

Critical Political Economy I

Lecture 3

The Transformation Problem

Consider the considerable debate around the transformation problem -

Bear in mind

Consider in simplest form of the model

Looking at an analytical problem: the static transformation problem.

There are two aspects:

1, Whether it is indeed possible to get from values to prices of production in Marx's model (equal or proportions) as he assumed.

2 To show that surplus value leads to profit. Which is the basis of Marx's analysis.

If don't have this then the labour theory of value does not work and can't locate profits as the result of the creation of surplus value and hence the theory of exploitation is invalid.

Simple Reproduction

Formal Representation of simple reproduction under competitive conditions

See handout

OCC same in all Department >>> No transformation problem but unrealistic

Let OCC differ >>> transformation problem

Marx's Solution

See handout

Problems with Marx's solution

1. Marx converts only the rhs term, outputs into the price domain, the lhs terms, inputs are unchanged. C and v are not transformed into prices of production and the average rate of profit is then applied to cost price ($c + v$) in terms of direct price.
Consistency requires that the inputs should be transformed into prices of production.
Marx was aware of the problem but didn't provide a complete and correct solution.
2. Except by accident this solution will not satisfy the equilibrium conditions of simple reproduction
3. Marx defines the average profit rate in terms of direct prices or value and then shows prices diverge systematically from values. This implies that the rate of profit in prices of production is not equal to the value rate of profit
4. It's worth noting that the transformation is merely an analytical construct, it is not describing a dynamic adjustment process
5. Note the restrictive assumption - no joint production, no choice of technique (see Junankar for discussion)

Bortkiewicz's Solution

Suggested a solution where both inputs and outputs are transformed into the price domain
-consistent with simple reproduction

$$p_1 c_1 + p_2 v_1 + ? (p_1 c_1 + p_2 v_1) = p_1 (c_1 + c_2 + c_3)$$

$$p_1 c_2 + p_2 v_2 + ? (p_1 c_2 + p_2 v_2) = p_1 (c_1 + c_2 + c_3)$$

$$p_1 c_3 + p_2 v_3 + ? (p_1 c_3 + p_2 v_3) = p_1 (c_1 + c_2 + c_3)$$

3 equations with 4 unknowns. So use dept II as numeraire and set $p_3 = 1$ to give 3 equations in 3 unknowns.

Can find a solution with positive profits and prices if the Department I OCC is grater than that of Department II.

Total prices will not equal total values and total profits will not equal total surplus value: only if the OCC in Department II is the same as the average for the whole economy.

Using the previous example can show the solution. Aggregate v is held constant as before but aggregate s is not held constant.

This makes it problematic to claim that surplus value arises from unpaid labour: the major tenet of the Marxist approach.

The continuing debate

In brief -see Mohun article and book and Fine for further detail

Bortkiewicz transforms inputs and outputs into price domain -Seton

Sraffa: debate on how he intended his contribution. Saw a problem in Marx's economics that could solve?

He showed with just real wage and input-output structure could determine equilibrium price and rate of profit and prices interpreted are dated wage costs. Constructs a composite commodity to give an invariable standard of value

Labour theory of value becomes unnecessary and redundant (Steedman, Hodgson)

Critiques of positivism of this approach (qualitative vs quantitative; distinction between computation and causation) and the focus on distribution rather than production

Anti-Ricardian

Argue that can't treat value as simply embodied labour. That abstract labour is not the same as embodied labour

Argue that value relations emerge from the way labours are commensurated in exchange:
reflects homogenisation and deskilling

-not just emerging from development of the labour process: social
-historical process which need value theory to explain

Fine characterises:

Value of cloth = value of cotton + value direct labour used for conversion

With 2 commodities a_{11} is number of units of commodity one used to produce commodity one etc... and l_1 is units of labour employed in producing commodity 1

$$a_{11} + a_{12} + l_1 \text{ produces 1 unit of 1}$$

$$a_{12} + a_{22} + l_2 \text{ produces 1 unit of 2}$$

Using ? for value

$$\begin{aligned} ?_1 a_{11} + ?_2 a_{12} + l_1 &= ?_1 \\ ?_1 a_{12} + ?_2 a_{22} + l_2 &= ?_2 \end{aligned}$$

or $? \mathbf{A} + \mathbf{L} = \mathbf{A}$

Now there are two methods of dealing with this

Accounting method: $? \mathbf{A} + \mathbf{I} = ?$ which gives $? = \mathbf{I} / (\mathbf{I} - \mathbf{A})$

\mathbf{I} is dead labour, \mathbf{A} is living labour and $?$ is new commodities. They are all commensurate. Marx justifies by product of abstract social labour

Hypothetical Historical Method

$$? = \mathbf{I} + \mathbf{IA} + \mathbf{IA}^2 + \dots \quad \text{which means } ? = \mathbf{I} / (1 + \mathbf{A} + \mathbf{A}^2 + \dots) \text{ or } ? = \mathbf{I} / (1 - \mathbf{A})$$

In this case both are the same analytically but differ conceptually as require unchanging technology over time and labour expended at any time to be commensurate

Either have Marx's interpretation of value: that it exists with commodity production and so equivalences are established (Smith's problem was that he dealt with 'rude' society) or a more formal definition constrained by assumptions.

Fine argues that too many have taken the latter as Marx's and have rejected it.

Other comments:

1. Empirically tend to be close relation between values and prices of production (Gouvernor, Ochoa, Petrovic)
2. Nothing wrong with Marx's solution: fundamentalist
3. Use abstract rather than embodied perspective. To solve problem instead of holding wages constant to get equal profits hold rate of surplus value: Foley and Lipietz
4. Contradiction/conflict between value and its form reflects reality
5. Abstract labour: distinction between value and value form emphasised: Fine Mohun Himmelweit. The problem follows Marx's method and is not price theory but an expression of the conflict between competing principles.

See Howard and King "History... Vol1" for a detailed history of the early debates.