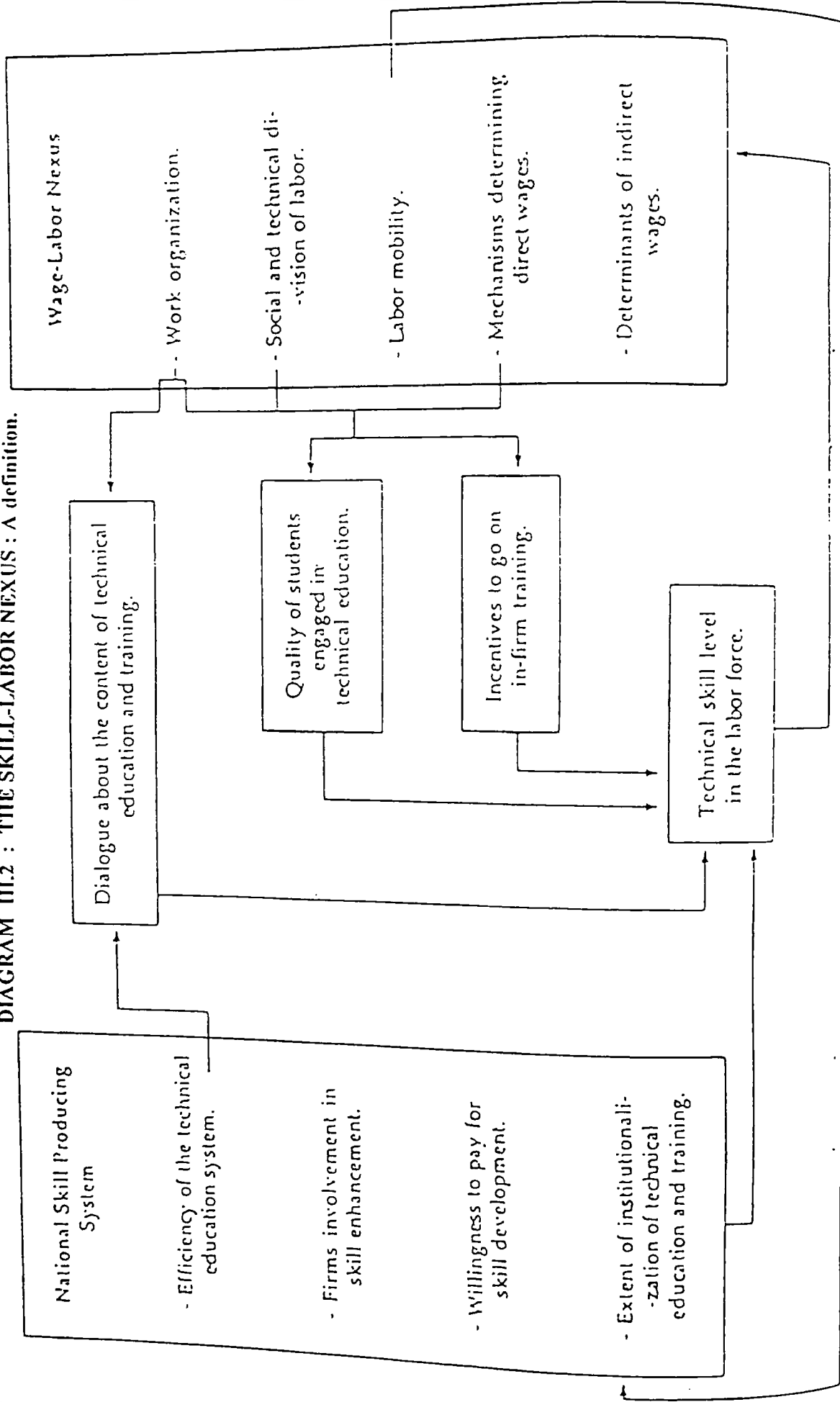
- *But the national economy level* is not a simple aggregation of firms, from a purely stochastic point of view. Quite on the contrary, the Japanese economy exhibits an impressive series of coordinating mechanisms which govern wage formation (Shunto), procurement (partnership and subcontracting), credit and capital accumulation (Keiretsu) and even technological expectations (MITI) as well as a shared vision about the next stage of economic development (role of planning and administrative guidance). All these factors should give a lot of clarity in the relationships between macroeconomic variable and institutional forms (Diagram III.1. B).

2. The skill labor nexus and endogenous technical change : a neo-kaldorian growth model.

The transition from Fordist WLN toward new configurations has suggested the generalization of the initial concept of « rapport salarial » toward a more extensive definition which would relate its components to the national skill producing system (Diagram III.2). When technical change becomes the vector of competition, capitalist economies are undergoing permanent transformations of products, processes and organizations. Thus, the ability of the work force to cope with these unless transformations of production is directly related to a series of factors governing skill formation. The efficiency of the technical education system, firms involvement in training, the willingness of a society to pay for education and training and finally the degree of institutionalization and standardization of technical education turn out to be crucial factors in the genesis, speed and direction of technical change.

A previous international comparison has proposed a neo-kaldorian model in which both the increasing returns to scale, the innovation activities of engineers and finally the competence of workers are the three sources of productivity increases (Robert BOYER, Eve CAROLI , 1995). Insert III.1 presents the backbone of this model. It relates the main parameters of the skill labor nexus (ability to innovate of workers and engineers, degree of cooperation in industrial relations, propensity to pay for technical education, efficiency of the training system...) with the rate of an endogenous technical change, which derives partially from the competence of manpower. Furthermore, purely Fordist technical change is added in the sense

DIAGRAM III.2 : THE SKILL-LABOR NEXUS : A definition.



that the market growth rate is setting some limits to the division of labor and the related increasing returns to scale.

From a theoretical point of view, this formalization is able to generate at least three growth regimes according to the degree of cooperation in industrial relations and the efficiency of the training and educational system. It shows that it is nearly impossible to shift from a low skill-slow technical change growth to a high skill-fast growth pattern. For instance, quite any OECD country would like to import a variant of the German dual training system, but alas all these reforms have been blocked by the incompatibility with the other components of the native WLN. Thus, from a strict theoretical point of view, the history of the skill labor nexus is channeling the current direction of technical change. Thus, the related trajectory is difficult to change in the short-medium term. This is a potential explanation why the OECD economies have followed so different tracks during the two last decades.

3. Japan : the art of playing on the two sides of Fordism and post-Fordism.

Within this framework, how to interpret the high growth and subsequently the high competitiveness of the Japanese economy ? One interpretation has already be provided : the large corporations have perceived that the oil shock was opening a new era for competition and convinced their workers to accept a significant reduction of productivity sharing in order to finance more investment in the sunrise activities. The present model suggests a different explanation, based upon the hybrid character of the Japanese accumulation regime.

- ° On the one hand, the manufacturing sector is experiencing one of *the stronger increasing returns to scale*, quite Fordist indeed under this respect (Table III.1). What conventional theories explain as a pure catching up derives in fact from a successful adaptation of the American methods for mass-production. By contrast, the inability to transform accordingly the WLN induces a slow growth and an absence of catching up for the British industry (Table III.2).
- ° On the other hand, the specific history of industrial relations has not allowed managers to strictly implement the canonical Fordist principles of labor division. Very early in the 50's, the workers and their unions have vocally demanded *some democratization at the shop floor level*, in parallel with the political democratization of Japan. After a long history of

trials and errors, the JWLN enjoys finally a rather favorable configuration : first, good general education is a pre-requisite for the acceptance of technical change ; second on the job continuous improvement of skills is induced by the expectation of job stability ; finally the managers accept the marginal innovations suggested by shop floor management and grass root workers. They do so due to the micro-corporatist or company-ist compromise about the sharing of productivity increases. Many statistical evidences suggest that the continuous training of workers is quite intensive in Japan, with few or no equivalent elsewhere, with the possible exception of Germany (Graph III.1).

Plugged into the previous model of Insert III.1, these features of the JWLN --or more exactly Japanese skill labor nexus (JSLN)-- provide a very simple explanation of Japanese performances during the last four decades. Until 1973, these successes are up to the symbiosis between typical Fordism mechanisms and competence related innovations...but this second factor did not played a very major role. After 1973, and still more after 1985, the Toyotist aspect of the JWLN overcome the previous Fordistconfiguration : product differentiation, high quality, speed of reaction to changes in the markets are the direct consequences of the very efficient JSLN, which has been progressively elaborated over nearly one century (Insert III.3).

In other words, the JWLN has exhibited a noticeable *capacity of hybridization* between American methods and the constraints derived from the position of Japan after World War II. This hybridization, associated with a major dose of pragmatism, might explain the surprising dynamism of the growth pattern of Japan. This is an important lesson for any prospective analysis.

INSERT III. 1 : A GROWTH MODEL WITH TWO SOURCES FOR TECHNICAL CHANGE.

1. The main hypotheses.

The productivity growth is governed by two sources for technical change :

° Scale effects which are related to the rate of market expansion both domestic (g) international (g_c)

$$(1) \quad g_{A1} = \lambda [\mu g + (1-\mu) g_c]^a \quad a \leq 1 \quad 0 \leq \mu \leq 1 .$$

° Innovations which originate from engineers and technicians E_2 on one side, from rank-and-file workers E_1 on the other side :

$$(2) \quad g_{A2} = \eta_1 \delta_1 E_1 + \eta_2 \delta_2 E_2 \quad \delta_i \geq 0 \quad 0 \leq \eta_i \leq 1$$

δ_i is the rate innovation per worker and η_i the rate of acceptance by management of the innovations

The skill level of engineers is assumed as exogenous ($E_2 = E_2$) and before the training policy concerns the fraction u for the workers $(1-u)$ which is trained. It takes into account the requirements from technical change $E_0 g(A_2)$ and the reluctance to pay for training, according to parameter b

$$(3) \quad d(1-u)/dt = -\alpha (E_1 - E_0 g(A_2)) - b(1-u) \quad \alpha > 0 \quad b > 0$$

The skill level of the rank and file workers is set by the efficiency of the skill producing system

$$(4) \quad E_1 = \theta (1-u)$$

Finally, the growth rate of the economy depends upon the evolution of the working population (uN) and the productivity increases

$$(5) \quad g = \beta \left(\frac{\dot{u}}{u} + \frac{\dot{N}}{N} \right) + \gamma_1 g_{A1} + \gamma_2 g_{A2} \Phi \left[\frac{E_1}{E_0 g(A_2)} \right]$$

This expresses that the potential for converting innovations into actual productivity increases is related to the adequacy of existing skills with respect to the skills required by the actual speed of innovation.

The model can be solved and discussed given two more specific hypotheses concerning respectively the relationship between skills requirements and the speed of innovation - i.e. $E_0(g_{A2})$ - and the impact of insufficient skills upon actual productivity increases - i.e. $\Phi[E_1/E_0(g_{A2})]$.

Figure 1 : The impact of technical change upon skills requirements.

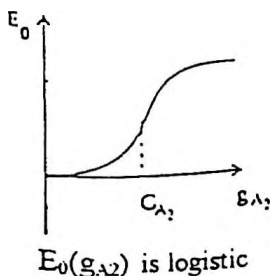
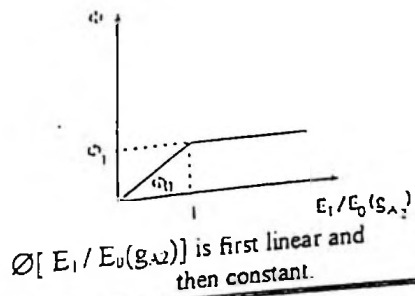


Figure 2 : The impact of skills availability upon the productivity increases.



INSERT III.1 (Follow)

2. The basic conclusions derived from the model.

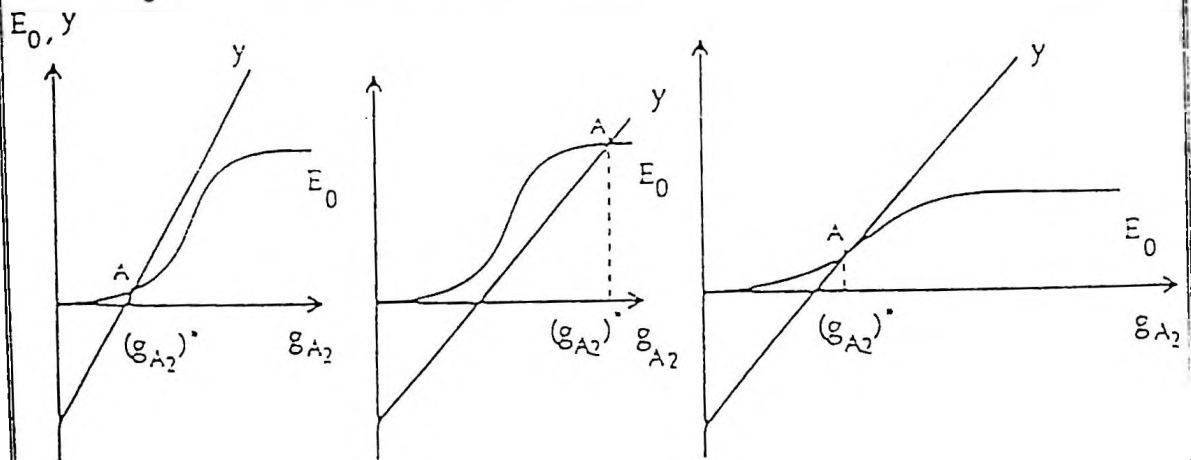
By simple algebraic transformations, the relations (1) to (5) can be summarized by the reduced form equations

$$(6) \quad g = \gamma_1 \lambda [\mu g + (1 - \mu) \hat{g}]^a + \gamma_2 \Phi_0 \frac{\alpha \theta}{\alpha \theta + b} g_{A_2}$$

$$(7) \quad E_0(g_{A_2}) = \frac{1}{\alpha \eta_1 \delta_1} \left(\frac{b + \alpha}{\theta} \right) (g_{A_2} - \eta_2 \delta_2 E_2) \equiv y(g_{A_2})$$

In the simplest case where only one solution exists, here are three possible configurations.

Figure 3 : The variation of the equilibrium with respect to parameters.



The smaller slope of y , the higher the rate of technical change $g_{A_2}^*$. Thus along the long run equilibrium path, technical change is all the faster that :

- The more efficient the national skill producing system is (θ high)
- The less reluctant is the society to pay for technical training (b low).
- The more adequate the fit between qualifications and the needs of the firms (δ_1 high).
- The more cooperative the wage-labor nexus is (η_1 high).

The growth rate is thus the outcome of two different processes :

$$g = \underbrace{\gamma_1 \lambda [\mu g + (1 - \mu) \hat{g}]^a}_{\text{Increasing returns to scale associated to expanding markets}} + \underbrace{\gamma_2 \Phi_0 \frac{\alpha \theta}{\alpha \theta + b} g_{A_2}^*}_{\text{Innovations induced by the skill-labor nexus}}$$

Increasing returns to scale associated to expanding markets

Innovations induced by the skill-labor nexus

3. Conclusion.

Thus, according to the specialization and the organization of the educational and training system, these two sources have different weights. The skill-labor nexus matter for long term growth.

Source : R. BOYER, E. CAROLI (1993), p. 50-58.

INSERT III.2 : THE IMPACT OF THE JAPANESE WAGE LABOR NEXUS UPON GROWTH : TWO MAJOR CHANNELS

1. Important returns to scale, larger than for other OECD countries.

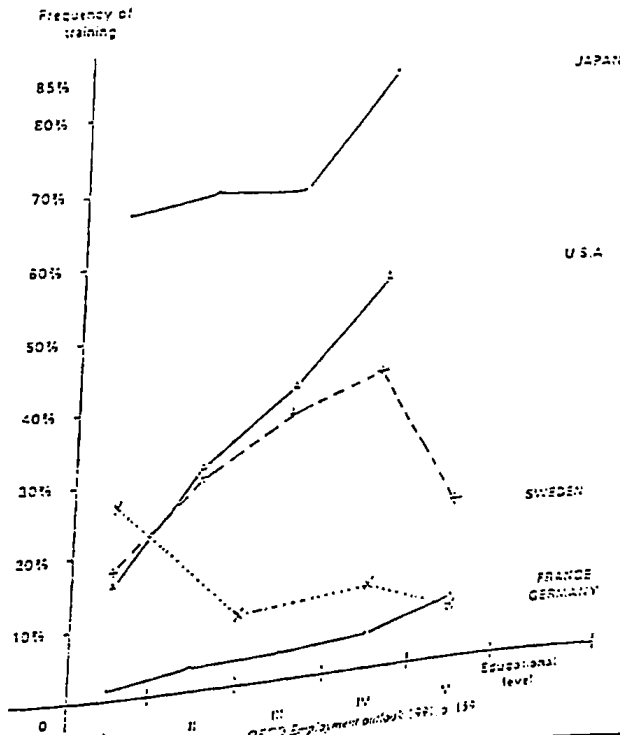
Table III.1 : Various Estimates for Returns to Scale for Four Countries.

CHAMP	JAPON				ETATS-UNIS				R.F.A.				FRANCE			
	Cste	Elasticite a la Production	R ²	Dvt	Cste	Elasticite a la Production	R ²	Dvt	Cste	Elasticite a la Production	R ²	Dvt	Cste	Elasticite a la Production	R ²	Dvt
INDUSTRIE MANUFACTURIERE																
(1) Productivite totale des facteurs	-0.95 (0.9)	0.63 (4.3)	0.83	1.83	0.97 (1.4)	0.33 (2.1)	0.37	2.53	2.45 (2.3)	0.07 (0.3)	0.04	2.42	2.08 (5.7)	0.37 (5.1)	0.81	2.11
(2) Productivite ajustee au capital	0.56 0.2	0.94 4.0	0.91	1.52	1.72 (2.3)	0.32 (1.9)	0.31	2.78	3.33 (2.6)	0.07 (0.5)	0.07	2.72	3.25 (4.7)	0.47 (3.1)	0.75	1.96
L'ensemble de l'economie																
(1) Productivite totale des facteurs	0.92 12.2	0.50 (6.2)	0.64	1.95	-0.48 (0.5)	0.48 (1.8)	0.57	2.25	1.61 (1.7)	0.38 (1.5)	0.16	2.31	0.94 (1.8)	0.56 (4.2)	0.73	2.17
(2) Productivite ajustee au capital	2.32 16.3	0.33 (2.7)	0.31	1.91	-0.47 (0.5)	0.59 (2.3)	0.31	2.40	2.21 (2.1)	0.51 (2.1)	0.31	2.49	1.45 (5.9)	0.80 (14.7)	0.95	2.66

Source : Computed from *OECD Employment outlook 1991*, p. 159.

2. Training is widely diffused across initial education levels.

Graph III.1 : Frequency of Training and Education Level.



Source : Computed from *OECD Employment outlook 1991*, p. 159.

INSERT III.3 : JAPAN HAS FIRST BENEFITED FROM INCREASING RETURNS TO SCALE AND AFTER 1974 FROM COMPETENCY RELATED INNOVATIONS.

1. Among the five OECD Countries, Japan exhibits a mix of fordist and post-fordist sources of technical change.

A previous work [Robert BOYER, Eve CAROLI (1993)] has proposed some estimates for the various parameters of the model presented by Insert III.1.

Table III.2 : Some estimates for the impact of the WLN.

	Germany (Ge)	Japan (Jap)	France (Fr)	Great-Britain (GB)	USA (US)
η_1	+	+	-	-	-
δ_1	+	+	-	-	-
θ	+	+	-	-	-
b	-	-	-	+	+
λ	-	+	+	+	+

The configuration of Japanese economy is quite specific indeed :

- ° On one side, the manufacturing sector is featuring the highest increasing returns to scale, which range between 1,94 and 1,33 , i.e. the higher among the five countries (λ high). This is the major difference between Japan and Germany and this may explain why the Japanese economy grew still faster after W.W.II .
- ° On the other side, micro corporatism and/or company-ism are associated with more cooperative industrial relations, a positive factor for the acceptance of innovations originating from blue-collar workers (η_1 high). Simultaneously, given the large employment stability, the large firms are willing to finance on the job training as well as professional training (b small). Since the decisions are taken at the firm level, one observes in Japan a good fit between the upgrading of skills and the requirement of firms (θ high). Finally, given the diffusion and quality of general education, grass roots workers are able to make many suggestions in order to promote marginal but continuous on the job improvements (δ_1 high). Under this second heading, the Japanese potentialities about technical change are better than the French ones which relies mainly on the expansion of markets (λ high) and the innovations brought by engineers (δ_2 high).

2. Before 1973, the Japanese growth is mainly built upon increasing returns to scale, related to quasi-fordist mechanisms. Conversely after 1973, the growth slow down is specially important for Japan.

For a given and rapid expansion of world markets g_e the Japanese economy is reaping the largest productivity increases since it benefits from more intensive Fordist effects, whereas the Toyotist wage labor nexus induces a fast competency related technical change ($g_{\lambda 2}$). This is why the Japanese growth has been the highest from 1950 to 1973. This was not a mere catching up effect since for instance Great Britain has been unable to speed up technical change in order to converge towards American productivity standards. Clearly, the configuration of the WLN matters (Table III.3).

INSERT III. 3 (Follows 1)

Table III.3 : A significant growth slow-down for Japan, still the best performer among OECD countries.

	Germany	Japan	France	Great-Britain	USA
Average annual growth rate 1950-1973 (percent).	5.9	9.3	5	3	3.6
Average annual growth rate 1973-1989 (percent).	2.1	3.9	2.3	2	2.7

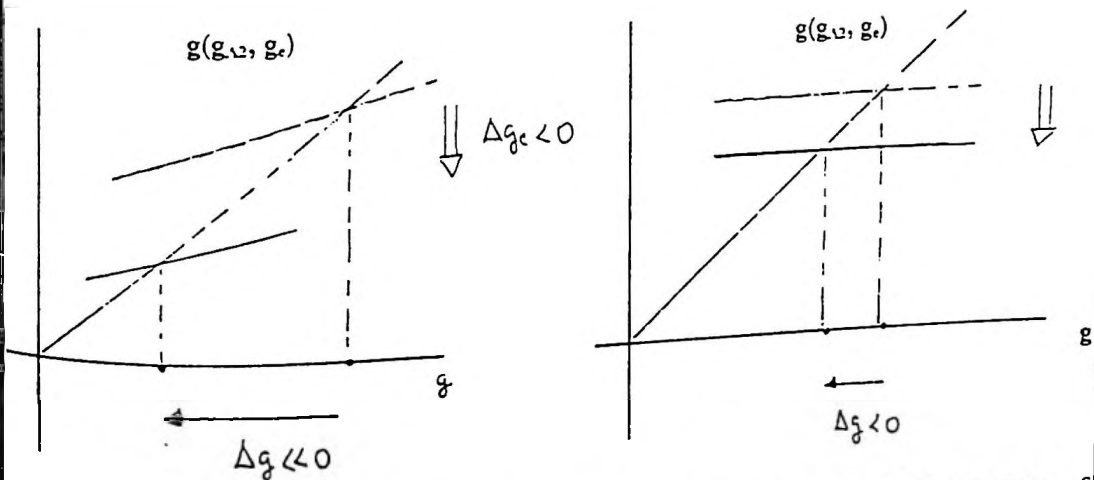
Source : Maddison (1991)

But this strong dependency with respect to the growth of the world economy has a major drawback : after the two oil shocks, the Japanese economy undergoes a slow-down in the growth trends from 9,3 % per year to 3,9 % . The technical change induced by the JWLN remains important but not sufficient to counterbalance the negative impact of the crisis of the international regime. This Fordist feature contrasts Japan with respect to Germany, two countries which enjoy from good training systems.

Figure 4 : The reason why the Japanese growth rate slow-down so much after 1973.

Japan : Strong Fordist effects

Germany : Competency related technical change



3. After 1973, competency related technical change explains the good performance of Japan, by contrast with typical Fordist countries.

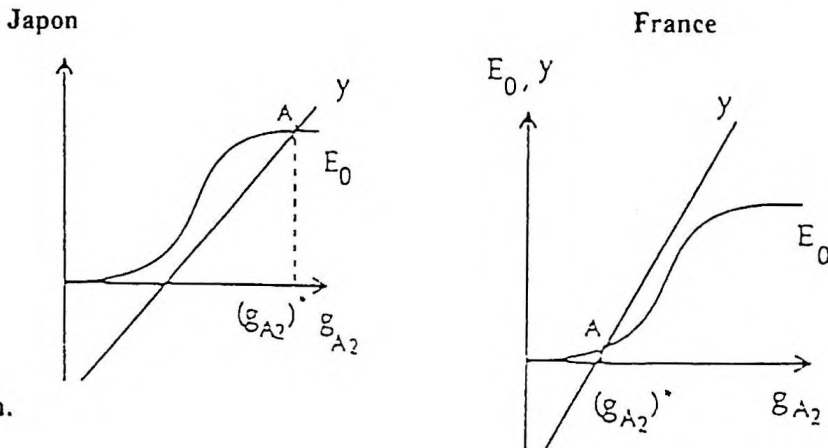
It is well known that this episode triggers significant change in the JWLN and the Japanese system of innovations. In retrospect, it can be interpreted rather easily within the general model presented earlier (Insert III. 1). A comparison with the French trajectory might be enlightening (R. BOYER (1994)).

INSERT III.3 (Follows 2)

- In Japan, all the parameters defining the skill labor nexus imply a high equilibrium for the technical change associated to the virtuous circle : good general education- high innovation rate at the shop floor level, large acceptance by management, high investment in on the job training, productivity and quality improvements, which set a cumulative mechanism for firms competitiveness.
- In France, the opposite configuration prevails. General education is well organized but is oriented towards the selection of elite with few concern for the professional training of rank and file workers. Industrial relations are quite contradictory and managers are not taught at responding positively to shop floor proposals. Finally, the distrust between private managers and the state civil servants in charge of professional training induces a poor efficiency in skill enhancement. Consequently, the French economy is trapped into a low technical change, low growth equilibrium

Thus economies which were considered as twins by some experts in the early 70's, have since then followed quite contrasted tracks. The differences in WLN are quite essential in explaining these divergences.

Figure 5 : The reason why Japan fares better than France after 1973.



4. Conclusion.

Of course, many econometric studies would be necessary to carefully check the relevance of this general model, as well as its use in order to analyze the post oil shock national trajectories. Nevertheless, it opens a reconciliation of long term historical studies with international comparisons and closely links the wage labor nexus, extended to the skill labor nexus, to the growth pattern.

Source: Results obtained from the use of the model of Inert III.1

IV - SOME PROVISIONAL CONCLUSIONS : WHY THE JAPANESE EMPLOYMENT SYSTEM WILL NOT COLLAPSE SOON.

It is time to derive some prognoses about the contemporary transformations, just in the light of an historical retrospective and an international comparison of the position of the JWLN. A second part will precisely test the following hypotheses against the more recent institutional and statistical evidences.

1. The contemporary Japanese « rapport salarial » is clearly *an institutional construction*, not a cultural datum which would come from a secular long legacy. It has been the half intended, half unintended outcome of explicit and strong strategies emanating from the large manufacturers during crucial episodes (the 20's, the 50's, the 70's). Consequently, the present configuration is not so old and is the result of a series of pragmatic and recurrent rearrangements of the various components of the WLN.
2. Nevertheless, the so-called Japanese employment system exhibits a *strong complementarity* between job stability for core workers, wage career and on the job training, complemented by a strong stratification among the various status of wage earners. This JWLN has proved to be very efficient in assimilating technical change, producing high quality and differentiated goods, whereas internal mobility and a series of adjustment mechanisms has prevented massive unemployment cuts, which are usually associated with Fordist crisis.
3. Furthermore, the growth pattern is *hybrid* between two opposite models. The search for large increasing returns to scale has initially followed rather Fordist methods, but the American configuration could not be totally implemented in Japan. In adapting the American model, the Japanese manufacturers have finally converged toward a Toyotist WLN, in which labor force competence allows quality and product differentiation. This reminds the so-called flexible production model, with an important caveat : until the mid-80's, in Japan economies of scope and economies of scale are interrelated. Given the new context of competition at the world level, this has been a major source of competitiveness and growth in the 80's.

4. Thus there is *not any fixity nor intrinsic rigidity* in the JWLN. This challenges the nowadays common vision according which the employment stability would soon collapse. By a domino effect, so would the whole WLN and the accumulation regime. Yes, we might be observing a new phase of major transformations, equivalent to those observed recurrently in the Japanese history of labor relations. Nevertheless, a complete collapse is quite *unlikely*. Of course, some professional markets would be created and could complement the previous systems, employment stability might be revised and rationalized to the workers who are really essential to the collective competence of the firm pay system for management and employee might be simplified...but a complete phasing out of the JWLN is not on the agenda at least for the present decade.
5. International comparisons provide another series of arguments in favor of this prognosis. The experts who forecast the most dramatic change generally think that Japan is totally exceptional and cannot be incorporated into any taxonomy or theory of the wage labor nexus. It is easy for them to conclude that this « accident of history » will soon vanish, dissolved in the ocean of globalization and the financial deregulation. This is a misreading of *the variety of the WLN which are simultaneously observed* during the present crisis. It has not been reduced during the last two decades, quite on the contrary. If there is no convergence of industrial systems, why should Japan evolve toward any other system, specially the American one, which is finally as exceptional as the Japanese seems to be.
6. Finally, a viable WLN is defined by the structural complementarity of its five components. This feature which makes the strength and the cohesiveness of a stable WLN explains simultaneously, *its long terms inertia*. It is really difficult to shift from one configuration to another : it is painstaking to synchronize the simultaneous transformations of the varied components such as work organization, wage, training, and labor mobility. Thus, even if the German vocational system were perceived as superior by decision makers and experts in Japan, it would be not easy at all to implement it, given the lack of any of its ingredients. The strength of the in-house training is the very obstacle to such an innovation...which has been on the agenda one century ago but not necessary today.

To conclude : « le rapport salarial japonais est mort...longue vie au rapport salarial japonais ! »

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