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Destructive creativity
in institutional arrangements of banking and the logic of capitalist technical change in the perspective of Marx's 1894 Law of Profit

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Abstract
Marx’s the theory of ‘the tendency for the rate of profit to fall’ is presented in Part 3 of the third volume of Capital (Engels’s edition 1894). This theory of profit is the apotheosis of Marx’s exposition of the internal logic of the capitalist system: the valorisation-devalorisation contradiction. This paper takes this theory of profit as the starting point from which to articulate its exposition at a less abstract level, taking into account the technological stratification of capital in various branches of production (Part 2 of volume III) as well as finance capital (Part 5 of volume III). Because of accounting practices, devalorisation is expressed either by a fall in the profit rate or by the devaluation of capital. Two important manifestations of this are the cyclical destruction of means of production and the unemployment of labour. While the development of profit is manifest in cycles, its actual exhibition – via economic crises or continued inflationary reproduction – is determined by the institutional make-up of the banking system.

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Destructive creativity; institutional arrangements of banking and the logic of capitalist technical change in the perspective of Marx's 1894 Law of Profit

Geert Reuten

Introduction

The theory on 'the law of the tendential fall in the rate of profit' (TFRP) is very much the centrepiece of volume III of Marx's Capital. It is presented in part 3 of that volume, prior to the theory on the differentiation of capital into several functional forms - the division of surplus-value into profit, interest and ground rent (parts 4-6). This indicates that there is a long way to go from the methodologically abstract level of that law to its actual concrete application. This indication is confirmed by Marx's plans for the contents of the respective volumes of Capital, as laid down in several notes and letters.2

Quite a number of authors have interpreted the TFRP as a macroeconomic law and have applied it at that level empirically (for example Gillman 1958; Weisskopf 1979; Wolff 1986; Moseley 1991). Whilst such an interpretation and application is defensible, Marx's method also points at a different line of research.3 The latter – which I shall follow in this chapter – conceives of the presentation in Capital as moving gradually from the abstract to the concrete, a presentation that is however incomplete (see also Bellofiore and Finelli 1998). Note that in the course of completion of the presentation, the expression of that law may be modified.

In this chapter I will take the theory in Capital as the starting point.4 From there on my aims are very restricted: I will merely initiate the theory of the TFRP at a more concrete level of presentation, taking into account sectors or branches of production (cf. part 2 of volume III) as well as finance capital (cf. part 5 of volume III). In so doing my object is to gain a further understanding of the development of capitalism, especially in its recent manifestations. Such an object is surely akin to the aims that Marx set himself. Certain 'stylized facts', in the back of the mind of the theoretician, play an important role in such an aim. In the present context, three

1 University of Amsterdam, Department of Economics. I am grateful to the discussants at the 1994 University of Bergamo conference on “Karl Marx's third volume of Capital: 1894-1994”, as well as to Mary Morgan, an anonymous referee and the editor of this volume, Riccardo Bellofiore.

2 See for example Wygodski 1965; Roudolfsky 1968; Zelený 1968; Mandel 1976; Oakley 1983.

3 The immediate macroeconomic application seems to be in line with the statement that 'the law in its generality is independent of that division' (of surplus-value into profit, interest and so on) (Marx, 1894, p. 320; cf. Marx, 1861-63, vol. 33, p. 104). The literature on Marx's method in Capital is extensive. See the references in note 2 and for example the papers in Schmidt 1969; Eberle 1973; Moseley 1993; Moseley and Campbell 1997; Arthur and Reuten 1998.

4 I take it for granted that a tendency is quite different from an empirical trend – especially for nineteenth-century economics there can hardly be any doubt about this. (“Counteracting influences must be at work, checking and cancelling the effect [Wirkung] of the general law and giving it simply [nur] the character of a tendency, which is why we have described the fall in the general rate of profit as a tendential fall” – Marx 1894, p. 339). On the methodological status of Marx's TFRP in comparison with Mill's views on tendencies, see Reuten 1997.
stylized facts seem to have played a role at the time of writing of volume III: fairly regular cycles, increasing mechanization, and falling rates of profit over time. The latter was not only an issue fitting the long run 'visions' of classical economists such as Smith, Ricardo and Mill (capitalism developing into a stationary state), it indeed was an empirical phenomenon requiring explanation. (There are sufficient statistical facts, too, to confirm this conclusion [of a tendentially falling rate of profit] historically. The only question that can arise is as to the actual cause of this tendency' writes Jevons 1871, pp. 245-6). These three stylized facts fit wonderfully well in Marx's theory of the TFRP.

However the current stylized facts for OECD-type economies are somewhat different: compared with the nineteenth century, cycles in the twentieth century have not been that regular; mechanization and the expulsion of labour was not an issue between 1945 and the 1970s, but reappeared high on the agenda afterwards; a falling rate of profit is not considered to be a general phenomenon requiring explanation; sectors/branches of production develop unevenly; enduring high rates of inflation in the second half of the century, especially in the 1970s, together with the 1979 policy turn followed by high rates of unemployment and an ever-more unequal distribution of income.5

In what follows I will indicate the lines along which the theory of the TRFP might be developed further so as to take account of both sets of stylized facts.

1. Valorisation, accumulation and credit money

Before setting out the indicated theoretical development from the TFRP, I shall briefly set out its underlying 'abstract-labour theory of the value-form'6 as well as the institutional interconnection of capital accumulation and the credit system.

The inherent logic of capitalist production is valorisation (the expansion of value), more specifically, production is geared towards a continual increase in profits. Whilst the exploitation of labour (as well as the exploitation of nature) is the basis of any physical surplus, the surplus (profit and so on) is calculated in terms of money - the one and only capitalist measure of achievement. All elements that matter economically take on a bifurcated form: they have a heterogeneous physical form, but at the same time they are constituted as having a homogeneous money form (value). In being both heterogeneous and homogeneous, they are contradictory. The capitalist system does not transcend this contradiction – it is dealt with merely by reductionism, that is, by reducing the opposition to one of its poles: the money form. At the same time the other pole continues to exert pressure. On the surface of capitalism, dehumanization is shown in that human labour takes on this bifurcated form, and the fetishism of money in that this is not usually conceived of as dehumanization (cf. Marx 1867, ch.1, section 4). Consequently in this chapter all the

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5 On the plane of the interconnection of capital accumulation, employment and financial groupings and institutions, not only the year 1979, marking the turn to moderate inflation, but also 1973 as the formal end of the gold standard era, is of importance – it may be said to mark the maturity of capitalism.

6 It is akin to a monetary labour theory of value (Bellofiore 1989).
input and output entities of production are primarily measured in terms of money. This applies prominently to labour and labour productivity. Not only is heterogeneous labour-power, as an input, accounted for in terms of money (the wage), heterogeneous labour in actual capitalist production is also measured in terms of money, that is, it is ideally pre-commensurated in terms of the money value of its output.\(^7\)

Valorisation and profit increase is engendered by the accumulation of capital, and in particular the investment of capital in labour-productivity-increasing production techniques. One important condition for the existence of accumulation is the expansion in some way of money or/and the circulation of money. Were this not the case then continual price decrease due to productivity increase would have the effect of continual devaluation of capital. In a limited way this expansion may be accomplished by private credit relations between firms. These limits are overcome by finance capital and financial intermediaries. The particular characteristic of banks as financial intermediaries is that they issue credit money, which is accepted as a medium of circulation.\(^8\)

Credit money is either issued by substitution, or it is issued against loans, that is, created *ex-nihilo*. Whereas the former is merely an act of money dealing that substitutes credit money for money that has validated previous production, *ex-nihilo-created* credit money is an *anticipation* of production and realization in the future. So the bank that advances this credit money on the basis of a loan performs a *pre-validation* of production and realization in the future. Therefore it can act as a lever to accumulation, that is, the expansion of valorisation.

This can only be effected if the pre-validation of the production of a capital, anticipating expansion, is confirmed at some stage by the actual expansion of other capitals. Expansion indeed can only be validated by expansion. Other capitals must accumulate, say, the value equivalent to the credit money they received from the pre-validated capital in payment, for example, for means of production, or indirectly for consumer goods out of wages. Thus they must generate extra effective demand.

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\(^7\) This is the kernel of a reading of Marx's value theory as an 'abstract labour theory of the value-form' – expanded upon in Reuten 1988a, 1993; Reuten and Williams, 1989, ch.1; Williams, 1992. For a critique see Likitkijsomboon 1995. Reuten 1995 is a reply to the latter and includes a summary statement of the theory.

\(^8\) Throughout this chapter a distinction is made between 'industrial capital' (enterprises engaged in production) and 'finance capital' (lenders of means of finance, including intermediaries such as banks). This is a theoretical differentiation. Thus, for example, enterprises engaged in production may at times act as lender of capital and as intermediary. Below, the term 'credit money' always refers to the 'money' (cheques, accounts and so on) issued by a financial intermediary such as a commercial bank. For the sake of brevity, all intermediaries issuing credit money and thus adopting a banking function are called 'banks', even if they are not a bank in a formal legal sense. A corollary of this is that no sensible borderline can be drawn between money and money capital (or finance capital). (See Reuten 1988b, Reuten and Williams 1989, pp. 88-9.)
If the borrowing capital is not successful the bank suffers a loss in that it forgoes the principal as well as the interest agreed upon, which affects its solvency. There are then three possibilities. First, though the borrowing capital fails, other capitals nevertheless accumulate and expand, and the credit money that these other capitals received from the borrowing capital keeps on circulating in an expansionary manner. In this situation the bank's liquidity position is not affected. The second possibility is that the credit money keeps on circulating, but in an inflationary manner. Then the expansion of other capitals (and of the capital circuit as a whole) is 'fictitious'. The equivalent of the bank's loss (the principal) is then socialized in that it affects all holders of money (as well as creditors and debtors). Again, the bank's liquidity is not affected.

The third possibility is that other capitals do not expand in a compensatory way, but withdraw from circulation the credit money received (directly or indirectly) in payment from the borrowing capital. That money then must act as store of value (unless concurrently other capitals cancel their own credit with their own bank), which would mean that credit money has to be a permanent and not merely a temporary store of value. This is accomplished in an 'integrated banking system' where banks operate under the umbrella of a central bank (as distinct from a fragmented banking system). Following a massive withdrawal of credit money from circulation, it is for the central bank to decide whether to attempt to prevent bank crises or not. It may do so by covering the bank's loss through the provision of a loan to the bank. The additional money so issued by the central bank socially validates the pre-validation, but because it does not operate as a realization of production in the market, it is only a pseudo-social validation (de Brunhoff and Cartelier 1974; de Brunhoff 1976, pp. 46-7; Aglietta 1976, p. 350). This then reinforces credit money as a fiduciary general equivalent on a par with central bank money. To the extent that the central bank guarantees that credit money is redeemable in central bank money (whence credit money develops into a full store of value), the banking system is then a fully integrated banking system. (Note that this guarantee may only apply to those banks that conform to the rules set by the central bank.) With this guarantee of redeemability, however, the central bank shifts the frictions inherent in pre-validation by banks to the social aggregate sphere. Consequently the conditions for the existence of money (that it is a measure of value, a medium of circulation and a store of value) risk being eroded.

2. The law of the tendential fall in the rate of profit

Part 3 of Capital volume III comprises chapters 13-15. In chapter 13 Marx emphasized that capitalist investment in new techniques tends to go along with a

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9 This implies that it is considered a sound deposit, whence it is 'full money'. Full money is measure of value, medium of circulation and a fiduciary store of value. These three 'functions' are interconnected (see Reuten 1988b). Any non-full money acting as a medium of circulation is predicated upon it being a temporary store of value.
relative expulsion of labour. Therefore accumulation is expressed as a tendency for the composition of capital to rise, and for any given distribution of income as a concomitant tendency for the rate of profit to fall (TFRP). Chapter 14 discusses the factors counteracting this fall, and chapter 15 presents in a synthetic view 'the law's internal contradictions'.

In the introduction I briefly pointed out the methodical status of the law. Put succinctly, the chapter 13 theory states that for a given distribution of income between capital and labour \((R/wl)\); where \(R\) is profit, \(w\) is the wage rate and \(l\) is labour employed, and given the tendency for a rising composition of capital \((K/wl)\); where \(K\) is capital invested in fixed and circulating means of production, there will be a tendency for the rate of profit to fall. This can be seen from the rearranged definition of the rate of profit, \(r = R/(K + wl) = (R/wl) / (K/wl + 1)\), neglecting turnover coefficients. This presentation glosses over several facets of the matter, one issue being that Marx derived the concept of profit (parts 1 and 2 of volume III) prior to the division of surplus-value into its functional forms. Thus 'profit' in chapters 13-15 is in fact a composite category.

In the remainder of this paper, I will not only treat profit as decomposed, I will also apply profit and the law of profit to branches of industrial production in connection with finance capital.

3. Competition: the dynamic disequilibrium of capital stratification

An influential critique levied against the theory of the TFRP is that it lacks a microeconomic foundation: why should new techniques that decrease the rate of profit ever be introduced?\(^{10}\) From the point of view of the methodical structure of Capital this critique is beside the point since the theory derives its interest from the macroeconomic level at which it is formulated:\(^{11}\) “we once again stand on firm ground, where, without entering into the competition of the many capitals, we can derive the general law directly from the general nature of capital as so far developed” (Marx 1861-63, vol. 33, p. 104). Nonetheless the Okishian critique can be refuted at a different level of abstraction, that is, that of competition between capitals/firms. The Okishian type of argument not only places micro foundations at the macro level, it also relies on an implausible comparative static equilibrium account of technical change: firms (plants) within a sector of production are homogeneous, so new least-cost techniques are immediately adopted by all firms.

The reality of capitalist competition, however, is rather to be grasped by a dynamic disequilibrium account of industry. Capital tends to be embodied in stratified heterogeneous rather than homogeneous plants, because, whilst valorisation is a continuous process, the investment of capital in means of production is a

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\(^{10}\) The discussion of this problem was initiated by Okishio 1961; Shaikh 1978 reopened the discussion (for further references see Moseley 1991, ch.1; Reuten 1991).

\(^{11}\) Over the past decades within neoclassical economics a similar misunderstanding of macroeconomics has developed. The supposed requirement for providing micro foundations to macroeconomics is just giving up macroeconomics. I am sorry that in my 1991 critique of the Okishian argument I did not take this into account.
discrete, 'lumpy' process. Therefore plants are dated differently. Because
techniques and labour productivity change over time, dated stratification is
characterized according to these factors. And as there is a tendency for uniform
prices in a market, this dated stratification is also a stratification of different rates of
profit.

When new techniques of production are available (with higher calculated plant
rates of profit), the preservation of capital already accumulated may prevent
immediate moves towards investment in new-technique plants. Even provided firms
can command sufficient means of finance (from amortisation and/or additional
credit), they will usually only adopt a new technique when the increase in the rate of
profit that is expected as a result of its introduction compensates for the early
obsolescence of the fixed capital of the old technique. The scrapping of plants is only
enforced when prices no longer cover prime costs.

Capital added to the stratification generally operates with up-to-date techniques
of production – those with the highest technical composition of capital, maximum
productivity of labour and minimal unit costs of production. This investment
increases the sector's production capacity, inducing price competition or/and
production at overcapacity. In either case the revenue and profit rate of the previous
stratification is reduced. The 'top capital' may in fact use the strategy of price
competition so as to enforce the scrapping of plants at the bottom of the stratification,
the optimal price being that which just prevents 'bottom plants' from re-entering.

This stylized model of competition provides a sufficient base for the TFRP. It
however not restricted to it, as it is not necessarily based on an increasing value
composition of capital.

In sum, whilst the rate of profit of the newly invested capital tends to increase
compared with that rate of the capital just below in the stratification, the average rate
of profit of the branch as a whole tends to decrease compared with the previous
period, even allowing for the expulsion of least-profitable plants. The extent of the
rate of profit increase for the newly invested capital compared with the previous
stratification depends on the productivity difference that can be achieved. The larger
this difference the more overcapacity and/or price decrease that can be borne and
the more it enforces the scrapping of capitals at the bottom of the stratification. As a
result the achievement of productivity difference is the crucial course by which
capital stratification proceeds.

Apart from this intra-branch effect of investment in new techniques, there is also
an inter-branch effect. Because any new plant can buy its fixed means of production
more cheaply (that is, cheaper than was the case for all the plants lower in the

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12 The reference is to plants as a unit of management. A firm may comprise several plants, each
dated differently. In addition to what is explained below, this may give rise to strategic market
considerations to close down or open up plants.

13 For simplicity we may assume the overcapacity to be distributed proportionally over the
stratification.

14 A more rigorous statement is in Reuten 1991, and a fairly simple formalization in Reuten and
stratification) it can decrease its price. The capitals lower in the stratification must follow suit and see their revenue and rate of profit falling.15

4. Devalorisation and devaluation of capital: accounting practices

*Capital* presents, in my view, the conflict-ridden unfolding of the contradiction of the bifurcated form of commodities (see section 1 above). In this perspective the theory of the TFRP is very much the apotheosis of all of *Capital*. From the perspective of a non-dialectical reading of *Capital* a great deal of that theory can be understood in terms of conflicts too, especially that between labour and capital. Even those who would prefer to see capitalism as harmonious, can see at least some point in a theory of conflict because it is part of the everyday phenomena of capitalism. With the theory of the TFRP, however, this is different: it can be understood in terms of contradiction only. It is not surprising therefore that this theory has met so much resistance, or neglect. It seems indeed rather paradoxical: capitalists strive for valorisation and profit rate increase; in the course of this, however, their deal is devalorisation and profit decrease; and accumulation of capital, as we will see below, is likely to result in devaluation of capital. But this is irrational! Moreover it is both irrational and rational at the same time.

We saw in the previous section how the accumulation of capital (plant addition) may result in decreased revenue for capitals lower in the stratification. This reflects the *devalorisation* of capital, which is due to the labour productivity for anyone capital in some period lagging behind that in the previous period (in effect $R \Phi$).16 Thus valorisation results in devalorisation (note that this is independent of the rate of surplus-value). The rate of profit on capital is merely the expression of (de)valorisation (cf. volume III, part 1: the transformation of $s/v$ in $r$). We have also seen that this process results in the scrapping of plants: at the base of the 'normal' process of capitalist production is an ongoing destruction.

Profit rate decrease, however, is not the only expression of investment in new techniques and devalorisation. The other expression is *devaluation* of capital. The 'ultimate' devaluation is of course when unamortized capitals are forced to be scrapped (lower in the stratification). Devaluation, however, may also apply to the capitals remaining in the stratification. If the revenue for anyone capital falls (devalorisation) entrepreneurs have the choice either to account for this by the profit rate ($r \downarrow$) or to devalue the capital ($K \downarrow$); in the latter case previous accumulation is partly nullified. Thus depending on the particular accounting practice (historical or current cost accounting), *devalorisation* may be manifested either in $r \downarrow$ or in $K \downarrow$. As cash flow is not affected by either practice, the net effect is of course the same.17

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15 Marx subsumed 'the cheapening of the elements of constant capital' under the counter-tendencies (Marx, 1894, pp. 342-3). At a lower level of abstraction, however, much depends on the course of the competitive process.

16 This is the value productivity. At the same time, in subsequent periods the relative physical productivity for anyone capital decreases compared with the branch average.

17 This makes empirical research on the TFRP a tricky enterprise. For various reasons, and starting gradually from the 1920s onwards, managers prefer current to historical cost accounting.
5. Industrial and finance capital: fragmented banking and economic crises
This section applies foremost to capitalism operating under the institutional make-up of a fragmented banking system, as experienced by OECD countries prior to the Bretton Woods Treaty of 1944.

5.1. Economic Crisis and General Restructuring of Capital
The more rapid the technical change, the more it has the effect of wiping out the profit of unamortized capitals (as expressed in $r\downarrow$ or $K\downarrow$, eventually resulting in the scrapping of plants – see section 3). Should amortisation fall short of the financial needs of renewed investment, then capitals merely fail and are extinguished. This becomes acute when bank credit has been used to pre-validate production (section 1). The losses of bankrupt industrial capital are then transmitted to banks, and unless compensated for by the interest on other debts (or with the assistance of the central bank – see section 6), credit expansion is hampered on a social scale. Local breaks in the circuit of capital may then multiply into the disruption of the social circuit, generating economic crisis. This process gives rise to a general restructuring of capital (bankruptcies, mergers, takeovers, or 'internal' reorganizations) curing and over-curing overcapacity, as well as to wage decrease due to crisis-generated unemployment. In all cases sub-marginal plants are extinguished so that restructuring reduces the range of the stratification of capital.

Therefore restructuring tends to retard investment and technical change. This is so because stratification proceeds by the temporary creation of (extra) overcapacity such that the least efficient plants are expelled from the stratification, which is only feasible with a sufficiently large productivity difference between the top and the bottom plant. With the reduction in the range of the stratification due to restructuring, this difference is reduced. The addition of new plants would then result in all plants taking the full burden of overcapacity.

5.2. Cyclical devalorisation
Innovation in new techniques may again be profitable if it creates a sufficiently large cost difference, which requires that technological knowledge be built up: a 'hoarding' of inventions. Technical change then tends to come in waves (cf. Schumpeter 1937, 1943). During such a build-up, there will be a stagnation in accumulation of capital as well as in price decrease, devalorisation and scrapping of plants (at the same time the solvency of the remaining capital will increase). But once sufficient technical knowledge has been gathered, the stratification will be extended again, and so on, repeating the process. Thus whilst inventions occur throughout the cycle, their implementation (innovation) is determined by the range of stratification. With short ranges, competition between capitals remains only latent.

– thus devalorisation is accounted for in devaluation. At the same time the 'capital' ($K$) estimates of the national statistical bureaus, whilst taking into account price changes of capital goods as inputs, are based on fixed lifetimes of investments – so all the dynamics of devalorisation are exempted from the figures. Reliably working up from the balance sheets of individual companies is not merely a monk's work – it requires monks to be master accountants.
With a fragmented banking system, therefore, the TFRP (devalorisation) is manifested by cycles/waves of restructuring that counteract the rise in the composition of capital.18

6. Industrial and finance capital: integrated banking and continual inflation

An important characteristic of the institutional make-up of the banking system in the second half of the twentieth century is that banks, rather than operating in fragmentary way, have been more fully integrated under the umbrella of central banks.19 This has important implications for the course of the accumulation process.

6.1. Continual inflation and restructuring

With the amortization of pre-validated capitals falling short, pre-validation by banks has in fact proven to be inflationary rather than expansionary. Economic crisis and restructuring as described in the previous section, 'correct' and 'overcorrect', so to say, the pseudo accumulation after the event. Within a fragmented banking system, banks are in fact forced to let this correction happen – and in the process they themselves risk being extinguished. Within an integrated banking system this is different: economic crises can be bypassed.

Banks that have granted credits to devalorized capitals within a branch of production are confronted with the problem of whether to accept the loss, or to provide those capitals with new credits so as to recover (part of) it in the future. The extension of such renewed credit is predicated upon an integrated banking system (see section 1). Renewed pre-validation engenders continued monetary expansion, which may turn either into a physical expansion or into the continuation of inflation.20

Credit renewal for firms in problems will however be conditional on a local restructuring of capital. Renewed pre-validation will nonetheless give rise to a decrease in the range of the stratification of capitals, since more capital will tend to be concentrated within the advanced layer of the stratification. Banks can in fact facilitate capitals to move from the bottom part of the stratification, where they can no longer survive, to the top part, which is also the top technology – thus there occurs in fact a horizontal widening of the top of the stratification. Whilst this process of range reduction itself produces a local boom (a multiplication of the

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18 The term cycle is used to indicate fluctuations in general, without any specification as to their duration or regularity. The link between restructuring of capital and the TFRP derives from Marx 1894, ch.15; it was reemphasized by Fine and Harris (1979, pp. 83-7) and Weeks (1981, pp. 208-13). The notion of technical change coming in waves derives from Schumpeter 1937; 1943 – see also Bellofiore 1993, pp. 56-64.
19 Within the confines of this chapter I cannot go into apparent inverse movements such as the emergence of the Eurodollar market.
20 Any 'extra money' (de Vroey 1984, pp. 384-9) does not necessarily generate inflation; it is merely a monetary condition for inflation. Inflation requires in addition an upward movement of prices. The factors behind this are amplified upon in Reuten and Williams 1989, pp. 147-51; see also Aglietta 1976, pp. 313-15, 365-70. Throughout I use the term 'continual' / 'continued' inflation so as to emphasize that upturns in the fragmented institutional setting were already (in part) inflationary.
production of means of production for this branch), the subsequent effect of the range reduction once again produces a stagnation of investment, 'hoarding' of technology and better solvency positions (cf. subsection 5.2).

6.2. Inflation and the conflict between industrial and finance capital and bank creditors

Along with the process described above, another one develops. The general and continual price increase ensuing from protracted pre-validation has the effect of *revaluing capital*, which may compensate for devalorisation.21 (It should be emphasised that this revaluation is the expression of *price* increase only. Along with it the devalorisation due to *technical* change goes on, and this may still be accounted for in a net devaluation of capital.) At the same time, in order for accumulation to continue, industrial capital must increase its indebtedness (because of the credit renewal required due to obsolescence as well as the ongoing price increase). This increasing indebtedness is the counterpart of the revaluation of capital. The decrease in the rate of profit implied by the TFRP is now (in part) *imposed on finance capital*, including banks, as its purchasing power is continuously reduced.22 Thus the industrial capital gain is the equivalent of the finance capital loss, so that inflation reveals a potential conflict between them. Nevertheless the position of banks is different from non-bank finance capital. To the extent that banks maintain an adequate fit between short-term and long-term borrowing and lending (maturity matching), it is the banks' creditors that pay for the industrial capital revaluation.

Once inflation becomes self-perpetuating (cf. the second half of the 1960s and the 1970s for OECD countries) the conflict between industrial and finance capital is gradually played out in the following effects, which all result in an increasing share of interest in surplus-value, thus in a decrease of profit. First, in order to be able to recontract credits at higher interest rates, banks increasingly substitute short-term for long-term lending. Second, when contracts expire, non-bank finance capital tends to withdraw fixed interest assets (bonds) from industrial investment. Industrial capital then has to rely even more on short-term credit provided by banks.23 Third, the decline of the share of non-bank finance capital in industrial investment, increases the risk for banks. In the absence of sufficient security they will then require an extra risk premium on top of normal interest.

Thus the devalorisation of capital associated with the TFRP tends to be counteracted by continued inflation – whence industrial capital is being revalued.

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21 The revaluation of capital, that is, the revaluation of the capital outlay in fixed means of production due to their price increase, is most transparent when the latter have been purchased by means of external finance.

22 This will not be immediately and simply reflected in the interest rate, so as to keep the so-called 'real interest rate' constant (see Reuten 1988b; Reuten and Williams 1989, pp. 88-9). Empirically this is shown in Leeftink 1995, ch.5.

23 Note that the finance capital invested in any alternative (such as in existing shares, real estate or art – driving up their prices) is ultimately deposited with banks, or takes the form of near-banking call money. Much of finance capital has been floating in speculative spheres, contributing to the financial instability of the 1980s and 1990s.
With the substitution of short-term bank credit for long-term finance, devalorisation is then re-imposed on industrial capital.

In sum, the important similarity between the fragmented setting (see section 5) and the integrated financial setting is the dynamics of the change in the range of capital stratification, and the related acceleration and deceleration in the introduction of new techniques. The most important difference is that devalorisation and obsolescence, instead of being revealed in crisis, are made manifest in the increasing indebtedness of capitals and relatedly in continued inflation. The losses of capitals are in fact socialized. The crisis course goes along with general restructuring (including the restructuring of credit) and stagnation. With the continued inflationary reproduction, restructuring is (repeatedly) branch-local. The ensuing decrease in employment of labour due to labour expelling technical change now shows as 'structural' rather than crisis-cyclical. A permanently unemployed layer of labour (rather than a reserve army) serves to exert a drain on wages.

**Summary and conclusions**

Valorisation, accumulation, devalorisation – quite a Sisiphean process.

Any social law is predicated on an historical-institutional setting. Definite social systems vary over time in the evolving settings of their subsystems. Marx's 1894 'law of the tendency of the rate of profit to fall' is the apotheosis of his exposition of the internal logic of the capitalist system. It has been shown that a dynamic disequilibrium account of the stratification of capital in industry provides the ground for a concretisation of the law of profit. This is an 1894 rather than a 1994 achievement. The kernel of the law is the valorisation-devalorisation contradiction (ultimately deriving from the bifurcated form of capitalist entities). More concretely, an important expression of devalorisation, alternative to the rate of profit fall, is the devaluation of capital. The two important manifestations of these are the destruction of means of production and the unemployment of labour. One may call this, alternatively, the irrationality of rationality or the rationality of irrationality. The dynamics of devalorisation in the course of development is determined by the degree of technical change, together with the related fluctuating range of the stratification of capital.

The actual exhibition, via economic crises or continued inflationary reproduction, is determined by the institutional make-up of the banking system. In both cases the above mentioned manifestations appear – abruptly in the first case and gradually in the second. On the individual plane, however, being laid off is always a misery. It must moreover be bitter to have been exploited for the purpose of a plant, destined for the scrapheap.

The concretisation of the law of the TFRP in this chapter has been restricted. Concerning the relationship between industrial and finance capital, no attention has been paid to recent financial innovations, although it seems that these might fruitfully be incorporated in the present framework. Further, the confines of this chapter did
not allow for the incorporation of the factors affecting changes in the distribution of income and effective demand, as well as state intervention.

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