DECLINING PROFITABILITY AND THE CURRENT CRISIS

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Economic Growth, Profit, and Forms of Wage Incentives

(With reference to some comparative studies of American radical economics)[1]

1. Introduction

The history of our economies, in which wage labor predominates, is characterized by the development of a network of institutions and practices governing the ongoing process of the division of labor. An economic and social crisis such as we are currently experiencing, marked by stagnation and unemployment, is essentially a moment when a broad renewal of these processes is enforced.

This restructuring of incentives for the mobilization and organization of wage labor has been noted, but without grasping the lines of cohesion for a possible way out of the crisis. Grasping such a coherence implies, in particular, that one be able to determine the relationship between institutional contexts and macroeconomic performance. In this area the economic sciences offer few tools for analysis. The relations between the sphere of production and the sphere of distribution are at the heart of the questions economists generally raise. But the responses they offer are usually framed schematically in terms of the network of rules and institutions at the core of the division of labor. We would like to show that any answer to these questions cannot abstract from the differentiated forms assumed by wages and profits. The transformation of workplace relations and of the conditions in which the work force of the great Western economies of the postwar period have been utilized and reproduced, displayed a tendency, until the early 1970s, to increase job guarantees and the wage workers' resources. This development toward "Fordist" wage relations took on very different forms and intensities from one country to the next. Thus, reinforcement of the status of wage workers within each economy is supported by a variety of legal provisions and hiring practices. A similar diversity is found in developments in private, public, or conventional systems of remuneration and guaranteed resources.

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Stagnation and the widespread development of major unemployment in all these countries in the 1970s have called into question these wage relations, from many angles.

For some, the rigidity induced by the accelerated institutionalization of wage relations itself brought on a crisis situation; for others, it is the growing integration of different economies in the world economy as a whole that requires a broad transformation of this relationship. In both cases the flexibility of the wage relationship is at the center of the debate.

But this flexibility may be analyzed on two levels, which we believe should be distinguished. The first has to do with the macroeconomic consequences of any excessively rapid growth of wages. It refers to a larger debate on stagnation and unemployment resulting from real wages increasing more quickly than productivity (see for example the works of Bruno 1986; Le Dem 1985; Bruno and Sachs 1985; Bean, Layard, Nickell 1986; and Beckerman 1986).

This debate, important for the explanation of the wide range of national situations, tends to run up against different conceptions that one might have:

(1) on the interdependence of economies, through the role attributed to changes in exchange rate parities;

(2) on the essence of competitive relations, depending on the importance attributed to major gaps among wage costs internationally; and

(3) on the flexibility of wage relations, depending on the breadth and rapidity ascribed to changes in social relations.

The other dimension of the analysis of wage flexibility, that would appear to be complementary, is more of an institutional nature. It has to do with the rules of distribution and the nature of the relationships between those entering directly into wage relations. This is the discussion we will undertake to develop. It is aimed at making explicit a certain number of characteristics having to do with individual behaviors, the nature of motivations, incentives, and conflicts, and with grasping those factors affecting economic variables such as productivity and profit.

In their traditional version, the main currents of economic thought have retained particular aspects of the institutional context of relationships between parties entering into wage relations. Several works from different perspectives have tried to take these analyses further, setting forth the impact of aspects such as incentives, conflict, work intensity, interest, power, etc. We will seek, first, to review the main lines of these developments, and to set forth categories of analysis that allow a better grasp of the various levels on which the social relations that define wage labor have their place (section 2).

We will then use those categories to evaluate a series of works from the American radical school on the impact of these social relations on growth of productivity and profits. These works are of interest to us both because they distinguish between employment and the intensity of work obtained, and because they use this distinction in an historical and quantitative analysis of the developed Western economies (section 3). Drawing inspiration from this research, we will examine how it makes it possible to highlight, in a schema of growth common to all the countries, the more or less conflictual dimensions of distribution (section 4).

We will return, in conclusion, to the categories for the analysis of institutions that will have been retained, and to the perspectives they open for research (section 5).

2. Economic analysis of the wage contract: lessons of some recent developments

We review, first of all, the main features of wage relations retained, in their current formulations, by the major trends in economic thought.

The neo-classical analysis deduces the price of labor from two quite symmetric axioms of behavior. The employer discerns the marginal contribution of labor and will thus pay its fair price (marginal productivity); the employee, at the same time, assesses the marginal utility of his labor, and demands a wage accordingly. While elaborations may weaken these two certitudes, the neo-classical model turns no less on these two more or less complex axioms of behavior to define a general equilibrium.

Thus the theory of implicit contracts (Azariadis 1975; Baily 1974; Rosen 1985) introduces in the analysis of behaviors problems of uncertainty as to the definition of labor and of risk-sharing between employer and employee. This redefinition of equilibrium, however, does not lead operationally to a reading of the historic development of the labor market. Moreover, certain aspects of relations between employers and employees remain outside the scope of these extensions of the theory. Akerlof (1984) gives some examples: reciprocity of benefits between workers who yield more than the explicit norm and the employer who associates a wage with a relatively low work norm; asymmetry between the employer who may reserve his jobs and an unskilled workforce that cannot be hired for any wage; the weight of tradition in defining a fair wage apart from any market equilibrium.

But attempts to extend the theory to analyze wage relations from a less strictly market-oriented standpoint destroy the ability of the neoclassical approach to derive a general equilibrium from individual behaviors. In other words, "invisible handshake theories" are not at all assured of bringing off what the invisible hand of the marketplace was supposed to do according to the Walrasian paradigm (see Garnier 1986). Thus, even with these extensions of neo-classical analysis, the criticism regarding the weak characterization of equilibrium in situations of underemployment remains valid.

It was, precisely, such extreme characterization of unemployment as voluntary that led Keynes to reject from the outset (1936, chapter 2) the thesis of the equality

of wages and the marginal utility of labor. The Keynesian analysis went further, questioning the neoclassical conception of a "labor contract." The Keynesians realized that the macroeconomic perspective on employment determination undermined the hypothesis that employers pay workers remuneration equal to the marginal productivity of labor (Weintraub 1956).

This macroeconomic concern has nonetheless led to an assessment of wages as one of the driving forces behind consumption, so long as their impact on production costs does not excessively attenuate this demand effect. This Keynesian debate on the opposing effects of wages on employment has left little room for specifying the microeconomic conditions of wage formation. The hypothesis of a downward rigidity of nominal wages is moreover largely taken from Keynes himself, and is extended, following historic experience, to different forms of indexing (of prices: rigidity of real wages; of productivity gains: sharing the fruits of growth). To be more precise with respect to the forms of behavior, the balances of forces, and the organizational forms that govern this wage dynamic, this Keynesian perspective must be broadened to include Kalecki's theories of the role of oligopolies in price formation, leading large firms and trade unions (for whom such firms were strongholds) to play a key role in determining wages (see Dunlop 1979).

On another level, Kalecki, with his political business cycle, has set forth the pressures that unemployment and full employment bring to bear on state intervention to regulate the distribution of wages and profits. This analysis picks up in part on the concepts of power relations among classes (capitalists and wage-earners) employed by the classical economists. This cycle begins with a high unemployment level leading capitalists and wage-earners to back policies of boosting domestic demand to promote an upturn in economic activity. A progressive return to full employment is accompanied by an accumulation of inflationary pressures that alter priorities to favor policies aimed at fighting inflation and moderating domestic demand. Stemming inflation favors increased unemployment, leading to a policy reversal. The countercyclical role of state intervention is thus paced by the ups and downs of unemployment and inflation.

Nonetheless, the categories that make it possible to gauge individual behaviors in work relations (such as the intensity of work and wage incentives) are largely absent from the Keynesian analysis.

Marxist analysis has, in this regard, the advantage of linking a macroeconomic perspective on the distribution of wages and profits to an approach that spells out the conditions under which labor is used. The distinction between labor and labor power is key for theoretically establishing the stakes of power in the relationship between employer and employee. Maintaining excess labor supply, i.e., having a labor reserve, is the regulating principle for maintaining relations of power that favor employers. The state plays a key role in maintaining this advantage.

The role of the state in reproducing the social relations of production is thus

recognized. On that basis, development of the Marxist analysis of the state will tend to oppose (1) analyses that view the state as having relative autonomy in the search for compromise between the bloc in power and the oppressed classes (see Poulantzas 1976); and (2) those that attribute to the state a role more strictly linked to capital accumulation (see the German school, e.g., Hirsch 1976). Also, Marxist analyses of new forms of state intervention in the economy that have developed in the postwar period (demand support, social welfare, unemployment compensation) remain rather inconclusive. The impact of these institutional developments on the labor contract, and on the power relations that are its context, are largely unexplored.

The foregoing overview bears witness to the difficulties that the major currents of economic thought run up against when it comes to interconnecting the different levels of analysis of wage relations, such as definition of the wage contract, the role of collective bargaining agreements, and the national institutional contexts. To develop such research on opposing and overlapping interests among parties entering into the labor contact at the different levels on which it is organized, we will take as our starting point a set of works by the American radical school that pay special attention to these aspects.

3. Wage-earners' motivations and average rate of profit: the American radical school

The work of a group of American radical economists deals directly with the above questions, focusing on the conditions under which labor power is used, the intensity of its use, and the antagonisms implied in this distinction. We will set out the major features of the approach shared by these works before analyzing a number of comparative studies highlighting the impact of diverse national institutional contexts on the performance of wage labor.

3. 1. The conflict thesis: studies of the U.S. economy

Several recent studies by Bowles, Gordon, and Weisskopf on the United States economy, and more particularly on manufacturing in it, aim at laying a basis for analyzing the social conditions of accumulation. Following Bowles (1986), the general features defining a "social structure of accumulation"—the concept unifying this set of works—will be illustrated in four points:

(1) the rate of investment is a direct function of the discounted rate of profit, and of the degree of capacity utilization;

(2) the rate of profit depends on labor intensity and on the degree of capacity utilization;

(3) labor intensity and degree of capacity utilization are interdependent: there is a maximum labor intensity for a given level of capacity utilization;

(4) the growth of investment has led firms to anticipate a decline in the rate of profit n periods later; this saturation of anticipated profit confers stability on the model.

All these studies pay particular attention to the measurement of labor intensity, which somehow links the social conditions under which labor is performed and the structure of accumulation per se. This intensity is a direct function of work incentives and of the local conditions of the labor market.

Work incentives take positive forms, such as wages (the "carrot effect"), and negative forms, such as supervision (the "stick effect"). In the power relationship established around the implementation of the wage contract, unemployment is an essential deterrent.

A key indicator, the cost of job loss, can be used to gauge the asymmetry of employer/employee relations based on the net wage, unemployment compensation, and the average probability of finding oneself without a job. Labor intensity is then positively related to the cost of job loss for non-agricultural wage-earners $W(*)$, with $W(*) = (W - W(c))U$ (where W is the wage, $W(c)$ unemployment compensation, and U the probability of unemployment). Certain works (see Bowles 1986) complete this analysis by spelling out the supervisory function that enables the contractor to be certain that work is not undertaken with an intensity lower than that necessary for a given cost of job loss.

All the preceding hypotheses lead to econometric estimates based on annual data for American manufacturing industry from the 1950s to the 1980s. Institutional variables that figure into the equations are most often measured by the expenditures linked to them (unemployment compensation, public spending resulting from the enforcement of various regulations, etc.).

The conflict thesis postulates that the power relation implied by a high cost of job loss is favorable to profit. Thus Bowles, Gordon, and Weisskopf (1983) point to a positive relationship between changes in the cost of job loss for American industrial workers and fluctuations in the profit rate.[2]

A high cost of job loss is thus in the interest of capitalists, though it is not a strictly necessary condition for maintaining the profit rate. Note also that an increase in the cost of job loss results not only from increased risk of unemployment or a reduction in benefits, but also from increased wages. This apparent paradox (increased wages leading to better profits) leads us in fact to distinguish clearly between the local and national conditions of the conflicts between employers and wage-earners. For a middle-sized firm, the unemployment rate and total unemployment benefits are given. To obtain the maximum intensity of labor from its employees in this context, the firm will find the level of benefits and supervisory expenses that enable it to maximize profits. Herein lie the local parameters of the antagonism between employers and wage-earners.

However, the works of the radical school go beyond this local level to establish

that at the national level industrial profit rates benefit significantly from underemployment and a reduction in unemployment benefits.

The alternative theory of a community of interest is always read as applying to the economy as a whole. Increased unemployment's effect of lowering wages would turn demand downward; and this slowdown in growth puts a damper on the rate of profit, all else being equal. The findings of the American radical school are aimed at refuting the bases of the Keynesian approach discussed above, with respect to American industry during 1950–1980.

3.2. Can the conflict thesis be generalized?

This analysis, rich in ideas and with the advantage of being operational, shows its limits when we wish to broaden the field to international comparisons. Weisskopf, Bowles, and Gordon (1986) themselves explicitly reject any pretensions to give their model of labor motivation universal applicability. The institutional context that modulates the subordinate relationship of workers to employers is given through monetary factors (unemployment benefits, minimum wage, etc.), but the entire legal and contractual framework that defines the conditions of hiring, lay-offs, and even wage negotiations (length of contract, scope, etc.) remains necessarily implicit. If, for a given period and country, this formulation holds, all else being equal, then from one period to the next, and from one country to the next, changes in employment guarantees, for example, substantially affect the cost of job loss thus measured. We might therefore estimate the same cost of job loss for two countries with the same level of unemployment, but where one prohibits lay-offs and the other does not offer such strict work guarantees. Furthermore, in the end the adjustment rests on the breakdown of unemployment among men and women, new and old employees, and so forth. The same cost of job loss can thus also correspond to very different employer–employee power relationships, once we abandon the hypothesis of a fixed institutional setting.

Moreover, the validity of the thesis of the profit squeeze in the case of European countries poses several problems from the start. In the first place, the evolution of unemployment has a more dichotomous character than in the United States; with respect to underemployment Europe experienced both a before and an after 1973. Therefore, a decline in the profit rate coincided this time with a marked rise in unemployment. A decline in profit rates may certainly have external causes; it is important to verify empirically whether—all things being equal—the slowdown in wage increases, like the behavior of the other variables associated with the cost of job loss, can reverse this fall in profit rates. But the macroeconomic contexts are from the outset substantially different.

In the second place, job security in Europe is very often extensively guaranteed by contractual agreements or legal documents (e.g., authorizations to take leaves

of absence). The state of the job market has fewer repercussions, in this case, on the intensity of work, in particular in several sectors less affected by the crisis.

Similarly, the systems of resource guarantees that are so often related to wage levels have at times responded to rising unemployment to avoid massive degradation of the social situation. For countries where postwar Keynesian conventions have achieved ever-greater rates of lifelong employment of wage earners, the analysis of the radical American school does not sufficiently account for the progressively increasing extension of social welfare measures. The indicator of cost of job loss should in this case be complemented.

The extensive opening of Europe to foreign currencies is another factor that must be taken into account in considering the validity of the conflict thesis. The growing integration of European economies and their broad insertion into the world market offers capital new possibilities for mobility, all the while conserving its markets. The integration of the financial markets likewise offers new investment alternatives that may, depending on the case, reduce or increase profit rates. These opportunities have repercussions on the worker–employer relationship even if the cost of losing employment is not altered.

Because of this bias, the risk of job loss would have a specific effect, while the impact of labor market movements represented by unemployment would remain unchanged. As Bluestone and Harrison state (cited in Bowles, Gordon, Weisskopf 1985, p. 116), "Capital mobility, whether enacted or merely threatened, was becoming a mechanism for altering the very foundations of labor–management relations."

The preceding objection also applies to movements between industry and the tertiary sector when labor conditions are different in the latter (differences in conventions of different sectors of the economy, unionization, etc.).

In addition to these substantive considerations, which lead us to modify this analytic framework for the sake of international comparison, there are diverging views on methodological points. In countries where the institutionalization of employment guarantees and benefits reduces the impact of unemployment on wage relations, it is difficult to base oneself on yearly changes. Correlations between short-term movements may hide longer term adjustments.

3. 3. The conflict thesis: the lessons of international comparisons

The preceding remarks highlight the interest and the limits of a simple extension of the American analysis to other Western economies. To mitigate this difficulty and to draw on the advantages of a useful schematization of the social bases of accumulation, Weisskopf has sought to complete the initial analysis by taking account of potential common interests between profit holders and wage earners, resulting from a common interest in boosting demand. In this section, we will set forth the results of comparative studies permitted by this extension.

From a series of works by Weisskopf, we have only drawn on a March 1985 paper, from which we have taken the data for our own statistical tests. In concluding, we will weaken this restriction by mentioning the latest findings of these comparative works (Weisskopf 1985b, 1985c).

Weisskopf (1985a) traces the annual fluctuations of the profit rate in eight countries (measured as the ratio between the gross surplus from exploitation to the capital stock at its current replacement value) in relation to different variables that explain the social conditions of the utilization of labor, the rate of demand growth, and the use of capacity. This last variable, like the specification of lags (between increased demand and profits, for example), or the recourse to smoothed variables for cyclical fluctuations, seeks to distinguish strictly short-term variations in the profit rate.

Weisskopf's analysis has two parts. An accounting breakdown of the profit rate enables him, first of all, to attribute essential changes in profit to two "real" components (the share of wages, in real terms, in production at constant prices, and the increase of capital productivity). The third component, which is linked to changes in relative prices, accounts for only a small part of profit changes. Then, a series of regressions seeks to clarify causality of these real effects.

Two exogenous variables are aimed at highlighting both the impact—a priori negative for the growth in profits—of enhanced job security, and the impact—a priori positive—of a more sustained demand. The first illustrates the conflict thesis; the second, the more Keynesian theory of a community of interest.

The variable "job security or social welfare" is measured as the arithmetic mean of two indicators:

—an indicator of "the size of the social wage," represented by the ratio of social spending (total transfer payments) to wages paid; and

—an indicator of "tightness on the labor market," taking the average rate of employment (unity minus the unemployment rate) and the deviation from the trend of the number of hours worked per employee.

The variable representing the intensity of demand is measured by the rate of growth of manufacturing production (lagging four periods).

A variable "rate of labor utilization" (rate of growth of labor time per employee per year in relation to the long-term trend, integrating the effects of unemployment and strikes) serves the purpose of taking strictly cyclical fluctuations into account.

The regressions that seek to explain the annual growth of the profit rate in each country, based on the exogenous variables described above, lead to ambiguous results.

In four countries (of the eight studied)—the United States, France, the United Kingdom, and Italy—the conflict thesis is found to be quite valid; trends in the profit rate appear, in effect, to be negatively correlated with the level of social welfare, while changes in demand exert no notable effect on profitability, with the exception of Italy, where the growth of demand is negative. Japan is the only example supporting the thesis of the community of interest, insofar as

profit rates and demand move together. Finally, in three countries (Sweden, Germany, and Canada) changes in profit rates remain unexplained by the variables investigated.

These results thus extend the schema valid for American industry to three European countries. This similarity among countries with relatively slow growth for the period (United States, United Kingdom) and countries with rapid growth (France, Italy), and among countries, moreover, with very different systems of labor relations, is surprising.

Some reservations regarding an overly direct reading of these regressions are in order.

In the first place, the annual rhythm of the observations may be deceptive and reinforce the weight of correlation among short-term developments. Taking into account fluctuations in unemployment rates requires more than smoothing out cyclical fluctuations, but will reinforce certain medium-term determinants.

In the second place, other real determinants of the rate of profit may have been omitted from the analysis. The absence of explanation for variations in the rate of profit for three countries strengthens this hypothesis. These omissions may falsify the correlations observed in the other countries. Particularly in countries that are very open to the international market, the possibilities of capital mobility and alternative conditions for its valorization would seem to have an impact on profit rates.

Finally, the impact of supply conditions (conditions made to the utilization of labor force) is measured in absolute terms, and the impact of demand in terms of fluctuations, without discussion of the consequences of this assymmetry.

For these reasons it seems of interest to complete the analysis, taking account of external conditions for the valorization of industrial capital and the specifically medium-term character of the type of changes analyzed. To carry out this comparative medium-term analysis we will examine national experiences directly. We have thus used Weisskopf's data to calculate the medium-term growth rates and to analyze them in a common frame of reference.

4. Profit movements and the conditions of labor force utilization: a framework for comparative analysis

4.1. In search of a cross-national frame of reference

We take up the analysis of the profit rate with an attempt to characterize the national medium-term trends in relation to each other. If we narrow the scope to medium-term trends, it is no longer possible to estimate, for each country, a relationship among profit, job security, and demand. It is still interesting, however, to compare the general features of development observed in the eight countries examined. To insist on the hypothesis that these observations together fit a common explanatory schema would constitute an undue denial of the importance of the specificity of institutional contexts, which we otherwise emphasize.

We have chosen to resolve this dilemma by gauging the medium-term changes in the industrial rate of profit in the context of a frame of reference. Our process is not probabilistic in the sense that the frame of reference is not intended to be *the* explanatory model from which national progressions would deviate randomly (in accordance with the standard laws of probability). Our method is more descriptive and allows for uncertainty regarding the determinants of the profit movements that may occur in each country.

If the determinants of profit are those that we retain (drawing lessons from the national analyses mentioned above), and if these determinants have different weights in each country, then the deviations from a common frame of reference ought to indicate the different weights that should be accorded to each determining factor.

These indications will distinguish even more among national models since the common framework will have "barycentric" qualities; that is, it will turn out to be an average representation, not too "distant" from the national trends. This will lead us to estimate an average frame of reference by the method of least squares, then to attempt to relate the deviations from this average frame to differences in weight of the determinants of profit for each country.

The choice of a set of variables for the satisfactory explanation of trends in the profit rate in each country is thus an initial condition for applying the method. Otherwise the deviation from the average frame might also reflect differences in weight among the determinants of profit just as easily as the inadequacy of the subset of explanatory variables used. We are therefore broadening the set of explanatory variables that Weisskopf used, adding variables characterizing the conditions of profitability of industrial capital in contrast to other national and international types of investment. These indicators should reflect the risk factor, which weighs on the profitability of industrial capital properly speaking.

The main variables used are calculated as the average growth rates from one cycle to the next, i.e., five rates for the six cycles from trough to trough, identified for each of eight countries by Weisskopf for the period 1955–81. Thus mixing countries and periods, regressions are run on series of 40 (5×8) points to estimate the most suitable frame of reference.

Weisskopf's study suggested that we retain, above all, three of the previous explanatory variables: an indicator for social welfare, an indicator for the state of the labor market, and a demand indicator. While these variables are all similar to those used in the annual national models of the preceding section, they are not the same.

The social welfare indicator *SW*, which reflects the importance of transfer payments, represents the average annual growth rate for each cycle (and not the level) of the

ratio of transfers to the total wages. It seems preferable to compare changes in the conditions of supply (job security) to those of profit rates so as not to accord too much weight to differences of structure, which are indeed not very comparable from one country to another, whereas the trends are somewhat more so.[3]

The *UG* indicator of the tightness of the labor market, which we have retained, simply records changes in the average rate of unemployment from one cycle to the next. In Weisskopf's national analyses, this variable was the equivalent of a rate of employment for assessing the cyclical variations in the economy. With the long period of slow growth begun in the 1970s, it seemed to us that this variable had a structural dimension, taking into account modifications in the functioning of the labor market which brought about a prolonged period of high unemployment. The medium-term trends in capacity utilization provides *a priori* an indicator similar to that whose relevance we will test as an alternative. For purposes of comparison among countries, as mentioned earlier, we prefer in this instance to use rates of growth rather than absolute levels.

The third variable, *MG*, traces the movements of average production per cycle in the manufacturing sector.

These three explanatory variables do not correspond to the determining factors of profit used in the national schemas. These remaining national analyses have led us to introduce other indeterminations in variables. The explanatory nature of these variables is weakened by virtue of their not having been validated in the national models. Subject to complementary research, we will accept their descriptive capacity as manifested in the common frame of reference.

To deal with the criticism that the national schemas do not account for conditions of competition among the various methods of valorization of capital, we introduce the following three variables: the importance of international movements of long-term capital for accumulation (*CT*); exports as a share of *GDP* (*EX*); changes in the terms of trade (*TT*); and finally, the ratio (*IN*) of long-term trends of real interest rates to those of production.

The importance vis-à-vis investment of the balance of long-term capital movements (definition of the variable *CT*) reflects, depending on the sign, excessively low profitability (capital flight) or excessively high profit rates (capital inflows), in relation to alternative opportunities in the world market. These movements of profit rates toward internationally prevailing rates may autonomously bring upward or downward pressures to bear on the national profit rate. *CT* is a variable expressed in absolute terms taken from the national accounts and *a priori* is quite comparable from country to country.

Exports as a share of *GDP* reflect another aspect of the possibility of leveling out the rate of profit. In many ways, openness to foreign trade can affect the profit dynamic, increasing competition domestically, or allowing for export of surplus values. The competitive relations between oligopolistic sectors and competitive

sectors are modified. The direction of the impact of this structural dimension is not always determined *a priori*; it depends on, among other things, the size and strategy of the large national firms.

Likewise, the terms of trade *TT* provide another assessment of the external conditions for the investment of industrial capital.

Finally, the *IN* variable (which measures the ratio between real long-term interest rates and growth rates) provides additional insight into the conditions for the leveling out of profit rates (see Malinvaud [1986]) between financial and industrial forms of valorization. *A priori* this variable is somewhat analogous to a Tobin *Q* variable, which measures the deviation between the financial value of industrial assets and their replacement cost (which is useful for measuring total capital in estimating profit rates) (see Chan Lee 1986).[4] Bowles, Gordon and Weisskopf (1985, p. 104) have emphasized the close correlation between the rate of profit and Tobin's *Q*, which "shows the capitalists' own assessment of the business climate and their profit expectations." Our *IN* indicator is meant to explain possible lasting disequilibria between profitability of financial investments (in which the real rate of interest sets the norm) and industrial profitability (in which the real growth in production sets the norm); therefore it is rather negatively linked to the rate of profit. Indeed a high real interest rate, all things being equal, tends to reduce the net margin, depress investment, and reduce the financial valorization of industrial assets (and therefore Tobin's *Q*). Our *IN* indicator thus tends to have an effect opposite that of Tobin's *Q* when it comes to explaining analogous phenomena of adjustment between financial values of assets and accountable values of capital assets.

The set of explanatory variables used allows us to seek a frame of reference yielding an average determination of the rate of profit. The results of regressions for the eight countries over the five periods are presented in Table 1.

A first observation is that the variables reflecting the alternatives or the competitive situations which the development of national industrial capital encounters are of little significance. In other words, they do not seem to play a determining role in the economies as a whole.

The variable *EX* (Exports/*GDP*) is not significant (regression R2, Table 1); this contrasts with the results obtained by Weisskopf (1985c) where in five countries the penetration of imports has a significant impact on profitability. The use of a variable for terms of trade (*TT*) instead of the export rate *EX* does not lead to a more central schema.[5] The variable *CT* (transfer of capital) is correlated with time; its own impact on changes in the rate of profit is difficult to judge (regressions R5, R6 from Table 1). Finally, only the variable *IN*, "comparing" prospective profitability for industrial and financial capital, yields an interesting result. Its sign confirms the negative average correlation between changes in the rate of industrial profit and the existence of more interesting alternative invest-

Table 1

In search of a frame of reference for comparing the determining factors of the rate of profit for the manufacturing sector in eight countries (40 observations*)

Const.	Rate of Unemployment *UG*	Social Protection *SW*	Production in Manufacturing *MG*	Exports/ *GDP* *EX*	Interest rate/ Growth rate *IN*	Capital transfers *CT*	*t* time	R^2
-2.97	0.12	-0.48	0.53					0.31 R1
(1.9)	(1.6)	(2.2)	(2.8)					
-7.62	0.12	-0.48	0.47	-0.07				0.31 R2
(0.6)	(1.7)	(2.2)	(2.3)	(0.7)				
-2.26	0.13	-0.54	0.54		-1.61			0.35 R3
(1.41)	(1.82)	(2.48)	(2.91)		(1.41)			
2.84	0.23	-0.54	0.41		-3.0		-1.37	0.50 R4
(1.4)	(3.3)	(2.83)	(2.4)		(2.67)		(3.3)	
-1.1	0.13	-0.58	0.4			-28.6		0.35 R5
(0.56)	(1.8)	(2.6)	(1.99)			(1.6)		
-0.99	0.18	-0.52	0.36			-18.1	-0.84	0.42 R6
(0.46)	(2.48)	(2.4)	(1.85)			(1.0)	(1.9)	

(*)The list of variables and their values is provided in the appendix. *UG, SW, MG* are the average annual growth rates of the corresponding quantities. *EX, IN, CT* are averages over each cycle of variables, in absolute terms.

ments (regressions R3, R4, Table 1). It is still necessary to introduce a time factor to bring out these effects (regression R4).

Thus the display of an adverse correlation between trends in industrial profit and possible alternatives for capital investment remains weak.

General trends in the labor market, gauged by reference to the unemployment rate *UG*, appear to have a positive correlation with trends in the profit rate. This connection may reflect the general effect of a slowdown of the economy that continues throughout the entire cycle. Also, the weak relationship that appears in Table I looks as if it would be found with all indicators of the evolution of the rate of capacity utilization.

To evaluate that, we have introduced a variable, *CU*, which measures the rate of utilization of productive capacity. In fact, these two indicators are not equivalent and *UG* reflects a specific correlation between the labor market situation and trends in the profit rate, which may refer back to more intense utilization of the labor force employed during a period of unemployment, as the American radicals suggest.

Thus, introducing the ratio of capacity utilization *CU* instead of *UG* in the R4 regression alters the "explanatory" power of the relationship and modifies the effect of the demand factor.[6] The correlation between unemployment and profit rates points thus to something effectively different from the relation observed to hold between demand and profit. Moreover, the estimates of the reference model presented in Table I confirm the key role of the opposition between increased job security and increase in the profit rate (the *SW* coefficient is always significant and negative). This opposition between trends in the profit rate and trends in social welfare, like the foregoing previous positive relationship between unemployment and the profit rate, supports the conflict thesis. But the positive correlation between increased demand and the profit rate shows that the thesis of a common interest between capitalists and wage earners is also key.

If in effect increased demand benefits both profits and wages (the hypothesis implicitly embraced from the outset, and which one should logically support, while checking on the one hand the productivity–demand correlation, and on the other hand the real wage–productivity correlation), the two parties who receive a share of the income have a common interest in the increase of demand. Indeed, it has been noted that the effect of demand appears to become confused with the effect of the rate of capacity utilization; but in our approach this last variable is not cyclical and is clearly identified with stagnation in demand over an average period.

In addition, the search for a central model suggests that the two theses of conflict and of the community of interest combine to explain profit rate trends in different ways depending on the period and country in question. But the centrality of the common "model," reflected in its ability to explain 50 percent of the variance of fluctuations in the profit rate, does not come close to accounting for all the differences.

4. 2. *Between conflict and community of interest: an attempt to characterize national situations*

Before situating the countries studied in the frame of reference, we have sought to assess the common schema's sensitivity to the inclusion of different periods. We have thus verified that the concomitant preference of a conflict-effect and a demand-effect is not due to the insertion of the period of general economic slowdown in the 1970s; the medium-term trends in the profit rate remain unchanged when one excludes the last period (regression R10, Table 2). We note in particular that this exclusion does not affect the significance of the variable time in the average model (cf. R4 and R10 in Table II).

We can now attempt to characterize the different countries in relation to the average model.

Figure 1 indicates that 15 times out of 40, the observation of the profit rate deviates more than two standard deviations from the average trend. These significant deviations relate mainly to three countries (France, Japan, and the Federal German Republic), for which the estimates drawn from the law of averages show major deviations from the observations of three cases out of five.

One can attribute significance to these deviations only in relation to these results of country studies, or by carrying out complementary analyses.

Weisskopf's country analyses (1985) placed the three above-mentioned economies in three distinct categories: in France the conflict thesis was found to be valid by virtue of a correlation between the level of social protection and trends in the rate of profit; Japan was the only country where the effect of demand on the rate of profit seemed clear; while in Germany the determinants of profit movements do not appear to be significant. One does not find a similar characterization when reestimating the average schema by introducing a dummy variable for each of these three countries (see Table 2).

The search for a France-effect or Germany-effect in the determination of the average schema is not conclusive: the dummy variables in question are not significant and the characterization of the average schema remains unchanged. In the case of Japan, on the other hand, this country-effect turns out to be of little significance, but sufficient to call into question the centrality of the opposition between social welfare and profit. This seems to contradict the results obtained in analyzing annual profit trends in Japan. In fact the national studies retained the social protection levels, even though the estimate of the average model is based on the rate of growth of these levels.[7] With respect to variations, there is a clear negative correlation between changes in social welfare and profit rate at the beginning and end of the period. All that is left are tests to assess the average schema's sensitivity to the country-effects; they provide very little supplementary information that brings us closer to the results of national studies.

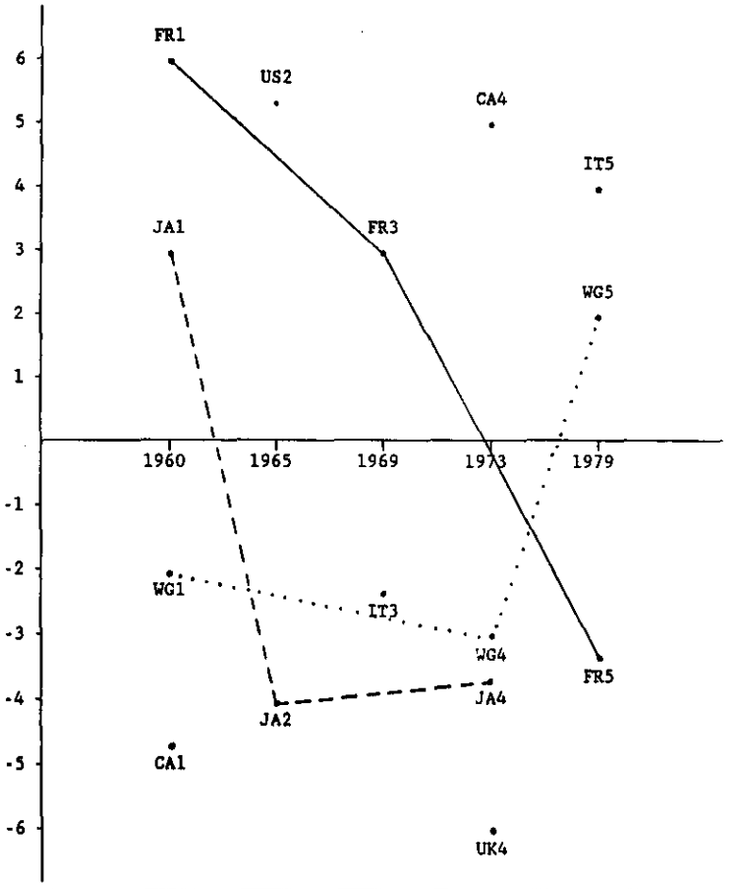
Table 2

Determination of the rate of profit in manufacturing: tests of sensitivity of the average schema

	UG	*SW*	*MG*	*IN*	Time	*DM*	Const.	R^2	Comments
R4	0.23	-0.54	0.41	-3.0	-1.37		2.84	0.50	Determination from Table 1.
	(3.3)	(2.84)	(2.4)	(2.67)	(3.3)		(1.4)		
R7	0.24	-0.33	0.82	-2.81	-1.1	-4.1	-0.56	0.54	Introducing variable $DM=1$ for Japan renders social welfare indicator SW insignificant.
	(3.4)	(1.47)	(2.75)	(-2.54)	(-2.4)	(-1.64)	(-0.2)		
R8	0.20	-0.47	0.38	-2.75	-1.32	-1.7	2.32	0.54	Introducing dummy variable for France does not significantly alter determination of the rate of profit.
	(2.7)	(2.3)	(2.23)	(2.41)	(3.2)	(1.1)	(1.1)		
R9	0.22	-0.57	0.4	-2.46	-1.29	-1.16	2.72	0.51	When $DM=1$ for FGR the indicator *IN* becomes less significant.
	(3.02)	(2.89)	(2.33)	(1.76)	(2.99)	(0.7)	(1.29)		
R10	0.26	-0.59	0.51	-3.08	-1.88		3.47	0.52	Determination of profit rates is significantly altered if 1973–1979 is excluded.
	(3.3)	(2.4)	(2.6)	(2.2)	(3.4)		(1.37)		

Figure 1. Conformity of the countries to the general model

(points more than two standard deviations from the central determination: FR:3/5; JA:3/5; WG:3/5; CA:2/5; IT:2/5; UK:1/5; US:1/5; SW:0)



To see if, for all of the countries retained, one could distinguish modes in profit trends, in particular for France, the Federal German Republic, and Japan, where profit movements deviate notably from the central schema, we have turned to a principal component data analysis, based on the data used in regression R4 of Table 1.

The first axis, explaining 40 percent of the total dispersion, contrasts the two variables—growth of the profit rate (*RK*) and demand (*MG*)—to the indicators of the unemployment rate (*UG*) and social welfare (*SW*). It turns out, in the first place, that the combination of variables used in the model (regression R4) is one of the best designs summarizing the information from the table of initial data. The graph of the plane of the first axes, in the appendix, shows that the "error" variable (deviations between observed and estimated values of changes in the rate of profit) is quite close to the origin. Including the time variable *Ti* does not affect determination of the axes.

The second axis, which accounts for 20 percent of the inertia of the cluster of points, is explained mainly by the variable *IN*, which represents the external conditions affecting investment of industrial capital. This confirms that this variable *IN* is a significant complement to the information provided by the variables of the first axis (see in the appendix the 40 points observed in the plane of the two first axes).

Beyond this interpretation of the axes, the principal component data analysis of the data makes it possible to identify clusters of points (country × period) or classes with a certain homogeneity in relation to the variables studied. If we divide the 40 points into four classes (by an ascending ranked classification: see Lebart, Morineau, Warwick 1984), the period variable stands out as the principal factor differentiating the cycles before and after 1970 (see Figure 2), the other classes referring to the country-effects with the basic singularities of the three countries already mentioned: Japan, West Germany, and France.

Thus, the first class includes the experiences of six countries (France and Japan being the exceptions) for the first three periods. We had sought to highlight a period effect singling out the last period, marked by a clear slowdown in economic growth. Principal component analysis of the data suggests that a break in the determination of profit could have taken place, but taking root in the 1960s. This periodization coincides with that proposed by studies on deindustrialization and by those on the wage explosion and plummeting of profits.

The second class encompasses, above all, still in the first three periods, the experience of Japanese and French industry. This class is marked by major growth in the rate of profit related to high growth in demand and little change in social protection. Japan and France, in the first period, experienced changes that deviated relatively from the average model provided by the R4 regression (see Figure 1). This classification suggests, therefore, that for these two countries, *in the first three periods*, the relation between demand and profit has been dominant.[8]

Yet this does not explain the deviation from the average model insofar as social

Figure 2. Ascending hierarchical classification of the observations (Variables by country and periods)

characteristics / *variables*	*mean* *class*	*mean* *general*	*standard error* *class*	*standard error* *general*
type 1	*(weight* = 13.00 *observations)*			
IN	0.574	0.362	0.246	0.441
UG	–1.477	2.345	9.471	8.100
TI	1.846	3.000	0.863	1.414
type 2	*(weight* = 10.00 *observations)*			
RK	2.808	–1.728	2.984	3.733
MG	8.620	5.212	3.084	3.169
SW	1.620	3.767	1.333	2.530
type 3	*(weight* = 7.00 *observations)*			
UG	11.571	2.345	4.975	8.100
IN	0.794	0.362	0.342	0.441
TI	4.286	3.000	0.881	1.414
type 4	*(weight* = 10.00 *observations)*			
TI	4.400	3.000	0.490	1.414
WG	5.860	3.767	2.969	2.530
IN	–0.183	0.362	0.330	0.441

Breakdown of the tree in 4 types

Type 1
UK1 WG1 IT1 SW1 CA1 US1 UK2 WG2 SW2 IT3 SW3 CA3 US3

Type 2
FR1 JA1 FR2 IT2 JA2 CA2 US2 FR3 JA3 FR4

Type 3
UK3 WS3 WG4 UK5 FR5 WG5 CA5

Type 4
UK4 IT4 SW4 JA4 CA4 US4 IT5 SW5 JA5 US5

welfare varies very little in the two countries. In fact, the changes of the second period in France and the third period in Japan remain close enough to the forecast of the average model. Finally, for all of the first periods, the schema for determination of profits in France and in Japan does not deviate much from the average schema.

The third class is marked by the trends in unemployment and interest rates in the periods after 1970, and particularly in relation to West Germany (since 1965). The introduction of an *IN* factor characterizing alternative possibilities for appreciation of capital is more justified here, to the extent that West Germany was altogether a country where national analysis did not show any of the determining factors initially used (see Weisskopf 1985), and where observations since 1970 deviate notably from the average model's predictions.

Finally, the fourth class, characterized by changes in social coverage in the last period, relates to all the countries, except France and West Germany. Principal component analysis of the data and the hierarchical classification are thus useful in rounding out the regressions of Tables 1 and 2. They allow us to highlight a very marked period effect (before/after 1970) and the particular developments in some countries (Japan, France, and West Germany) in relation to the general model.

But the overall conclusion tends rather to confirm the validity of models where the changes in demand and social welfare are both determinants of profit, combining the conflict effect and the cooperation effect.

The "temporal" effects brought to light by this last analysis of the data, however, emphasize a real trend not yet reflected. Profits seem, in effect, to have been affected in a continuously downward fashion for the periods studied, manifesting a global transformation of the profitability conditions of national industries not accounted for by the explanatory variables retained in the regressions. Capital mobility, the competition of new industrial countries, and erosion of the monetary system are among the main possible causes of such changes.

These results are fragile, obtained from a data base that is still rough. They suggest, as we note in conclusion, the need for a more precise specification of determining factors and a broader collection of data characterizing the various institutional contexts that govern the distribution of the fruits of growth.

5. In conclusion: another analysis of the conditions of utilization of the labor force and their impact

To return to our argument, we note that the macroeconomic characterizations at which we have arrived suggest several questions. Beginning with a reflection on the analysis, in various economic theories, of individual behavior vis-à-vis the wage contract and its impact on the major macroeconomic factors, measuring growth and its distribution, we began by following work of the American radical economists that makes this connection explicit.

The model of the social structure of accumulation that they propose specifies the rules of individual behavior that make it possible, depending on the state of the labor market and the choices of the employer in matters of control, to associate an intensity of work performed with the employment of a given worker. This opposition among actors is reproduced at the macroeconomic level as an opposition between the profit rate and job security (resulting from a system of social welfare as well as from a given state of the labor market). This, briefly recapitulated, is the conflict thesis.

This thesis is not obviously true of itself insofar as the "conflictual" analysis of behavior it proposes does not systematically imply that at the macroeconomic level there is an opposition between trends in the rate of profit and trends in security for workers. If, for example, historical experience has facilitated the emergence of institutions and practices stimulating global demand, the employer/employee conflict may be overcome by a community of interest in favor of growth. The whole series of new questions that we have opened up relates precisely to the fact that we can, to some extent, discern such joint interests.

The purpose of sections 3 and 4 was indeed to specify the extent and conditions of such situations. We note that this result prompts us to reformulate the analysis of individual behavior. We cannot, in effect, assess the weight, in the distribution of income, of institutions counterbalancing the conflictual relations among actors without looking into the precise realm left to this conflict. The institutional context cannot finally result in "joint interests" in a world of entirely conflicting relationships.

All our questions thus lead to what we can call, for short, the endogenization of these institutional contexts, which we know, moreover, have a history that is still recent. Let us return, first of all, to the nature of the observations we have made.

Based on a comparative analysis by Weisskopf (1985a) showing the role of different real variables in annual changes in the profit rate, we have sought to highlight the support that these data provide to both the conflict thesis and the community-of-interest thesis in a medium-term perspective and from the viewpoint of a common frame of reference.

To define this common framework we have retained a priori a set of explanatory variables, drawing on determinations brought to light by Weisskopf and adding variables that may explain the remaining indeterminations. In the space thus defined, we have calculated a priori the schema closest to the various national schemata. In this reference frame the two indicators of changes in worker security (that is, the rate of growth of the average level of unemployment for the period and the role of transfer payments in the upturn in wages) play a key role in lending credibility to the conflict thesis. But changes in demand are also important in determining the profit rate observed.

The development of a common frame of reference explaining about half the

variations in the profit rate does not imply that the factors determining profitability are identically weighted in all countries. Also, an attempt has been made to establish a typology based on the deviations between average changes of reference and observed changes in the profit rate.

Comparing the results of a principal component analysis of data based on the deviations between observations and average "forecasts" has made it possible to highlight some characteristics. Thus, the Japanese and French economies seem to have experienced growth in both the rate of profit and demand from the 1950s to the 1970s that was clearly more sustained than in the other countries, while at the same time the level of social welfare was more stable than elsewhere. The lag effects of demand on profitability also appear to have been more marked than elsewhere in this period for these two economies, in which trends in profitability deviate notably from the average schema for the determination of profit. By way of contrast, in the case of the German economy, the "atypical" character of profit movements appears to be due to the importance of competition among different financial forms of capital appreciation. Principal component analysis of the data has also reinforced the idea of a notable inflection of the factors determining the profit rate in the 1970s.

Beyond the effects of trends in demand, unemployment, social welfare, and the financial context, the trends that affect all the determinations of the profit rate would seem to have to be closely related to global transformations in trade relations induced by the erosion of the international monetary system and the increased integration of financial and commercial markets.

The rough typology of the determinations of the profit rate to which we have come for the eight countries studied confirms the generality of a dual (but variable) determination of the profit rate implying both opposing and coinciding interests. The schema of employer/employee behaviors coherent with such results remains largely absent from the analysis. Such a "micro" explanation is necessary if for no other reason than to discern the space within which the conflictive situations unfold.

The works of Weisskopf (1985b, 1985c) and Boyer and Bowles (1986) approach this question in two different ways. For Weisskopf the link between the conflicting employer/employee relations and their common interest in sustained economic growth has to do with differing temporal horizons. These works, which allow respectively for contributions to the conflict theses (the short term) and the community of interest theses (the long term) have the advantage of being open to empirical verification. They nonetheless evade a part of the question, touching on the "microeconomic" bases of this community of interests and their effects. Boyer and Bowles pick up on another aspect of the question by specifying, within a schema of accumulation, the workings of a given set of institutions in terms of wage negotiations and distribution mechanisms.

The question raised goes even further, as it requires that both the interrelations

between the form and scope of the institutions and the nature of employer/employee relations be spelled out. Our intuition tells us that the answer to this type of question includes some decoupling among the various forms of motivation, which are aimed at guaranteeing execution of the labor contract, as well as among the institutions within which the use and reproduction of the labor force are performed. Such developments could make possible a better grasp of the linkages between forms of behavior and institutional practices that underlie the dual determination of the rate of profit and its national variations.

Appendix

A statistical appendix can be found on pp. 93–95.

Notes

1. We thank many colleagues, and particularly S. Bowles and T. Weisskopf, whose comments on a first version of this paper were particularly useful to us.

2. The equation for the rate of profit (y) in American industry, estimated on the basis of the annual statistics from 1948 to 1979, is as follows:

$$y = 0.23\,j + 0.15\,e - 0.01\,n - 0.33\,x + 0.6\,u - 0.05$$
$$(4.65)\quad (5.7)\quad (-0.7)\quad (-7.3)\quad (6.4)\quad (6.3)$$

where j = cost of job loss
e = terms of trade
n = relative cost of raw materials
x = rate of taxation of profits
u = rate of capacity utilization.

(Cf. Bowles, Gordon, and Weisskopf 1983.)

3. This distinction between level or rate of growth of the variable social welfare is not posed in the same terms in the estimations of national models. It will be seen that this choice is better suited to the average scheme, and that in particular the indicator social protection is significant as a rate of growth, but not in terms of its absolute level.

4. Lacking statistical series for all the countries concerned, it has not been possible to test Tobin's Q variables directly.

5. The equivalent of the R2 regression of Table 1, with the terms of trade TT, yields the following results:

$$y = -0.64 + 0.19\,UG - 0.41\,SW + 0.46\,MG + 0.23\,TT - 0.77\,t$$
$$(-0.27)\quad (2.5)\quad (-1.42)\quad (2.41)\quad (0.66)\quad (1.49)$$

6. The R4 regression of Table 1 is transformed as follows when a rate of capacity utilization (taken from Berndt et al. (ii) [1986] and *Economica*, vol. 53, supplement N 210 [1986], p. S361) replaces the unemployment rate UG.

$$y = 3.0 + 1.0\,CU - 0.52\,SW + 0.11\,MG - 2.88\,IN - 0.37\,t$$
$$(1.3)\quad (2.3)\quad (-2.6)\quad (0.6)\quad (-2.4)\quad (-0.86)$$

$R^2 = 0.44$.

7. As already emphasized, these levels are hardly comparable, and in seeking an average schema the variable of social welfare (in absolute terms) did not stand out as a determinant factor; the R4 regression thus becomes:

$$RK = 0.21\,UG + 0.08\,WN + 0.55\,MG - 2.75\,IN - 1.56\,t - 0.73$$
$$(2.7)\quad (1.3)\quad (2.9)\quad (-2.2)\quad (-3.3)\quad (-0.3)$$

$R^2 = 0.41$ where WN is the average over the cycles of the ratio transfers/wage bill.

8. This characterization also holds for France in the fourth period.

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Explanatory notes for the table of data

Source: Weisskopf (1985a) unless otherwise indicated.

UK: United Kingdom, FR: France, WG: Federal German Republic,
IT: Italy, SW: Sweden, JA: Japan, CA: Canada, US: United States.

- *Ti*: periods: 5 intervals separate 6 cycles identified in each country (trough to trough) over the period 1955-1981, i.e., in the case of the United States: 1954-58, 1958-61, 1961- 67, 1967-71, 1971-75, 1975-1981.

- *IN*: ratio of real long-term general interest rates (source Atkinson, Chouraqui [1985]) to growth rate.
- *MG*: average annual growth rate (AAGR) in production of manufactured goods.

- *RK*: AAGR of the rate of profit in manufacturing.

- *UG*: AAGR of the unemployment rate.

- *EX*: exports as a share of GDP (source OECD [1985], historical statistics).

- *CT*: long-term capital movements in the balance of payments in relation to investment (source: OECD, balance of payments).

- *TT*: terms of trade (source: IMF, annual reports).

- *CU*: AAGR of the rate of utilization of installed capacity (source: Berndt, Hesse [1986]; Economica [1986]).

- *WN*: sum of transfer in relation to the wage mass.

- *RES*: *RK* observed - *RK* calculated.

Statistical Appendix

Table of Data

OBS	*country*	*TI*	*RK*	*WS*	*UG*	*MG*	*IN*	*EX*	*CT*	*TE*	*CU WN*
1	UK	1	–0.46	3.1	4.8	3.0	0.70	17.0	0.005	2.2	0.0 8.6
2	FR	1	7.68	2.4	–2.2	6.6	0.33	11.3	0.003	0.6	0.0 21.5
3	WG	1	–6.48	1.4	–22.1	7.7	0.99	14.7	0.029	3.3	0.0 25.6
4	IT	1	–0.08	4.9	–11.0	7.9	0.20	7.8	0.010	2.0	0.0 13.3
5	SW	1	–0.47	5.2	–5.0	5.1	0.24	20.1	–0.001	0.4	0.0 11.5
6	JA	1	6.40	2.8	–8.2	14.1	0.22	8.5	0.005	2.6	0.0 4.5
7	CA	1	–4.47	6.9	11.5	2.9	0.46	16.4	0.001	0.4	0.0 8.2
8	US	1	–2.53	7.2	6.1	1.0	0.55	3.8	0.012	1.7	0.0 7.9
9	UK	2	–2.11	2.9	1.8	3.4	0.78	15.7	0.080	1.1	–1.1 9.9
10	FR	2	2.34	3.3	5.7	7.0	0.33	11.2	0.007	1.1	0.4 24.8
11	WG	2	–5.50	1.1	–17.7	5.8	0.79	14.9	0.055	2.7	–3.6 27.0
12	IT	2	0.46	3.7	0.6	7.2	0.21	12.7	0.015	–0.6	–1.5 17.0
13	SW	2	–3.55	5.6	–1.3	6.4	0.40	19.4	0.000	–0.4	–2.0 15.3
14	JA	2	–1.36	1.0	–6.5	12.5	0.22	9.0	0.010	–2.3	1.1 4.8
15	CA	2	0.20	0.5	–6.7	6.5	0.46	17.3	0.005	–0.9	0.0 9.2
16	US	2	4.61	1.2	–3.6	5.6	0.57	3.7	0.021	0.8	2.1 9.0
17	UK	3	–3.15	4.5	4.7	3.2	1.07	17.8	0.098	0.1	–1.1 11.9
18	FR	3	6.02	–0.5	10.1	7.5	0.54	12.9	0.012	0.8	0.0 26.3
19	WG	3	0.48	2.3	12.5	5.3	0.99	16.4	0.081	1.0	–0.7 29.0
20	IT	3	–5.08	2.1	–0.9	6.6	0.95	13.9	0.025	–0.2	0.0 19.5
21	SW	3	–2.28	6.2	6.2	4.7	0.54	20.0	0.000	0.1	–1.7 19.4
22	JA	3	1.70	1.7	3.2	13.1	0.33	8.7	0.013	0.6	–0.9 5.1
23	CA	3	–2.52	2.1	1.3	5.9	0.55	18.7	0.006	0.7	–1.5 9.8
24	US	3	–3.13	1.9	–2.9	4.2	0.31	4.1	0.055	0.1	–2.9 9.8
25	UK	4	–6.04	1.3	3.7	1.9	–0.60	22.0	0.074	–2.9	–3.0 13.3
26	FR	4	0.03	0.1	6.6	6.1	0.07	15.0	0.009	–0.5	–1.0 26.3
27	WG	4	–5.01	2.2	12.9	3.8	0.93	15.8	0.089	0.3	–2.8 31.5
28	IT	4	0.02	4.4	1.1	5.0	–0.51	18.1	0.021	–3.4	–2.8 21.7
29	SW	4	–6.07	7.0	–0.9	2.6	–0.16	21.0	0.004	0.1	–2.0 27.2
30	JA	4	–7.93	8.0	0.0	9.3	0.38	9.3	0.016	–2.9	–2.6 6.4
31	CA	4	1.70	7.2	4.7	5.2	–0.06	19.7	0.009	2.0	–0.5 11.8
32	US	4	–3.81	4.7	6.7	3.1	–0.15	5.7	0.055	–3.4	–1.3 11.9
33	UK	4	–4.74	5.0	11.9	–0.6	0.66	24.4	0.023	–0.4	–2.6 15.5
34	FR	5	–6.20	4.6	13.3	3.1	0.21	18.6	0.011	–1.0	–2.0 29.6
35	WG	5	–2.42	4.1	20.5	1.9	1.25	21.0	0.118	–1.4	–0.9 36.8
36	IT	5	0.81	5.4	4.0	3.1	–0.63	23.9	0.048	–2.5	–4.1 26.0
37	SW	5	–5.39	6.7	2.1	0.0	–0.20	26.8	0.081	–0.6	–4.6 37.8
38	JA	5	–6.93	11.8	7.8	5.7	0.34	11.1	0.021	–5.8	1.1 9.0
39	CA	5	–3.07	2.6	5.2	2.6	0.45	24.8	0.008	–0.2	–2.7 14.5
40	US	5	–1.75	2.1	3.8	2.5	–0.24	9.4	0.083	–2.9	–2.4 14.1

Analysis of main components
Projection of the first two axes