Chapter 12

ELEMENTS OF AN I-O-BASED FRAMEWORK FOR MARXIAN, FEMINIST AND WORLD-SYSTEM APPROACHES

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INTRODUCTION

Since the late sixties there has been a remarkable upsurge of emancipatory movements around the world. Though some common features of most of these movements could be found - and several sociological studies on the so-called New Social Movements (NSM) tried to specify these in terms of empirically observed characteristics - there clearly seems to be a trend of drifting apart as far as theoretical issues are concerned. This paper is an attempt to encounter this tendency by picking three relevant emancipatory schools of thought, namely Marxism, Feminism and the views of the World-Systems-Approach on the agenda of developing countries, and using the language of standard input-output analysis to reformulate their major concerns. Putting their respective theoretical background on common grounds, makes differences debatable and possible coalitions visible: a prerequisite for more effective common action.

The first three chapters thus are devoted to a possible I-O based formulation of the main tenets of each school of thought. Chapter 1, dealing with Marxism, evidently is the easiest - though most fundamental - part, since it can draw on the seminal works of Francis Seton [Seton, 1957], Andras Bródy [Bródy, 1970], Michio Morishima [Morishima, 1973] and their followers. Nevertheless the formulations used differ from what is usually considered in ‘matrix marxism’: The columns of the I-O-matrix do not need to represent different industries. Only two highly aggregated columns representing the production of means of production and production of commodities for final demand are considered as essential for our task. With regard to the extensions in the following chapter, a third column is added - the production process for labour power. Corresponding to the columns a third row, namely the usual vector of labour inputs, is added giving a 3x3 matrix. Note that the lower right-hand diagonal element measures the time expended by workers' households in workers' households (i.e. ‘own use’) for sustaining their labour power.

Marx' concern, and the majority of socialist theorists followed him in this respect, can be expressed without the use of the lower right-hand element of the I-O matrix. In the article we will show how the two major consequences of typical profit maximizing behaviour can be derived: first, a
well-specified limit for real wage increases, and second, a tendency towards rising labour productivity. Several side issues, like the consequences of profit-rate equalization between the first two sectors and the role of the final demand constraint (the element in row 2, column 3 of the I-O matrix), are discussed. As a result the concept of exploitation is formulated as fundamental concept linking left approaches.

The treatment of the feminist agenda in an I-O framework, as presented in section 2 of the article, is even less conventional than our version of 'matrix marxism'. Starting with the same I-O matrix, in a first step, we assume that labour spent in the first two processes is male, while labour spent as 'own use' is female. Treating sector three as the other two sectors to derive the labour value of reproduction work and extending the notion of exploitation to allow for 'exploitation within exploitation', opens up the the possibility for precise formulations of a whole set of feminist issues.

Since one of the core questions for feminists in their debate with socialist theorists is, if 'capitalism is only the most recent instance of the much deeper lying dominance of patriarchy', the static framework used so far, in a second step, has to be given a dynamic twist: While the claim that entrepreneurs in early capitalism only had to copy their male-chauvinist exploitation behaviour within families, can only be supported by empirical research on the actual historical development, the opposite hypothesis can be discussed by a dynamic version of our 3x3 matrix: If female labour power starts to diffuse in the first two production processes, it might exert some downward pressure on average wages paid there. This is so, because due to patriarchal family forms exploitation in households is high enough to keep the aspiration level of women lower than the wages paid in sectors 1 and 2 before diffusion. Patriarchy thus is functional for entrepreneurs trying to increase their profits. On the other hand this diffusion destroys its own basis, the existence of families with patriarchal forms. It is this trade-off which, from a capitalist perspective, leads to a well specified participation rate of women in labour markets. Clearly the dynamics of the diffusion process are paralleled by wage-price dynamics leading to some interesting results concerning common and contradictory interests of female and male workers.

Seen from another perspective, section 2 tries to find out, how far a capitalist system is able to exploit pre-capitalist forms of exploitation (patriarchy) for its own use. In a sense section 3 is a variation on the same topic: Exploitation of third world countries existed long before market economies matured to their current forms. As with the other pre-capitalist form of exploitation, again it did not disappear with the evolution of capitalist exploitation, but rather was integrated in the 'modern world system'. To demonstrate some essential issues a 6x6 I-O matrix will be used: The first three rows are the same as in the previously used matrix, but now interpreted as representing the whole industrialized world (say OECD). Sectors 4 to 6 have the same meaning as sectors 1 to 3, but now interpreted as representing the rest of the world (say 'developing countries'). Major instruments in this form of exploitation, like real exchange rates, are studied by the use of a simple dynamic extension of this framework.

1. MARX‘ THEORY OF EXPLOITATION

As we will argue below, Marx‘ major theoretical concern was to produce a consistent theory of exploitation based on the labour theory of value. The latter idea he had found in the writings of the classical economic theories of Adam Smith and David Ricardo. To raise the rather fragmented and sometimes contradictory theoretical pieces of his predecessors to a more general level, he envisaged to apply methodological ideas from his second ideological root, namely Hegel’s dialectics. The least one can say from Hegel’s approach is that it is the opposite of an equilibrium approach. Though we do not know of a generally accepted formalization of ‘dialectics’, the closest one seems to get with
modern tools are variants of dynamic, disequilibrium models. And it definitely must have been something of that sort that Marx had in mind.

It is thus reassuring that the debate on the so-called ‘transformation problem’, revived in the 70ies, showed that it is not possible to produce a consistent formulation of Marx’ central hypothesis within an equilibrium framework\(^1\). Only dynamic disequilibrium approaches seem to offer tools to translate verbal dialectics into a formal language. What follows is a modest attempt to show how some basic Marxian ideas can be restated in a simple I-O-framework.

Consider an economy described by three sectors: In sector 1 only means of production are produced and delivered within sector 1 as ‘own use’ and to sector 2 as intermediate input. Sector 2 produces only consumer goods delivered exclusively to sector 3, the sector where human labour force is (re-)produced. All three sectors use the labour force produced in sector 3. The matrix of technical coefficients thus looks like this:

\[
\begin{bmatrix}
a_{11} & a_{12} & 0 \\
0 & 0 & a_{23} \\
l_1 & l_2 & l_3
\end{bmatrix}
\]

As Marx observes, implicit in the quantities to be measured by the figures in the matrix - using arbitrary units of products in sectors 1 and 2 and using a time unit in sector 3 (e.g. a year) - is a vector of labour values measuring the amount of direct and indirect labour spent in the production of one unit of output in sectors 1 and 2. Using sector 3 as numeraire, it is easy to compute these labour values in this simple example\(^2\):

Since

\[
\begin{align*}
\lambda_1 &= a_{11}\lambda_1 + l_1 \\
\lambda_2 &= a_{12}\lambda_1 + l_2 \\
\lambda_3 &= a_{23}\lambda_2 + l_3 = 1
\end{align*}
\]

it follows that

\[
\begin{align*}
\lambda_1 &= \frac{l_1}{1-a_{11}} \\
\lambda_2 &= \frac{l_1}{1-a_{11}} + l_2 \\
\lambda_3 &= a_{12}a_{23}\frac{l_1}{1-a_{11}} + a_{23}l_2 + l_3 = 1
\end{align*}
\]

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\(^1\) The most polemic attack against Marx' labour theory came from Ian Steedman [Steedman, 1977] and Jon Elster [Elster, 1985], while the theoretically most advanced appraisal - and refutation within a game-theoretic equilibrium approach - came from John Roemer [Roemer, 1981, 1982]. Of course, all of these authors did not intend their contribution to promote dynamic disequilibrium approaches to Marxian theory, but rather thought to prove the presumed equilibrium-theorist Marx wrong.

Similar to this evaluation of the values of one unit of output prices of production for given sectoral profit rates can be computed. A significant feature of Marx's approach as well as of the standard I-O-approach is that the element $h$, own use of time in labour reproduction, is neglected. Only the part of the economy dominated by market relations in product and labour markets is considered. Therefore the price of production of the reproduction sector is not considered. With wage rates $w_1$ and $w_2$ and profit rates $\pi_1$ and $\pi_2$ for the first two sectors, the following equations depict the situation.

From

$$p_1 = (1 + \pi_1)(a_{11}p_1 + l_1w_1)$$
$$p_2 = (1 + \pi_2)(a_{12}p_1 + l_2w_2)$$

we compute

$$p_1 = \frac{l_1(1 + \pi_1)}{1 - a_{11}(1 + \pi_1)}$$
$$p_2 = (1 + \pi_2)a_{12}\frac{l_1(1 + \pi_1)}{1 - a_{11}(1 + \pi_1)} + l_2w_2(1 + \pi_2)$$

An essential claim of Marx was that it is necessary to use the concept of labour values to understand the concept of exploitation. Prices of production are for him the typical example for an 'appearance' of a phenomenon, which can only be understood if its 'essence' is discovered. This is nothing more than an application of Hegel's well-known claim that science is the procedure discovering the essence behind the appearances. More specifically Marx held that relative prices of products tend towards their relative labour values. In our simple framework this comes up to the claim expressed in equation [6].

First compute relative labour values

$$\frac{\lambda_2}{\lambda_1} = a_{12} + \frac{l_2}{l_1}(1 - a_{11}), \quad [4]$$

then compute relative prices of production

$$\frac{p_2}{p_1} = (1 + \pi_2)a_{12} + \frac{l_2w_2}{l_1w_1}\left(\frac{1}{1 + \pi_1} - a_{11}\right), \quad [5]$$

so that Marx' proposition can be written as

$$a_{12} + \frac{l_2}{l_1}(1 - a_{11}) = (1 + \pi_2)a_{12} + \frac{l_2w_2}{l_1w_1}\left(\frac{1}{1 + \pi_1} - a_{11}\right). \quad [6]$$

---

3 For a good historical approach to labour theories of value see [Meek, 1973].
Clearly there is one degenerate case, namely if profit rates are zero and wage rates are equal, where this equation holds anyway. This fact indeed seduced Pasinetti to conclude that relative labour values would only be equal relative prices of production in the case of vanishing profits, no exploitation - a result rather perverse if one considers Marx’ intentions, thus proving Marx was wrong [Pasinetti, 1977, pp.122-130]. Contrary to this, condition [4] evidently can hold in other, non-degenerate cases too.

Looking at these situations, where profit rates are positive, two possible dynamics can be distinguished, which both fit well in Marx’ approach: the growth of productivity and the effects of class struggle. The first process was vividely described as the ‘historical mission’ of capitalism in the Communist Manifesto, while the second process, though it is in line with many of Marx’ arguments, cannot be found in his writings. Probably the few successes of the labour movement during his lifetime led Marx to a more pessimistic view as contemporary historians of the class struggle would suggest. We briefly sketch and interpret these two dynamic processes in the context of our simple model.

**Technical Progress and Class Struggle - An Interpretation**

To discuss the dynamic properties of the system outside the equilibrium, let us first assume that the relative prices in sector 2 are higher than the relative values

\[
\frac{p_2}{p_1} > \frac{\lambda_2}{\lambda_1} \quad \text{(disequilibrium of type 1).} \quad [7]
\]

Inserting [4] and [5] into this inequality - after some transformations - yields

\[
\pi_2 a_{12} + \frac{\pi_2}{\pi_1} \left( \frac{w_2}{w_1} \frac{1}{1 + \pi_1} - 1 \right) + a_{11} (1 - \frac{w_2}{w_1}) > 0. \quad [8]
\]

A sufficient condition for [8] to hold would be

\[
\frac{w_2}{w_1} > 1 + \pi_1. \quad [9]
\]

From [8] and [9] it becomes clear that these type 1 deviations of the price system from the labour value system occur if \(\pi_2, a_{12}\) and relative wages in sector 2 are high and \(\pi_1\) is low. Without fully spelling out the dynamic processes setting in in this situation, the following qualitative statements seem to be plausible: Since innovations enter the production process via investment, and since investment is positively related to profits, *technical progress* in sector 2 will accelerate, \(a_{12}\) and \(l_2\) will fall, making the inequality in [8] less and less. Moreover large profits in sector 2 will have lead to wage rates that exceed the wage rates in sector 1 - capitalists in sector 2 will have been willing to share a little bit of their boom to prevent strikes, even if labour movement activities are rather weak. But at a certain difference between wage rates, a sensitivity border, solidarian class struggle will set in and the quotient of wage rates will tend towards unity again. Again such a movement will reduce the deviation of relative prices from relative labour values. Finally note, that another element being

\[\text{The important increase in memberships of unions started only in the last decade of the 19th century, while Marx died already in 1883.}\]
in disequilibrium, namely sectoral profit rates \( \pi_1 \) and \( \pi_2 \), will also make condition [8] more and more unlikely as in the course of equilibration the initially large \( \pi_2 \) falls and \( \pi_1 \) rises.

Now consider the opposite type of disequilibrium:

\[
\frac{p_2}{p_1} < \frac{\lambda_2}{\lambda_1} \quad \text{(disequilibrium of type 2).} \quad [10]
\]

Again we can transform [10] by the use of [4] and [5] to get

\[
\frac{l_1}{l_2} \pi_2 a_{12} + \frac{w_2}{w_1} \left( \frac{1}{1 + \pi_1} + (1 - \frac{w_2}{w_1}) a_{11} \right) < 1. \quad [11]
\]

This condition will be met if the profit rate in sector 1, \( \pi_1 \), is big, while \( \pi_2 \), \( a_{11} \) and \( a_{12} \) are small.

Looking at an alternative formulation of condition [11],

\[
\frac{l_1}{l_2} \pi_2 a_{12} + \frac{w_2}{w_1} \left( \frac{1}{1 + \pi_1} - a_{11} \right) + a_{11} < 1, \quad [12]
\]

shows that relative wage rates play the role of a multiplier: If the term in brackets is positive, large wage differentials will move the price system towards the labour value system; if it is negative the price system will be driven away.

A story, different to the one told for type 1 disequilibria, can be used to sketch the dynamics. If profits in sector 1 are high, capitalists' investments will transform them into innovations, lowering \( a_{11} \) and \( l_1 \). Thus technical progress will move the price system further away from labour values as long as wages in sector 1 are less or equal those in sector 2. But as soon class struggle enables wage increases in the more profitable sector 1 to the extent that they exceed \( w_2 \), capital saving technical progress, i.e. decreasing \( a_{11} \), reverses its influence: it moves prices towards labour values (while labour saving technical progress \( l_1 \) still moves it away). Finally consider sectoral profit rates in this case. The initially large \( \pi_1 \) will fall and the small \( \pi_2 \) will rise as capital starts to move between sectors. From [11] it is clear that this process of profit rate equalization will move the price system towards labour values.

As a last point, it is important to show what happens if all disequilibrium variables reach equilibrium positions simultaneously. To see this, assume first that wage rates are in equilibrium and that the just described dynamics have driven relative prices to their relative labour values. In this case [6] can be rewritten as

\[
\frac{1 + \pi_1}{1 + \pi_2} = \frac{(a_{12} + \frac{l_2}{l_1} (1 - a_{11}))}{(1 + \pi_1) a_{12} + \frac{l_2}{l_1} (1 - a_{11}(1 + \pi_1))}. \quad [13]
\]

\footnote{Again some kind of sensitivity border, interpreted now as the cost to transfer capital, will have to be introduced.}
If profit rates were equal too, then [13] easily can be transformed into

\[ \frac{l_{1}}{a_{11}} = \frac{l_{2}}{a_{12}} \]  \hspace{1cm} [14]

stating that in this case the ratios of intermediate input and direct labour input of the two sectors - what Marx called the ‘organic composition of capital’ - must be equal. Note that the dynamics described above in no way imply that such a coincidence ever must occur. Any critique of the labour theory of value founded on a suggested contradiction between ‘theoretically necessary’ equal organic composition of sectors and empirically observed organic compositions misses this point.

Far from being ‘invalid’ or ‘theoretically unsound’ a dynamic labour theory along the lines sketched above only seems to be underdeveloped. Its ingediences, of course, should also include monetary considerations in the tradition of Hilferding [Hilferding, 1968 (1911)] and Schumpeter [Schumpeter, 1939]. Note that the ‘swarming of innovations’ as well as the ‘attraction by market forces’ can be modelled in the above context as overshooting, error correction and the like. Instead of ‘swinging along the (von Neumann) turnpike’ (see [Goodwin, 1973]) such a model could ‘swing along a (Marxian) labour value avenue’.

Of course the development of such a model goes beyond the scope of this paper. We only had to destroy some unsound conjectures concerning the labour theory of value to arrive at its importance for our purposes: An instrument to formulate the concept of exploitation.

Exploitation - The Unifying Link

In Marx the rate of exploitation is defined as the ratio between ‘unpaid labour and paid labour’ [Marx, 1867]. To embed this concept in our simple model we first have to augment it by a vector of intensities of sectoral production processes, \( x \), to arrive at absolute amounts of the flows involved. Then we can define the rate of exploitation, \( e \), as follows

\[ e = \frac{x_{2} \lambda_{2}(a_{23} - a_{w})}{x_{1} l_{1} + x_{2} l_{2}}. \]  \hspace{1cm} [15]

In the denominator the total amount of paid labour in sectors 1 and 2, measured in labour values is computed. This means that direct labour inputs per output unit, i.e. \( l_{1} \) and \( l_{2} \), have to be multiplied by the number of units produced, by \( x_{1} \) and \( x_{2} \) respectively. Note that labour expended in sector 3 does not enter the Marxian framework.

The numerator expresses unpaid labour, again evaluated at its labour value \( \lambda_{2} \). The whole mystery of exploitation, profits and growth is hidden in this term: The output of consumer goods in our example is exclusively used up in sector 3, the production of human labour force. In our original matrix [1] it was simply stated that \( a_{23} \) is the amount of consumer goods necessary to (re)produce one unit of labour force, say one man-year. Now we have to be more specific and state that the amount of consumer goods, \( x_{2} a_{23} \), as it leaves the production process is owned by the owners of the means of production - in other words we have to specify a mode of production including its property relations. Due to this property relations the owners of consumer goods do not sell to the workers the whole amount of what could be used for their reproduction, \( x_{2} a_{23} \), but a smaller amount, called \( x_{2} a_{w} \). The

\(^{6}\) As Morishima shows, Marx gives different definitions for the rate of exploitation that all can be shown to be quantitatively equivalent [Morishima, 1973].
difference between what workers produce, i.e. \( x_2 a_{23} \), and what workers get, i.e. \( x_2 a_w \), is unpaid labour. This is what the numerator expresses.

At this point three remarks are necessary. First, note that exploitation historically first appeared as exploitation of *surplus time*, slaves and peasants working for their masters spending time they were forced not to use for their own reproduction. Later farmers were exploited by their landlords as the latter took away the *surplus product*, i.e. part of the harvest. Only capitalist societies were able to raise the level of abstraction of exploitation to the extraction of a systematic *money surplus*. The aim of our simple model thus can be interpreted as the attempt to trace back the money surplus appearing as profit rate to its roots: exploitation of surplus time based on property relations.

Furthermore the question of what happens to the surplus might puzzle the reader. The simplest assumption evidently is to assume that the owners of the means of production consume it. This assumption is sufficient for the definition of exploitation, but it is not sufficient for the description of the capitalist mode of production. In capitalism the surplus is reinvested - 'Accumulate, accumulate, that's Moses and the prophets!', writes Marx. Note that it was investment in new technologies that was used above to explain the changes in technical coefficients. Economics usually devotes a special set of theories, growth theories, to this question, which in their simplest forms assume that all output is 'corn' - thus circumventing the question how consumer good surplus in the hands of capitalists is transformed into innovative new capital stock. Unfortunately innovation theory is a rather less developed branch of economics. For the purposes of this paper the simplest assumption is to view this transformation as an exchange between capitalists and a group providing the capitalist class with innovative capital goods for which they receive parts of the consumer goods surplus. Intermediate inputs of this group are ignored - either because they are small ('poor inventors') or because they are included in the intermediate inputs of sectors 1 and 2.

Third, if a certain time unit, e.g. a year, is chosen, then there is a difference between intermediate inputs and the much bigger capital stock applied in sectors 1 and 2. Marx' view in this respect was that always a part of the capital stock is used up by its application. In national accounts this is usually measured as depreciation. In our model we simply ignore the complications arising from the use of time units shorter than the lifetime of typical capital goods\(^7\). In other words, the implicit time horizon of our model rather is the long-run.

If these preliminary remarks are accepted, it is easy to show that exploitation is the source of positive profit rates: First compute profit rates by the use of flows

\[
\begin{align*}
\pi_1 &= \frac{(x_1 p_1 a_{11} + x_2 p_2 a_{12}) - x_1 (p_1 a_{11} + w_1 l_1)}{x_1 (p_1 a_{11} + w_1 l_1)} \quad \text{[16]} \\
\pi_2 &= \frac{x_3 p_2 a_{23} - x_2 (p_2 a_{12} + w_2 l_2)}{x_2 (p_2 a_{12} + w_2 l_2)} , \quad \text{[17]}
\end{align*}
\]

then observe that workers face a budget constraint

\[
x_3 p_2 a_w = x_1 w_1 l_1 + x_2 w_2 l_2 . \quad \text{[18]}
\]

---

\(^7\) Clearly not only physical wear and tear plays a role, but also the 'moral depreciation', as Marx calls it, the depreciation due to obsolete technology. In recent decade acceleration of the latter has made the 'long-run' shorter and shorter.
Now transform [16] and [17] to get
\[ x_1 w_1 l_1 = \frac{x_1 p_1 a_{11} + x_2 p_2 a_{12}}{1 + \pi_1} - x_1 p_1 a_{11} \quad \text{and} \quad [16'] \]
\[ x_2 w_2 l_2 = \frac{x_3 p_2 a_{23}}{1 + \pi_2} - x_2 p_1 a_{12} . \quad [17'] \]

(Note that \( x_2 = a_{23} x_3 \) and \( x_1 (1 - a_{11}) = x_2 a_{12} \))

Finally insert [16'] and [17'] in [18] and transform the latter into the basic relation
\[ x_3 p_2 (a_{23} - (1 + \pi_2) a_w) = (x_1 p_1 a_{11} + x_2 p_2 a_{12}) (1 + \pi_2 - \frac{1 + \pi_2}{1 + \pi_1}) . \quad [19] \]

To see how profit rates measured in prices depend on the exploitation rate measured in labour values assume first that all profits are made in sector 2, i.e. \( \pi_1 \) is zero. In this case equation [19] simplifies to
\[ \pi_2 = \frac{a_{23} - a_w}{a_w} . \quad [20] \]

This means that without surplus product, i.e. \( a_{23} - a_w \) equals zero, no profits are possible. Now set \( \pi_2 \) equal zero and simplify [19] again to get
\[ \pi_1 = \frac{a_{23} - a_w}{a_w + \frac{p_1 a_{11} a_{23}}{p_2 (1 - a_{11})} - a_{23}} . \quad [21] \]

As in the former case profit rate \( \pi_1 \) vanishes if exploitation goes to zero. The relation between sectoral profit rates is governed by the simple expression
\[ \pi_1 > \pi_2 \iff \frac{p_2}{p_1} > \frac{a_{12}}{1 - a_{11}} . \quad [22] \]

In short, exploitation of labour time has been shown to be the source of sectoral profits, where the distribution of profits over sectors is determined by production techniques and relative prices. In the very long-run, along the ‘labour value avenue’, where relative prices are equal to relative labour values, condition [22] depends on production techniques only:
\[ \pi_1 > \pi_2 \iff \frac{l_2}{l_1} > \frac{a_{11} a_{12}}{(1 - a_{11})^2} . \quad [23] \]
The labour theory thus is the central theoretical instrument to explain why exploitation is essential for profits and how this essence appears as profit rate. The next chapter discusses exploitation in the part of the economy where non-market relations dominate exchange - and shows how feminist agenda can be understood in this perspective.

2. FEMINISM AS A THEORY OF EXPLOITATION

As already mentioned in the previous chapter, Marx' theory of exploitation - like almost every other economic theory - centered on an analysis of exchanges on commodity-, money- and labour-markets. A large part of human activity, the reproduction sphere, was neglected. In the language of the simple model of the previous chapter processes in element $a_{33}$ remained in the 'grey area'. In this chapter we reverse the focus and center on these processes and their linkages to the rest of the system. To give a first overview consider diagram 1:

![Diagram 1: the Reproduction Sphere](image)

As mentioned above the focus on the reproduction sphere highlighted in this chapter leads to further distinctions within the elements of the original 3x3 matrix. In diagram 1 each original element now is divided into two sub-fields, one for the respective flow of female labour or consumption goods (left side), and one for the male side (right side). For column 3 an additional distinction has to be made between capitalists (upper half of each field) and workers (lower half of each field). Moreover all the variables shown now denote flows and not technical coefficients. Element $M_{33}^C$ for example now is the consumption of male workers, $F_{33}^C$ is the labour input of women in capitalists' households, $M_{31}$ is the direct labour input of male workers in sector 1, and so on.

The link to the concepts developed in the last chapter is straight forward. The general market rate of exploitation now reads

$$e = \frac{\lambda_2(F_{23}^C + M_{23}^C)}{(F_{31} + M_{31} + F_{32} + M_{32})} \quad [15']$$

It has to be called 'general market rate' from now on, because it is the purpose of this chapter to investigate 'exploitation within exploitation', that is different types of exploitation rates will be distinguished:

Without further distinction between capitalists and workers the general gender rate of exploitation, called $g^f$, can be derived as follows. Again the basic idea is that the rate of exploitation is the ratio between unpaid and paid labour. But payment in the reproduction sphere has to be
substituted by ‘labour value expended’ and ‘labour value received’, because there are no market processes invoking payments.

To define the ‘labour value expended’ by all women, it is necessary to divide the components of the lower left hand element of our example even further. Namely time expended for ‘own use’ by each gender has to be divided into ‘time used for the reproduction of the own gender’, e.g. $F_w^C$, and ‘time used for the reproduction of the opposite gender’, e.g. $F_M^w$. If we assume households to consist of homogeneous class members, we have

$$F_{33}^C = F_F^C + F_M^C, \quad F_{33}^w = F_F^w + F_M^w; \quad [24]$$

$$M_{33}^C = M_M^C + M_F^C, \quad M_{33}^w = M_M^w + M_F^w.$$

Now ‘total labour value expended’ by women, named $TLVE_F$, is

$$TLVE_F = F_{31} + F_{32} + F_F^C + F_M^C + F_F^w + F_M^w, \quad [25]$$

while ‘total labour value received’ by women, called $TLVR_F$, is

$$TLVR_F = F_{23}^C + F_{23}^w + F_F^C + F_F^w. \quad [26]$$

The general gender rate of exploitation, $g_f$, now can be defined as

$$g_f = \frac{TLVE_F - TLVR_F}{TLVR_F} = \frac{(F_{31} + F_{32} + F_M^C + F_M^w) - \lambda_2(F_{23}^C + F_{23}^w)}{\lambda_2(F_{23}^C + F_{23}^w) + F_F^C + F_F^w}. \quad [27]$$

This rate simply indicates if, i.e. $g_f > 0$, and how much women are exploited by men. Note that, since technology enters this equation via various channels, the general gender rate of exploitation will be different for different underlying technologies. Note further that this type of exploitation, like the market exploitation rate $e$, is based on power relations in households determining the variables $F_{23}$ and $F_{33}$, i.e. how much women are allowed by men to consume and how much women are forced by men to spend labour time for them ($F_M$) instead for themselves ($F_F$) in the household. In other words implicit in a positive rate $g_f$ is the assumption that male workers and capitalists are able to determine the proportions of consumer goods and reproduction labour - that is what ‘patriarchy’ from an economic perspective is all about (see also [Mies, 1989]).

Since the two general rates $e$ and $g_f$ are founded on completely independent power relations they are not directly related to each other. For any given technology they can assume values independent from each other: High gender exploitation can appear in an economy with no market exploitation, as well as high market exploitation can coincide with egalitarian gender relations. The only indirect link is that advances in technology will influence both rates of exploitation.

We will label a feminist view focussing on the development of $g_f$, emphasizing its independence from market relations as ‘general feminism’.

Proceed now to a more differentiated view that distinguishes between workers’ households and capitalists’ households. First note that the newly defined variables imply the following relationships with our original matrix:

\^ For the sake of clarity of the argument we, of course, abstract from ‘ideological bridges’ between market and gender exploitation. For an interesting treatment of this aspect see [Mills, 1992].
\[ F_{23}^C + M_{23}^C = x_2 (a_{23} - a^w) ; F_{23}^W + M_{23}^W = x_2 a^w ; \quad [28] \]

\[ F_{31} + M_{31} = x_1 l_1 ; F_{32} + M_{32} = x_2 l_2 ; \]

\[ F_F^C + M_F^C + F_M^C + M_M^C + F_F^W + M_F^W + F_M^W + M_M^W = l_3. \]

Assume further that wage labour is exclusively done by men while reproduction labour is female.

\[ F_{31} = F_{32} = M_{33}^C = M_{33}^W = 0 \quad [29] \]

Then define gender exploitation in capitalists’ households, \( g^C \), and in workers’ households, \( g^W \), analogously to general gender exploitation,

\[
g^C = \frac{F_{M}^C - \lambda_2 F_{23}^C}{F_F^C + \lambda_2 F_{23}^C} \quad \text{and} \quad [30]
\]

\[
g^W = \frac{F_{M}^W - \lambda_2 F_{23}^W}{F_F^W + \lambda_2 F_{23}^W}.
\]

Now it is possible discuss two extreme cases. First assume that the driving force behind exploitation are male capitalists. In this case market exploitation will be at its highest possible level, reducing consumption possibilities of workers households to their minimum levels, \( F_{23}^W \) and \( M_{23}^W \). From [28] we find

\[ F_{23}^W + M_{23}^W = x_2 a^w \Rightarrow M_{23}^C = x_2 a_{23} - F_{23}^W - M_{23}^W - F_{23}^C \rightarrow \text{max} \quad [31] \]

i.e. consumption of male capitalists reaches its maximum, because consumption of all other groups is at its minimum. Now define relative shares of consumption and labour expended as follows

\[
sc^C = \frac{M_{23}^C}{F_{23}^C} ; \quad sc^W = \frac{M_{23}^W}{F_{23}^W} ; \quad sl^C = \frac{F_{M}^C}{F_F^C} ; \quad sl^W = \frac{F_{M}^W}{F_F^W}. \quad [32]
\]

It is evident that in case 1 \( sc^C \) reaches its maximum. On the other hand minimal physical reproduction requirements for men and women in workers’ households tend to be equal, implying that \( sc^W \) goes to unity (if there are as many women in these households as there are men). This means that there is no room for gender exploitation in workers’ households.

With respect to reproduction labour case 1 leads to similar results. Use [28] again to obtain

\[ F_M^C = I_3 - F_F^C - F_F^W - F_M^W \rightarrow \text{max.} \quad [33] \]

That is, male capitalists let their women work in their households at a maximum if they are only allowed to use a minimum for themselves. How much women in workers households provide as support for their men cannot be controlled by capitalists, their only instrument is \( F_F^C \). Again labour time coercion in capitalist households, measured by \( sl^C \), reaches its maximum. For labour time coercion in workers’ households without empirical data no immediate suggestion seems to be
possible. If proletarian women work for the reproduction of themselves and of their men as many hours as their men work for money wages, then no overall gender exploitation occurs, \( g^e \) will be zero. As inspection of [30] reveals in case 1 \( g^e \) will reach its maximum.

Observe that a feminist movement, most likely to be initiated by capitalists’ women, will not be supported by workers’ women. First, capitalists’ women will recognise that any increase of workers’ households’ income reduces the consumer goods surplus from which they want to get a larger share, and second proletarian women will not be easy to motivate since they are not gender exploited. We will label feminist views close to case 1 ‘bourgeois feminism’.9

A symmetric case can easily be derived by assuming that class struggle has lead workers to a position where capitalist households are at their minimum consumption levels10. In this case, call it case 2, gender exploitation in workers’ households will reach its maximum, while it will tend to vanish in capitalists’ households. Feminism related to this type of situation will be called ‘proletarian feminism’ (for an interesting historical treatment see [Kollontai, 1975] and [Bauer, 1978]).

Rather surprisingly the high tide for each class related feminism coincides with class struggle situations where the own class is rather successful - so there is some surplus, either in the form of time or in the form of consumer goods, that can be exploited by men. In this stage coalitions with women in the opposite class are very unlikely. Only in transitional states, in intermediate states, this more differentiated view comes closer to ‘general feminism’. Diagram 2 summarizes the situation.

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<tr>
<td>case 3</td>
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Diagram 2: Cases of Market and Gender Exploitation

Cases 1 and 2 were described above. The diagram describes the distribution between classes (vertical) and gender (horizontal). The arrows indicate the direction of struggle of the respective group, so that orthogonal arrows represent neither coalition possibilities nor opposition. Case 3 is an intermediate situation between 1 and 2. The analysis suggests that only in these situations coalition possibilities between ‘bourgeois feminism’ and ‘proletarian feminism’ exist.

Another hotly debated issue in feminism is the participation in labour markets. In the presented framework a possible argument would read as follows:

As soon as the class struggle of male workers has achieved an allocation of labour value (consumption goods plus time for reproduction) above the minimum necessary for reproduction, men - as the owners of the fruits of this struggle11 - need not pass them over to their women. Women thus

9 There is a movement within feminism - known as ‘liberal feminism’ - which identifies the lack of equal civil rights and educational opportunities of women as source for their oppression. As a consequence its representatives accept the public/private dichotomy and concentrate on the claim of equal rights and opportunities (see also [Wollstonecraft, 1789] or [Kraditor, 1970]).

10 Of course, the final goal of the labour movement is to get rid of the capitalist class, reducing the surplus to zero. The argument given above thus only refers to class struggle within the capitalist mode of production and not to its abolishment.

11 Again, a power relation as the fundamental source of exploitation becomes visible.
might work under the same conditions as before leaving their gender rate of exploitation, $g^w$, unchanged (compare [30]). At the same time the market rate of exploitation, $e$ in equation [15'], experienced by their men, has fallen, so they can observe a relative fall of $g^w$ as compared to $e$ - this also is expressed in a rise of the coercion ratio in workers' households, $sc^w$, above unity (compare [32]). Simultaneously women in capitalist households, for given coercion ratios $sc^c$ and $sl^c$, will find their consumption possibilities to be reduced due to the losses in class struggle. As a consequence the general rate of gender exploitation, $g^f$, (see [27]), will rise - and feminism across classes will flourish.

Obviously, workers' women at a certain level of $sc^w$ will find it attractive to enter labour markets, where a falling rate $e$ prevails, instead of doing 'invisible housework' under unchanged conditions. If they do so, their new labour supply typically will drive wages down - which is good news for male capitalists and their women. So exploitation within exploitation, started off by male workers after some successes in class struggle, after all turns out to fire back on them by reducing their wages via additional female labour supply. And there seems to be some scope for support of the whole process by male capitalists, who in the end benefit from lower wages. From the perspective of male workers two consequences could be drawn: First, pass over gains in class struggle. Second, coordinate actions in labour markets to prevent wage falls - be it through union policy or be it through reduction in male labour supply by doing more reproduction work.

An alternative - or at least supplementary - interpretation of rising participation rates of women in labour markets could assume that successful class struggle did ease the burdens of reproduction work (e.g. via public support of child care and education or by more productive technology, i.e. lower $b$). If then the working class experiences a drawback reducing their consumer goods share, then adjusting substitutions between time advantages in column 3 and consumption possibilities might appear: The decision of workers' women to enter labour markets then is a forced adjustment due to a defeat in class struggle.

Which of the described processes gives a more realistic picture of what happened in certain OECD countries in the last three decades then clearly is a matter of empirical investigation. Many other important issues in feminist debates can be discussed by the use of this framework. To name only a few:

- Coalitions of men across classes can be shown to prevail especially in transitional states, symmetric to feminism.

- The effects of money wages for reproduction work, 'making housework visible', can be analysed.

- The reasons why there are reasons to prevent the reproduction sector to become a market could be interpreted.

Evidently most of these questions would need a quantification of the variables introduced. Though we consider it a great advantage of our framework that it can be made operational, that task goes beyond the scope of this paper. All we wanted to do in this chapter was to outline a framework that links a marxist approach to feminist theories.

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12 For recent data on these matters Joice Jacobson's work is an important reference [Jacobson, 1994].

13 A companion paper where we deal with the quantitative side of the concepts proposed here is in preparation.
3. EXPLOITATION OF COUNTRIES

There is a striking analogy between an analysis of exploitation in households - i.e. in social units smaller than the traditional unit, the nation state - and an analysis of the unit larger than this reference unit: exploitation between nation states. As we demonstrate below, exploitation within exploitation is the common feature to be found.

To cover cases of international exploitation the simple framework introduced in chapter 1 has to be extended to the two-country-case. At the same time, to keep things simple, we drop the gender distinction put forward in chapter 2 and differentiate only between 'gender neutral' households in the two countries. Again each country consists of two market sectors, one producing means of production and one producing consumption goods. The important feature of the new model now is that trade relations between the two countries in both market sectors are introduced. Workers are assumed to be located in their home country - labour migration is not considered. With the first three rows and columns describing the industrialized country and the last three columns describing the developing country, the typical matrix of technical coefficients of such a 'world economy' looks like this:

\[
\begin{bmatrix}
a_{11} & a_{12} & 0 & a_{14} & a_{15} & 0 \\
0 & 0 & a_{23} & 0 & 0 & a_{26} \\
l_1 & l_2 & l_3 & 0 & 0 & 0 \\
a_{41} & a_{42} & 0 & a_{44} & a_{45} & 0 \\
0 & 0 & a_{53} & 0 & 0 & a_{56} \\
0 & 0 & 0 & l_4 & l_5 & l_6
\end{bmatrix}
\]

Important stimulus for our approach came from Samir Amin's work [Amin, 1973].
Of course, it is tempting to generalize our results to the n-country case. Unfortunately there are so many ways to do this that we preferred to concentrate on central issues of the simplest constellation instead of discussing methodological issues of generalization.
International exploitation thus is assumed to appear through commodity trade and not through labour migration. Though this seems to be true for many developing countries, clearly there are cases where this assumption will have to be modified.
Computing labour values analogously to chapter 1 we get

\[ \lambda_1 = \frac{(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} \]

\[ \lambda_2 = \frac{a_{12}(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{42}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{42}l_4 + l_2 \]

\[ \lambda_3 = a_{23}\frac{(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{42}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{42}l_4 + l_2 \]

\[ + a_{53}\left( \frac{a_{15}(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{45}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{45}l_4 + l_3 \right) + l_3 = 1 \]

\[ \lambda_4 = \frac{a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + l_4 \]

\[ \lambda_5 = a_{55}\frac{(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{45}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{45}l_4 + l_5 \]

\[ \lambda_6 = a_{26}\left( \frac{a_{12}(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{42}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{42}l_4 + l_2 \right) \]

\[ + a_{56}\left( \frac{a_{15}(1 - a_{44})(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + \frac{a_{45}a_{14}(a_{41}l_4 + l_1)}{(1 - a_{11})(1 - a_{44}) - a_{14}a_{41}} + a_{45}l_4 + l_3 \right) + l_6 = 1 \]

Note that \( \lambda_1 \) and \( \lambda_4 \) can be computed by a block-recursive system. Again applying the concept of exploitation as introduced in chapter 1 and used in chapter 2, namely as the ratio between the labour value not compensated and the labour value expended, gives the rate of international exploitation, call it \( d \):

\[ d = \frac{\lambda_4(a_{41}x_1 + a_{42}x_2) + \lambda_5a_{53}x_3 - \lambda_1(a_{14}x_4 + a_{15}x_5) - \lambda_3a_{26}x_6}{\lambda_1(a_{14}x_4 + a_{15}x_5) + \lambda_2a_{26}x_6} \]

As before, intensity of processes is characterized by vector \( x \). To see how exploitation rate \( d \) depends on technologies and implicit trade only, one would have to substitute labour values given in [35] into equation [36]. But this clearly is not a very compact formulation. Some simple and intuitively compelling characteristics of exploitation can be seen directly in [36].

First, exploitation will not occur if labour values, technologies and process intensities in both countries are equal. Differences in one of these three characteristics might occasionally compensate each other, but in the general case there is always some exploitation in one direction.

Second, this direction of exploitation is determined by the level of activities, \( x_i \), in the sense that a higher level of \( x_1, x_2 \) and \( x_3 \) - empirically a high GDP - relative to lower \( x_4, x_5 \) and \( x_6 \) will imply more exploitation. Note that activity levels \( x \) do not enter the determination of values as given in [35].

Third, higher labour values of the commodities imported from the exploited country, in our example \( \lambda_4 \) and \( \lambda_5 \), in general will imply more exploitation. Of course, in this case labour values themselves are determined by technological coefficients, so repercussion effects of changes in techniques would have to be traced back carefully. This leads to the question how this essential value transfer appears as a dynamic, disequilibrium process of the price system oscillating around the
increasing divergence between rich and poor countries. Again this paper only provides a sketch of a theory to be fully developed elsewhere.

Compute prices of production of means of production in system \([35]\). From

\[
\begin{align*}
\pi_1 &= (1 + \pi_4)(p_4a_{11} + w_1l_1 + fp_4a_{44}) \\
\pi_4 &= (1 + \pi_4)\left(\frac{1}{f} p_4a_{14} + w_4l_4 + p_4a_{44}\right),
\end{align*}
\]

where \(f\) denotes the exchange rate, we get

\[
\begin{align*}
\pi_1 &= \frac{w_1l_1(1 + \pi_4)(1 - (1 + \pi_4)a_{44}) + a_{44}w_4l_4}{(1 - (1 + \pi_4)a_{44})(1 - (1 + \pi_4)a_{11}) - a_{11}a_{44}(1 + \pi_4)(1 + \pi_4)} \\
\pi_4 &= \frac{w_4l_4(1 + \pi_4)(1 - (1 + \pi_4)a_{11}) + a_{11}\frac{1}{f} w_1l_1}{(1 - (1 + \pi_4)a_{11})(1 - (1 + \pi_4)a_{44}) - a_{44}a_{11}(1 + \pi_4)(1 + \pi_4)}.
\end{align*}
\]

Now observe that \(\lambda_4\) will be big compared to \(\lambda_1\) because of high \(a_{44}\) and \(l_4\), the only possible countervailing power being a small \(a_{14}\) (compare \([35]\)). A look at \([37]\) shows that from these assumptions no unambiguous influence on relative prices of capital goods in the two countries can be derived. If it is assumed that low labour productivity in developing countries coincides with low wages and that the opposite is true for industrialized countries, then its effect on prices might level out and the dominant influence might come from own use of capital goods, \(a_{11}\) and \(a_{44}\). In this case the general tendency coming from technology should be lower prices for capital goods in the industrialized country. But as one immediately sees from \([37]\) this trend can easily be reversed by lower profit rates in the developing country. So while there is a positive rate of international exploitation, this fact need not be reflected by the price relations of certain commodities, because the redistributing sectoral profit rates as well as coefficient changing innovation cycles in both countries permanently disturb this relationship.

If empirical observation shows that \(\pi_1\) is greater \(\pi_4\), we have to assume that the power of capitalists in industrialized enables them to set their profit rate much higher than that of capitalists in developing countries (see \([37]\) again). In this case the non-economic power relation between the two capitalist classes leads to a deviation of prices of traded goods from their labour values that will last as long as this power relation itself.

An interesting role in this forced relationship is played by the foreign exchange rate \(f\). To see this use \([37]\) to derive

\[
\pi_1 > \pi_4 \iff \frac{w_1l_1}{w_4l_4}(1 + \pi_4)(1 - (1 + \pi_4)a_{44}) + fa_{44} > (1 + \pi_4)(1 - (1 + \pi_4)a_{11}) + \frac{1}{f} a_{11}w_1l_1.
\]
If [38] holds a similar condition can be formulated for the prices of consumer goods in the two countries:

\[ p_2 > p_3 \iff \]
\[ p_4((1 + \pi_2) a_{45} - (1 + \pi_2) f a_{42}) > p_5((1 + \pi_5) a_{56} - (1 + \pi_5) f a_{52}) \]

Now observe that the current account of the industrialized country, call net exports \( nx \), is given by

\[ nx = p_1(x_4 a_{14} + x_5 a_{15}) - f p_4(x_1 a_{41} + x_2 a_{42}) + p_2 x_6 a_{26} - f p_5 x_3 a_{35}. \] [40]

If capitalists in industrialized countries are more powerful than those in developing countries so that, via higher profit rates, \( p_1 \) is greater than \( p_4 \) and \( p_2 \) is greater than \( p_5 \), then \( nx \) will be positive - there will be a permanent trade deficit in developing countries. This causes pressures on the foreign exchange market leading to a devaluation of the currency of the developing country, in our definition the ratio \( f \) will rise. Though this will bring [40] closer to an equilibrium, inspection of [38] and [39] shows that respective commodity prices will diverge even more: The dynamic escalation of devaluation and falling world market prices waits to be formulated.

In this case the only way out seems to be a reduction of activities in developing countries, in our model \( x_4, x_5 \) and \( x_6 \) - what world bank advisers usually call ‘austerity policy’. Evidently monetary flows and dynamics of international finance complicate the simple dynamics suggested in this model.

Finally observe that the whole example does not depend on our initial suggestion of \( a_{44} \) being bigger than \( a_{11} \) coinciding wit \( \pi_1 \) being higher than \( \pi_2 \). The opposite constellation would do the same job: If the production of means of production in a country is so underdeveloped that its lack of ‘roundaboutness’ leads to an extremely low \( a_{44} \), and that due to extremely coercive production relations the profit rate is even higher than in capitalist countries - then the same line of argument would hold.

International exploitation thus lies behind the epiphenomena described, and even if their balance of payment temporarily improves, this process might not have been reversed.

To see - as in chapter 2 - the strategic relationship between national working classes and international exploitation, form national exploitation rates analogous to national exploitation

\[ e^i = \frac{\lambda x_2 (a_{23} + a_{26} - a^{wd})}{x_{1l1} + x_{2l2}} \] (industrialized country) [41]

\[ e^d = \frac{\lambda x_s (a_{53} + a_{56} - a^{wd})}{x_{4l4} + x_{sl3}} \] (developing country). [42]

Assume now that class struggle in the developing country is successful and a \(^{wd} \), the consumption of coefficient of workers in development countries rises. This implies a lower \( e^d \). Usually additional consumption possibilities of workers, even if they come from smaller profits, increase total imports, i.e. \( x_6 a_{26} + x_5 a_{15} + x_4 a_{14} \), and the smaller surplus of capitalists decreases total exports, \( x_1 a_{41}, x_2 a_{42} \) and \( x_3 a_{35} \). As a consequence net exports of the industrialized country, see [40], will rise. Depending on the flexibility of technologies in industrialized countries capitalists there will try to satisfy the
increased export demand, $x_2 a_{26}$ in the nominator of [41], to a certain degree by higher exploitation rates. As a first effect lower $e^d$ can induce higher $e^i$. But the rate of international exploitation, $d$ in equation [36], clearly will be lowered by successful class struggle in the third world. So for workers in industrialized countries international exploitation looks like being advantageous for them! At least in the short-run. Their own exploitation within exploitation rises with successive class struggle abroad.

But in the mid-run the disequilibrium in the current account will lead to devaluation of the third world currency, restoring the old flow of labour value extraction - $d$ rises. This process being the visible part of dominance of the industrialized world. In this phase of these oscillating dynamics capital exports and transfer of production to some developing countries might well threaten the employment possibilities of workers in the industrialized country. In this situation international solidarity is more likely.

So an increase of exploitation in the developing country in the short-run will always lead to an increase of international exploitation, while an increase of exploitation in the industrialized country will do so only under certain parameter constellations. As in the case of feminist exploitation, this opens up coalition spaces for international solidarity, *which depend on parameter constellations*. Though it seems to be much more difficult than in the case of feminist exploitation, this is qualitatively a similar result as the one in the previous chapter. The difference within this similarity lies in the fact that in the former case, feminism, the non-market power relation was embedded in national exploitation, whereas now national exploitation is embedded in the non-market power relations between countries. While in the last chapter the location of this power relation, i.e. households, remains ‘invisible’ for economic considerations focusing on market relations only, in this chapter international exploitation is ‘semi-visible’: movements of exchange rates and price levels are observed, flows of labour values diverging from monetary flows escape a purely empirical analysis.

**CONCLUSION**

The concept of exploitation, enabled by a reformulation of the labour theory of value, has been introduced as a link for the unification of three variants of ‘left’ theories. As for a Marxian theory of exploitation there seems to be scope for a dynamic disequilibrium theory explaining major phenomena in developed industrialized countries. But it has shortcomings as soon as the reproduction sphere or international exploitation are considered. To produce useful theories in these areas it seems to be necessary to incorporate pre-capitalist power relations, which linger on and even may be fostered by capitalists in their struggle for higher profit rates. Groups organizing resistance against these non-market forms of exploitation, like parts of the feminist movement or third world resistance, have been shown to be possible coalition partners for the traditional labour movement for certain parameter constellations. Though this paper did not fully develop the whole range of issues involved, its central message is that these coalition spaces could in principle be determined by the use of somewhat extended input-output techniques - the concepts introduced above could be made operational. But this is another paper.

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17 John Roemer produced similar results, namely unequal exchange depending only on different capital-labour ratios in the two countries, even with labour migration [Roemer, 1983]. Contrary to our approach he used an equilibrium framework.

18 This statement should not deny the importance of empirical measurements for our approach, as in the case at hand exemplified e.g. by the work of Angus Maddison [Maddison, 1995].

19 A much more elaborated recent formulation of the labour theory of value referring also back to Hegel’s dialectics has been presented by Sienra [Sienra, 1992].
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