

# BRENNER ON COMPETITION\*

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## LA CONCURRENCE SELON BRENNER : Résumé

Cette étude discute un aspect de l'*Economics of Global Turbulence* de Robert Brenner: le rôle qu'y joue la concurrence dans la théorie de la baisse tendancielle du taux de profit. Brenner veut démontrer que la baisse du taux de profit dans l'économie mondiale, entre la deuxième moitié des années 1960 et le début des années 1980, fut causée par la concurrence exercée par les secteurs manufacturiers japonais et allemand sur le secteur manufacturier des Etats-Unis, une interprétation que nous jugeons erronée. Selon Brenner, la chute des prix de ce secteur provoqua: (1) la baisse du taux de profit du secteur manufacturier, et (2) celle du taux de profit de l'économie mondiale. On montre que le premier résultat repose sur une affirmation arbitraire, et le second, sur une démonstration erronée. La démonstration de la généralisation de la baisse à l'ensemble de l'économie s'appuie sur l'hypothèse d'une *hausse du taux de salaire réel* qui découla de la guerre concurrentielle, un point que Brenner tend à ignorer dans sa critique des autres interprétations (en termes de *profit-squeeze*). Ce qui est alors en cause est la cohérence de la démonstration. On montre, ensuite, que diverses questions théoriques usuelles ne sont pas traitées adéquatement: l'ajustement par les prix (comme dans les modèles néoclassiques) ou par les quantités produites (comme dans les modèles keynésiens), l'analyse partielle ou générale, et l'extension de l'analyse à un cadre où l'inflation est possible, c'est-à-dire la prise en compte de procédures de *markup*. Il s'agit alors du manque de clarté de la démonstration. Nous opposons finalement l'analyse de Brenner à la théorie marxiste de la baisse du taux de profit et sa relation aux mécanismes concurrentiels. Pour Marx, c'est la baisse du taux qui provoque la guerre concurrentielle; pour Brenner, c'est l'inverse.

## BRENNER ON COMPETITION : Abstract

This paper considers the role that competition plays in causing the profit rate to fall in Robert Brenner's *Economic of Global Turbulence*. Brenner seeks to prove that the decline of the profit rate in the world economy from the late 1960s to the early 1980s was caused by competition from Japanese and German manufacturing industries on US manufacturing, a wrong interpretation, in our opinion. According to Brenner, the decline of manufacturing output prices caused both: (1) a fall of the manufacturing rate of profit, and (2) a decline of the profit rate in the whole economy. We contend that the first result is based on an arbitrary assumption concerning price competition, and that the second result is simply wrong. The generalization of the fall of the profit rate to the entire economy relies on the assumption that *real wages rose* as a result of this competitive war, a point that Brenner tends to overlook in his criticism of other profit-squeeze theories. In addition, we show that several standard theoretical issues, such as adjustment by prices (as in neoclassical models) or by quantities produced (as in Keynesian models), partial or general analysis, and the extension of the theoretical analysis to a framework in which inflation exists are not treated properly. Instead, Brenner is not clear concerning his assumptions on these issues. Finally, we contrast Brenner's and Marx's analyses of the falling profit rate and its relation to competition. For Marx, the decline of the profit rate causes competitive wars; the inverse relationship he posited Brenner.

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## Introduction

This paper addresses the theoretical basis of Robert Brenner's *The Economics of Global Turbulence* (Brenner, 1998). We agree with Brenner that the profit rate did decline, and that the profit rate played a key role in initiating the crisis of capitalism which began in the 1970s. The issue is not whether the recent performance of the US economy was inferior compared to historical standards—whether there was, for example, a productivity slowdown, a striking decline in the growth rate of real wages related to a decline in the profit rate, or a slow accumulation of capital. Many scholars on the left have recognized these stylized facts. In combination with the notion that the present neoliberal stage of capitalism can be interpreted as a resurgence of the power of financial capital, these features of modern capitalism have sparked a new interest in Marxist economics and Marxism in general. Brenner's contribution—widely publicized around the world—will certainly contribute to this revival. The purpose of this study is neither to suggest an alternative analysis of the decline of the profit rate, nor to explain its causes or the potential for recovery.<sup>1</sup> Instead, this study examines Brenner's specific contribution to the debate: *the thesis that the cause of the decline of the profit rate from the mid-1960s to the early 1980s, within the US and other major capitalist countries, was a decline in prices caused by excess international competition within manufacturing industries, causing a decline of prices.* Abstracting from a number of secondary effects to which we will return, our most basic criticism of Brenner's position can be summarized as follows:

*Overcapacity and price competition within particular industries  
can only explain the fall of the profit rate within these industries,  
and cannot explain a decline of the average profit rate in the entire economy.*

Brenner provides no plausible explanation for how an industry profit rate decline is generalized to the entire economy. In the presentation of his *theoretical* framework of analysis, Brenner struggles with this difficulty, and he attempts to surmount this problem by theorizing about *the effect of competition on real wages* (declining manufacturing prices increase the purchasing power of wage-earners).

We focus on a specific aspect of Brenner's theoretical framework: competition and its impact on real wages which account for the fall of the profit rate according to Brenner<sup>2</sup>. We contend that: (1) Brenner's description of competition within manufacturing is arbitrary, and (2) he fails in his attempt to extend the decline of the profit rate to the whole economy, even under the assumption

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<sup>1</sup> Brenner makes a number of criticisms of other approaches that he lumps together as "supply-side" or "profit-squeeze" approaches. Defending some of these analyses—the traditional Marxian framework in particular—has been and will be the object of other works (G. Duménil, D. Lévy, 1993 and 1999b).

<sup>2</sup> Another paper is devoted to Brenner's views concerning distribution, his analysis of the determination of wages and of mark-up rates (G. Duménil, D. Lévy, 1999a). Can Brenner claim a specificity with respect to what he calls "wage squeezers"? Do mark-up behaviors determine real wages and profit rates as in a Kaleckian model? Do we learn something from Brenner concerning the secular trend of wages and of the profit share? The main conclusions of this other study are (1) that Brenner's Kaleckian theory of the determination of real wages and of the wage share by mark-up rates reflecting the intensity of competition must be dismissed in favor of the classical-Marxian view that real wages are determined "exogenously", *i.e.*, by other mechanisms, and (2) that it is very difficult to justify empirically the assertion that manufacturing profit rates declined because firms could not mark up adequately, rather than because the productivity of capital diminished. In addition, it appears that Brenner's attack on wage squeezers is misplaced, since the singularity of Brenner's analysis is only secondary. For wage-squeeze theorists, the advance of the purchasing power of workers is conquered; for Brenner, it is given out to workers.

of rising real wages. (Further confusion is actually created by the disconnect between this theoretical framework and its historical-empirical application.)

The first section of this paper summarizes Brenner's argument, beginning with his basic insight concerning the different levels and trends of profit rates in manufacturing and nonmanufacturing industries in the US. The second section presents the central argument of the paper. It is devoted to a criticism of Brenner's demonstration in section II of his first chapter. We contend that this analysis is *ad hoc* at best, or simply wrong. Section III discusses a number of other theoretical points, such as demand, which add confusion to the analysis. Section IV contrasts Brenner's framework and that of Marx. Obviously, the issue in this last section is one of clarification, not refutation.

## 1 - Brenner's line of argument

As clearly indicated in the introduction (*Themes*) to *The Economics of Global Turbulence*, Brenner rejects the traditional Marxist interpretation of the falling profit rate by the rising composition of capital. Instead, his argument relates to excess competition. It is important to understand that this theoretical stance is based on a specific empirical observation: The levels and trends of profit rates in the US economy are very different in manufacturing and nonmanufacturing industries.

Our figure 1 reproduces Brenner's figure 8 using our own data and definitions.<sup>3</sup> In spite of some differences, the two figures provide a similar picture. (1) The manufacturing profit rate is much larger up to the 1970s; (2) It declined considerably from 1965 to 1973, whereas the profit rate for nonmanufacturing only diminished slowly. Brenner's explanation for this observation is that competition from Japanese and German manufacturing reduced manufacturing profit rates in the US. The problem is then to provide the theoretical foundation for this analysis, a task that Brenner does not achieve successfully, as we will show.

Diagram 1 depicts the steps in the logic of Brenner's *core analysis*. According to Brenner, technical change in an industry occurs through new entry. The market power that comes from the entrant's more efficient technology allows the entrant to compete and invest aggressively. This is equivalent to saying that technical change is rapid, and concentrated within a segment of the industry (technology is heterogeneous). A situation of "overcapacity" and potential "overproduction" then ensues initiating a competitive war. Beyond the possible impact of diminished capacity utilization rates, this excess competition results in declining prices and diminished average profit rate in the industry.

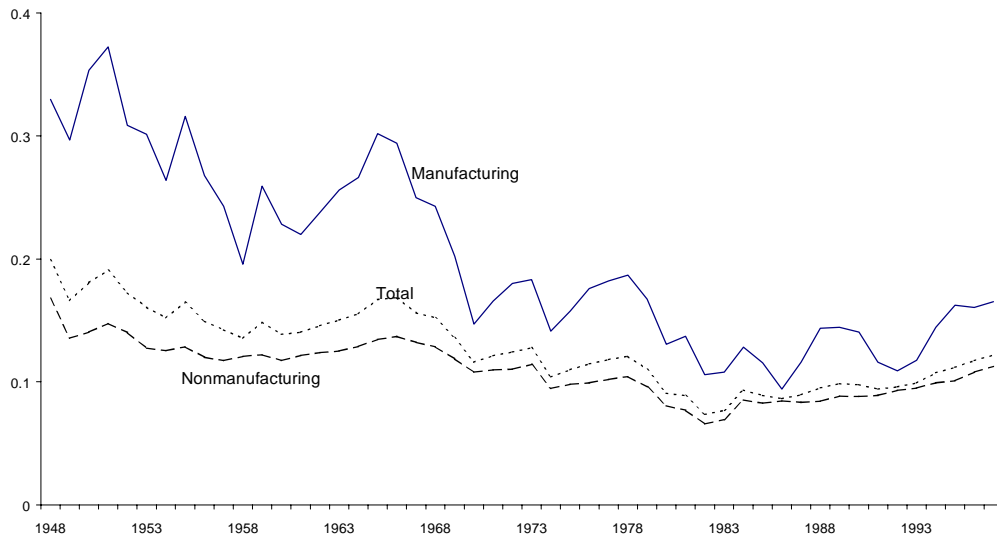
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<sup>3</sup> The data are from the BEA: NIPA and capital stock tables, 1998. We make three adjustments: (1) To restrict the measure of income to nonresidential income, we subtract *nonfarm housing rental income of persons* (table 8.16) from *National income* (table 6.1); (2) To determine the total income of self-employed, we add *Farms proprietors' income* (table 1.15) to *nonfarm proprietors' income* (table 6.12); (3) We make a correction for self-employed, which separates between fictitious profits and labor compensation. The profit rate is:

$$r = (\text{National income} - \text{Total labor compensation}) / \text{Net nonresidential capital}$$

This profit rate is after indirect business tax, before subtracting interest flows. The *nonmanufacturing* is *total private economy* minus *manufacturing*. Brenner uses: (1) different sources (*Gross Product Originating data* and data from the BLS); (2) a different unit of analysis (nonfarm nonmanufacturing); (3) a distinct treatment of indirect taxes.

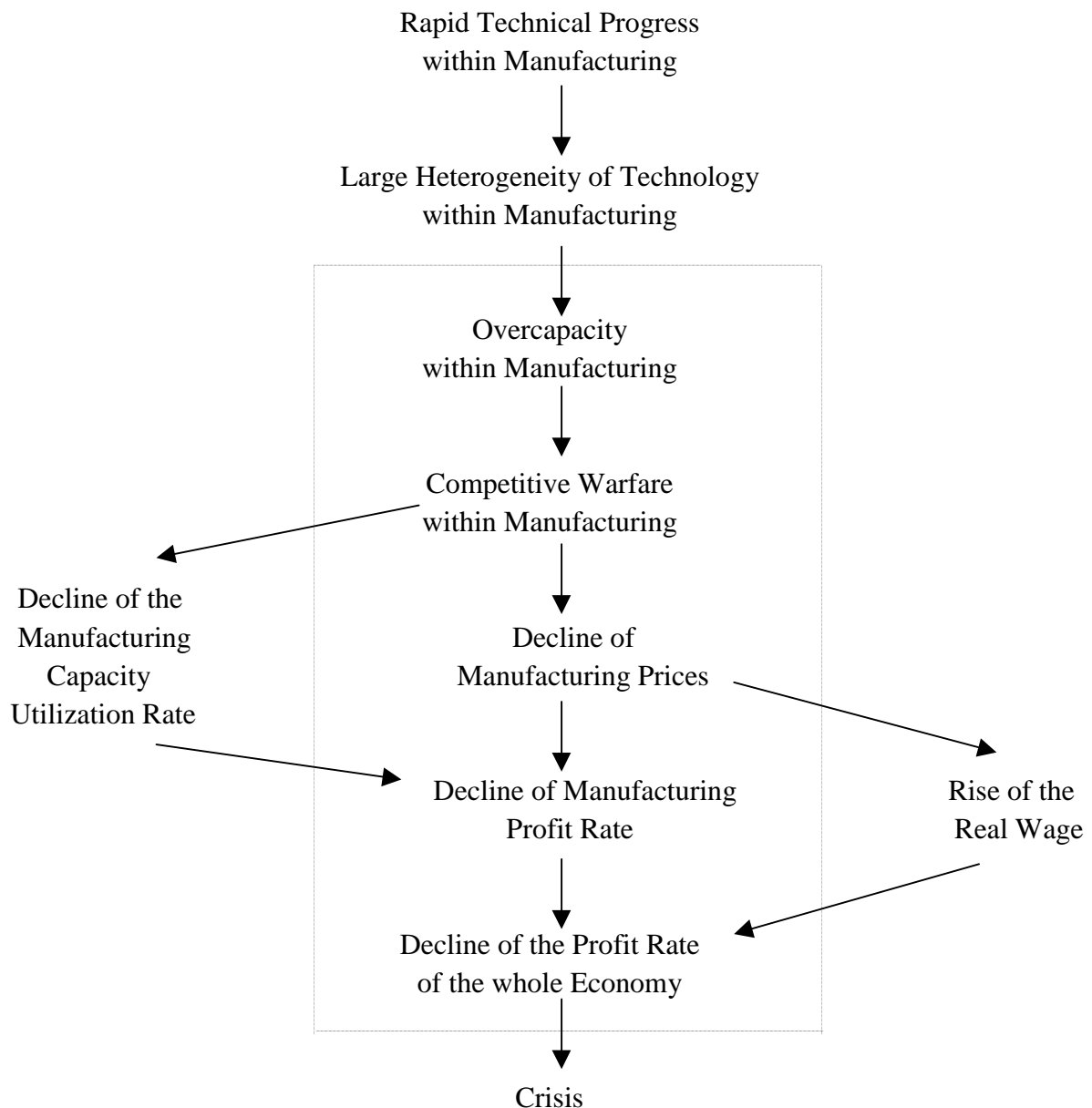
US profit rates: Manufacturing, nonmanufacturing, and total.



Brenner recognizes that it is impossible to explain the average profit rate in the whole economy from a decline in manufacturing profit rates alone, since a decline in price in one industry benefits other industries by diminishing the price of their inputs, and this increases their profit rates. This is where the role of rising real wages becomes crucial to Brenner's story. Contrary to what one might expect from the introduction to Brenner's section II of chapter one, *real wages are not constant*: In Brenner's analysis, the downward pressure on prices pushes real wages higher. This is eventually made explicit when Brenner writes: "if labour is able to get *any* of the gains from the decrease in prices", *i.e.*, under the assumption of "higher real wages", then competition "will indeed result in a fall in profitability for the economy as a whole" (p. 29). Thus, it is the rise of real wages, due to the decline of prices in one industry, which creates the downward trend of the profit rate for the "whole economy".

Moreover, it is only the *average* profit rate in the entire economy which declines. The nonmanufacturing profit rate rises, since its inputs are cheaper and there is no pressure on its output prices. According to Brenner, however, the rise of profit rates within nonmanufacturing is not sufficient to compensate for the decline of profit rates within manufacturing.

### Diagram 1: Brenner's analysis



The framework of diagram 1 is applied by Brenner to the world economy. First, the Japanese and German manufacturing industries outperformed US manufacturing thereby imposing low prices and low profit rates on US manufacturing, and causing a rise of wages. The next step of Brenner's analysis is ambiguous and there is some inconsistency between his theoretical and empirical analyses. It is not clear whether, according to Brenner, the average profit rate of the world economy declined (1) because of low profit rates within manufacturing (either in the US alone, or in the three countries, US, Japan, and Germany), whereas the nonmanufacturing sectors were more profitable, or (2) because the profit rate was low in all sectors and countries as a result of higher wages. Following the first interpretation, the crisis must have started in manufacturing (either in the US alone, or in the three countries), being later exported to the rest of the world economy. In the second interpretation, the decline of the profit rate is a general result of higher wages.

## 2 - Brenner's analysis of competition and distribution

This section discusses in more detail the development of the key elements of the above argument (Brenner, pp. 24-29). Brenner begins his analysis in a situation of classical-Marxian long-term equilibrium, where technology, nominal wages, and demand are given. In each industry, the existing productive capacity is in line with the given level of demand. As a result, the capacity utilization rate is normal. Prices gravitate around prices of production, and the profit rate,  $r''$ , is uniform among industries. (Brenner implicitly assumes that this corresponds to the situation in the US prior to 1965.)

Equilibrium is then disrupted because new firms, with superior technology, invest in a particular industry, increasing the productive capacity and thus the potential supply, while demand remains unchanged (causing overcapacity and overproduction). Abstracting from the effects of the limited demand on the capacity utilization rates of each firm, the new entrants should enjoy a profit rate, at going prices, larger than  $r''$ , while the profit rates of other firms would remain as they were initially, equal to  $r''$ . However, according to Brenner, because of overcapacity, a competitive price-cutting war occurs. New firms lower their prices to achieve a larger or constant market share, but the incumbents match them. This price cutting continues until the new firms reach the old average profit rate,  $r''$ . (The profit rates of the new more efficient firms tend to all be equal, since they "compete among themselves", cf. footnote 19 of Brenner.) The old firms continue to produce as long as prices remain above their shutdown points<sup>4</sup> and, because of their sunk costs, their profit rates are lower than  $r''$ . Thus, the average profit rate,  $r'$ , in the industry is reduced, since new firms have the previous profit rate,  $r''$ , and the older firms have a profit rate smaller than  $r''$ . (In the international version, the new firms are the Japanese and German manufacturing industries, and the old firms, the US manufacturing.)

We now turn to the effects of diminished manufacturing prices, under the assumption of constant nominal wages:

- (a) A first consequence of the above scenario is that the nonwage inputs (circulating and fixed capital inputs) of the unaffected industries, the nonmanufacturing sector of the economy, become cheaper. Assuming that nominal wages are unchanged, the average profit rate,  $r^2$ , in these other industries *must rise* ( $r^2 > r''$ ).
- (b) Real wages also must increase because of the decline in prices.
- (c) The average profit rate in the entire economy,  $r$ , is the weighted average of the profit rates,  $r'$  and  $r^2$ . Since  $r'$  is reduced, while the second,  $r^2$ , is increased, and we do not know the magnitude or the weights, it is *a priori* impossible to determine the direction of the average profit rate for the entire economy.

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<sup>4</sup> This is how we interpret Brenner's description of the behavior of incumbents. These firms possess a number of units of production with a variety of cost structures. When new firms cut prices, the incumbents progressively shut down their plants, as prices fall below the shutdown price for each unit. With this interpretation, it is true that the price set by new entrants, which guarantees them the average profit rate, is equal to the "marginal" shutdown price, that of the most inefficient units of production of the incumbents, still in use. Without distinguishing a hierarchy of units of production, the story becomes strange. There is no reason that the two prices, the price of production of entrants and the shutdown price of old firms, must be equal. In addition, if, by a fluke, the two prices were equal, entrants would definitively ruin their competitors, by only slightly diminishing the price.

Brenner believes he can provide a solution to this puzzle concerning the direction of total change of the average profit rate in the entire economy, and this is where real wages are introduced as a new component of the analysis. He believes that he can show that the profit rate declines, not only with a constant nominal wage rate as he assumed to this point in his analysis, but also if the nominal wage diminishes, provided that the real wage rises (i.e., the nominal wage declines less than prices). Brenner's underlying insight is that, *if nominal wages decline to such a point that real wages are maintained*, what an industry loses from lower prices is exactly gained by other industries, without impacting the overall profit rate. To go one step further, it would follow that, if real wages increased to any extent, the average profit rate of the whole economy would decline.

Recall that what is at issue is the decline of the average profit rate in the entire economy, caused by a decline of the profit rate in manufacturing. The profit rate of the nonmanufacturing sector increased because of the decline of manufacturing prices under the assumption of a constant nominal wage. It rises even more if the nominal wage is diminished.

In sum, to establish a falling profit rate for the average profit rate for the entire economy, Brenner relies at the end of the day on rising real wages. The *average profit rate* of the economy diminishes as a result of the reduction of prices by new firms in manufacturing industries only if some of the potential gains in purchasing power is transferred to workers. And this was, indeed, the case in the US, according to Brenner.

Independently of its factual relevance, Brenner's logic is problematic:

*(1) New firms will reduce prices to a level that guarantees them exactly the previous uniform profit rate (an ad hoc assertion).*

Competition between more efficient new entrants and less efficient incumbents need not result in a "normal" profit rate for the new firms. This is a standard problem in the theory of *imperfect competition*. The fact that competition leads to a competitive *struggle* does not simplify the problem. Quite the contrary, there is obviously no straightforward or unique outcome concerning profit rates and prices. Within neoclassical oligopoly theory, several outcomes will occur depending on the model specified (whether a Cournot or a Bertrand model or, more generally, the choice among one of the many equilibria and sets of strategies in game theory), the degree of product differentiation, the size of the cost differences, etc. There is also no consensus on this process among heterodox authors such as Marx, Kalecki, Sraffa, or Robinson.

The diversity of theories mirrors the broad variety of mechanisms involved. Typically, new more efficient firms cannot displace incumbents immediately. The fixed capital of incumbents is already in place. Their ability to resist the newcomers and their strategy will depend to a large extent on their degree of indebtedness and the support provided by the financial sector, the importance of customer and industrial relationships, the difficulty to adopt new techniques, the cost involved, and many policy decisions concerning international trade, rates of exchange of currencies, regulations, etc. A further problem is the intertemporal aspect of these mechanisms: Firms may temporarily accept lower profit rates in order to gain market shares, or defend their position, in order to make larger profit rates *in the future*.

Brenner recognizes these factors when he describes the difficulties that incumbents have when attempting to exit, but totally ignores their implications in his theoretical analysis. Taking Brenner's analysis at face value, Japanese automakers, entering the American economy, chose prices guaranteeing them the average profit rate of the American economy, but no more or less!

In the same vein, Coca-Cola diminished its prices in Europe, but only to the point where its profit rate was equal to the previous profit rate of European soda producers!

(2) *The average profit rate is constant when real wages remain constant (a wrong assertion).*

Contrary to what Brenner believes, there is no basis for this conclusion. His statements concerning the transfer of profits from one industry to another (what an industry loses is gained by another one) are flawed in three important respects:

- (a) First, the new more efficient entrants improve the average technology and have a *positive* impact on the average profit rate. Brenner's point concerning the transfer of profits from one producer to another obviously assumes not only given real wages but also *a given average technology*. This is in blatant contradiction with the assumption of a new efficient entrant.
- (b) Even if it were true that the mass of profits remains constant, the change in relative prices may affect the relative price of fixed capital and impact the price of the capital stock. Therefore, the profit rate can vary in either direction.
- (c) The rise of productive capacity under the assumption of a given demand will result in a capacity utilization rate lower than normal in some segments of the industry. It is not possible to ignore this effect. A capacity utilization rate below normal is always detrimental to the profit rate.

As a result of the above, Brenner's underlying economic theory is seriously flawed. One is really left with the simple idea that international competition from Japan and Germany was detrimental to the US manufacturing.

### **3 - Loose ends**

We will examine in turn three further aspects of Brenner's theoretical analysis which account for some of the difficulty Brenner has in correctly analyzing the issues described in the previous section: (1) the treatment of the relative impacts of adjustments by prices or quantities; (2) the use of partial analysis when a general framework is required; (3) the abstraction from inflation.

(1) *Adjustments by prices and/or quantities.*

The theoretical foundations of Brenner's analysis are difficult to decipher, since classical, Keynesian, and neoclassical assumptions are all mixed together in his discussion. A clear example of this difficulty is provided by the description of firm behavior in a situation of disequilibrium between productive capacity and demand (Brenner's *overcapacity*). This is not a secondary issue, but a crucial component of Brenner's treatment of the consequences of new entry. It is not possible to interpret Brenner's argument unambiguously, because he is never specific on this issue.

When producers face deficient demand, adjustment can occur either by a diminished use of productive capacity or by a diminished price, or both. In the simplest Keynesian analysis, prices are constant and outputs adjust. In the Walrasian perspective, prices adjust and productive capacity is used at the optimal level under the prevailing price conditions (optimizing without a demand constraint). In the Keynesian model, prices do not play any role, while, in the Walrasian model, they perform all the work.

Brenner combines these mechanisms. The Keynesian influence—adjustment by quantities produced—is sometimes explicit in the reference to excess or unused capacity: "[...] reducing

capacity utilization" (p. 28) or "[...] to cease using some of their means of production" (p. 25). The neoclassical influence—of adjustment by prices—is, however, dominant, for example: "Manufacturing profitability fell only because producers were unable to mark up prices over costs" (p. 96). When new entrants penetrate US manufacturing, two questions must be answered: (1) To what extent will prices diminish? (2) How will demand be distributed among the various producers or, equivalently, what will be the capacity utilization rates of the various producers? Brenner only answers the first question, and the second issue—the Keynesian facet of the analysis—is never addressed.

The framework of monopolistic competition lies somewhere in between the Walrasian and Keynesian approaches: Profit maximizing occurs with a demand constraint, modeled by a demand function (G. Duménil, D. Lévy, 1999a). Sometimes, Brenner seems to have this model in mind, but this framework remains implicit.

(2) *Brenner's failure to consider a general framework of analysis.*

A valid result at the level of a single industry cannot necessarily be extended to the overall economy without incorporating a number of new relationships. This problem is at the center of Brenner's demonstration, since he wishes to derive the trend of the profit rate in the overall (world) economy from the profit rate within manufacturing industries. It is simply impossible to conclude anything about the profit rate in the whole economy without further assumptions.

The way *demand* is treated in Brenner's analysis also illustrates this difficulty. In his theoretical framework, he only considers demand levels in a partial perspective within one industry. Indeed, in the short term and within one industry, it is quite justifiable to assume a given level of demand (or a given demand function), but the problem is far more complex when the entire economy is at issue. For example, Brenner's emphasis on overcapacity totally abstracts from the effect of overinvestment on the macroeconomy (the standard multiplier effect). Considering the world economy, the effects on demand of the large Japanese investments is certainly positive, but it is difficult to balance the two effects, the positive effect on demand, and the negative effect resulting from excess competition.

(3) *The treatment of the general level of prices.*

An assumption in Brenner's theoretical analysis is that the general level of prices is constant and only disrupted by the decline of prices in the industry experiencing entry (assuming a constant or declining nominal wage). But keep in mind that Brenner is trying to explain the 1970s, when the profit rate decline occurred during a period of *inflation*. Thus, in the historical-empirical application of his framework, Brenner abandons his earlier theoretical framework (constant nominal wages, falling prices, and rising real wages) and claims that firms were not able to "[...] mark up over costs sufficiently to maintain their established rate of return" (p. 96). This is equivalent to saying that nominal wages rise, and firms *cannot increase their prices* in response because of excess competition. This difficulty creates a considerable distance between Brenner's theoretical framework and its empirical analysis. He does not seem aware that the two approaches are not equivalent. As we understand it, Brenner's view of *mark-up* pricing can be summarized as follows: (1) workers fight for higher nominal wages; (2) firms set their prices by marking up over costs; (3) the value of the mark-up rate depends on competition; (4) real wages (nominal wages divided by a price index) and the wage share are, thus, determined by the intensity of these competitive pressures, independently of the value of nominal wages and of workers fight for improved purchasing power. This implies: (1) a very specific theory of the determination of real wages, that cannot be taken for granted; (2) an explanation of the decline of

the profit rate *by the rise of the wage share*. (A decline of the markup is equivalent to a rise of the wage share.) These two points are discussed in greater detail in Duménil G. and Lévy D. (1999a).

#### 4 - Comparison with a classical-Marxian analysis

This section briefly compares Brenner's framework and traditional classical-Marxian analysis. The purpose of this discussion is to identify how, if at all, Brenner diverges from a classical-Marxian perspective (even if consistency with Marx does not guarantee the truth). We raise this issue because most potential readers of Brenner's *Economics of Global Turbulence* are familiar with the work of classical economists and Marx, and because we believe that the older framework is still relevant within contemporary capitalism.

There is a broad agreement among Marxist economists concerning the *central role* played by the profit rate in the explanation of the crisis which began in the 1970s. This justifies to a large extent the common reference to Marx's work. Brenner shares this view. His uniqueness among Marxists<sup>5</sup> lies in his reliance on excess competition to *cause* a falling profit rate. This is Brenner's central argument. He is close to Adam Smith in this respect.

Independent of the centrality of the profit rate in the analysis of capitalism, Brenner also shares with Marx, as well as Smith and Ricardo, the view that, under "ordinary" circumstances (to be defined), competition is efficient in allocating capital among industries, thereby bringing about a uniform profit rate (chapter 10 of Volume III of *Capital*). This mechanism is decentralized, it occurs within disequilibrium, and adjustments are made *ex post*.<sup>6</sup> Following Marx, the development of capitalism reinforces this process. Marx lists as favorable factors in this process: the freedom of trade, the development of the credit system and, of course, the generalization of capitalist relations of production. Indeed, Marx described on many occasions the fact that, during periods of crises, competitive wars may occur, and important segments of capital can be devalued.

Three basic differences between Marx's and Brenner's analyses must be emphasized:

(1) *The heterogeneity of technology and the equalization of profit rates.*

Marx was well aware that firms will not perform equally within each industry, a central issue in Brenner's analysis since new entrants are significantly more efficient in his story. Our interpretation of Marx is that it is the average profit rates that prevail within each industry globally (taking account of the spectrum of technical achievements) which tend to be equalized, not the profit rates of firms using the best available technology in each industry. A difficulty is that, at some points of his chapter on the formation of prices of production, Marx contaminates

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<sup>5</sup> With a few possible exceptions such as Anwar Shaikh (A. Shaikh, 1980). Shaikh's models combine price competition with an assumption concerning technical change.

<sup>6</sup> No knowledge of the "model" of the economy or capacity to predict ongoing trends are assumed. Brenner's description of "peaceful" competitive behaviors is significantly different and, even, at odds with classical views: "firms can predict what their competitors will do and perfectly adjust" (p. 24).

his analysis of prices with that of values. Nonetheless, the heterogeneous character of technology comes through, and Marx considers average variables<sup>7</sup>:

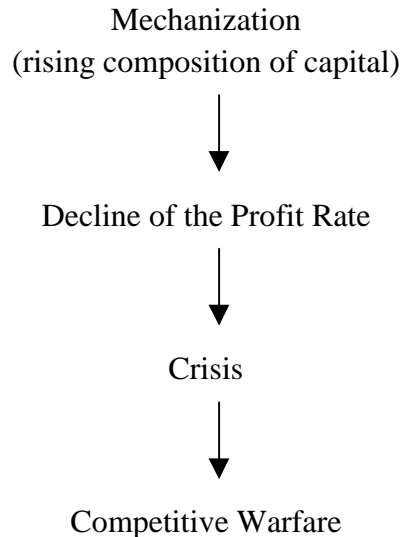
*What competition brings about, first of all in one sphere, is the establishment of a uniform market value and market price out of the various individual values of commodities. But it is only the competition of capitals in different spheres that brings forth the production price that equalizes the rates of profit between those spheres.*<sup>8</sup>

With this interpretation of Marx's analysis in mind, technical heterogeneity does not bias profit rate equalization. This view is controversial. Brenner's explanation of the falling profit rate in manufacturing industries relies on the alternative assumption that only the profit rates of firms with the best technology tend to be uniform among industries, when he assumes that prices are diminished to the level which equalizes the profit rates of new entrants to that of other industries.

(2) *Technology in the explanation of the decline of the profit rate.*

The main difference between Marx's analysis and Brenner's approach concerns, however, the mechanisms accounting for the falling profit rate. Marx's analysis is schematically represented in diagram 2 for comparison with the diagram outlining Brenner's approach. Marx's line of argument begins with some unfavorable features of technical change, such as a bias toward a rising composition of capital. He contends that wages are not at issue, since the declining trend of the profit rate may be associated with a constant or even rising share of profits (or rate of surplus value). This tendency, if it is not offset by countertendencies, leads to actual declines in the profit rate and to crises. These crises trigger competitive wars.

#### **Diagram 2: Marx's analysis**



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<sup>7</sup> This process can be modeled in a manner coextensive with the general classical-Marxian principles of decentralized and *ex post* adjustment (G. Duménil, D. Lévy, 1993, Section 8.5).

<sup>8</sup> K. Marx, 1981, Ch. 10, p. 281.

Recall now the main components of Brenner's analysis: (1) Rapid technical change occurs in one industry within a subset of firms (in some countries but not in others), *i.e.*, heterogeneity grows in an industry; (2) The more efficient firms use their competitive advantage to invade markets and cause a situation of overcapacity; (3) Prices are diminished; (4) Real wages rise; (5) Profit rates diminish in this industry, rise in the other industries, but diminish in the average; (6) The crisis then follows.

As Brenner acknowledges from the outset, the difference between his analysis and that of Marx is significant. If technical change is at issue within the two analyses, it is *via* thoroughly different mechanisms. Economic difficulties occur, within Brenner analysis, because technical change is rapid (in Japan and in Germany) and unequal. Within Marx's analysis, there is a fundamental bias in technical change: the fact that too much fixed capital is required in order to raise labor productivity. In contrast, Brenner does not make any assumption concerning technical change.

### (3) *Competition and the falling profit rate.*

Following Marx, competitive warfare is not a cause but a *consequence* of the decline of the profit rate. Marx is emphatic in Volume III of *Capital* that competition on the commodity market is not critical to a falling profit rate. For Marx, the falling profit rate and accelerated accumulation are two components of a same system of tendencies: "[...] the same reasons that make the profit rate fall also promote accumulation, *i.e.*, the formation of additional capital"<sup>9</sup>, but it is not excess accumulation which causes the decline of the profit rate. He repeats the same statement several times, for example:

*That competition which results from the overproduction of capital would not cause a fall in the rate of profit. Rather the reverse. Since the reduced rate of profit and the overproduction of capital [overaccumulation<sup>10</sup>] spring from the same situation, a competitive struggle would now be unleashed.<sup>11</sup>*

The mechanisms involved in this analysis are even more clearly stated in the *Theories of surplus-value*, where Marx discusses the views of Adam Smith and David Ricardo:

*The rate of profit has a tendency to fall. Why? Adam Smith says: As a result of the growing accumulation and the growing competition [as Brenner contends]. Ricardo retorts: Competition can level out profits in the different spheres of production [...]; but it cannot lower the general rate of profit [as we object to Brenner]. This [according to Marx] would only be possible if, as a result of the accumulation of capital, the capital grew so much more rapidly than the population, that the demand for labour were constantly greater than its supply, and therefore wages were constantly rising [...].<sup>12</sup>*

As evident from the last statement in the above quotation, the issue of the direction of causation in the relationship between the falling profit rate and episodes of competitive warfare is more complex in Marx's analysis, because of the consideration of two competitive mechanisms, instead of one, concerning respectively the commodity and labor markets. Marx theorizes that only the second one may have an effect on the profit rate—distinct from his analysis of the

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<sup>9</sup> K. Marx, 1981, Ch. 13, p. 331.

<sup>10</sup> "Overproduction" refers to the terminology of Ricardo: "Overproduction of capital and not of individual commodities—though this overproduction of capital always involves overproduction of commodities—is nothing more than overaccumulation of capital" (K. Marx, 1981, Ch. 15, p. 359).

<sup>11</sup> K. Marx, 1981, Ch. 15, p. 361.

<sup>12</sup> K. Marx, 1971, Part II, Ch. XVI, p. 438.

historical tendency for the profit rate to fall—related to a tendential "overaccumulation". This is the mechanism described in the last sentence above. But, according to Marx economists confuse the the two types of mechanisms. The *illusion* that the decline of the profit rate might be caused by excess accumulation in relation to a limited demand for commodities, "overcapacity" in Brenner's sense, follows, according to Marx, from the misinterpretation of given situations in which it appears that "the fall in profit [*may*] be seen as a result of the expansion of business".

The difference is sometimes difficult to grasp. In the following quotation, Marx specifically considers the deliberate acceptance of a lower profit rate by a capitalist who wants to eliminate competitors (to gain market shares). Apparently, this is very close to Brenner's analysis (except that Marx refers to the size of firms, not to their technical advantage):

*The most superficial examination of competition also shows that, under certain conditions, if the bigger capitalist wants to make more room for himself on the market and expel the smaller capitalists, as in time of crisis, he makes practical use of this advantage and deliberately lowers his profit rate in order to drive the smaller ones from the field.*<sup>13</sup>

Note, however, that Marx writes "as in time of crisis". As stated earlier, it is rather the crisis which causes the competitive war, not the reverse. Marx is even more explicit later, when he writes:

*Crude as these notions are, they are necessary products of the upside-down way that the immanent laws of capitalist production present themselves within competition.*<sup>14</sup>

The debate initiated by *The Economics of Global Turbulence* provides, in our opinion, a contemporary example of the difficulty that Marx described one century and a half ago: that of articulating historical tendencies and competitive mechanisms without reversing the direction of causation as Brenner does.

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<sup>13</sup> K. Marx, 1981, Ch. 13, p. 331.

<sup>14</sup> K. Marx, 1981, Ch. 13, p. 332.