THE PROBLEM OF ABSORBING ALL THE AVAILABLE LABOR FORCE AND CAPITAL COMPOSITION

Alejandro Valle Baeza and Blanca Gloria Martínez González

Abstract: In this article we open discussion of a very important question for workers, especially in developing countries: Why is capitalism unable to absorb all the exploitable labor force? There is a serious precarization of labor going on all around the world, but it is much worse in underdeveloped countries. How does importing means of production affect the composition of capital in underdeveloped countries and worsen the problem of precarization? An account is examined based on value theory and such composition is estimated in the case that means of production are imported.

Key words: organic composition of capital; productivity; value; surplus; exploitation

Introduction

In this article we open discussion of a very important question for workers, especially in developing countries: Why is capitalism unable to absorb all the exploitable labor force? There is a serious precarization of labor going on all around the world, but it is much worse in developing countries. Migration of Latin American, African and Asian workers has increased because their life conditions have worsened. Both the United States and the European Union have implemented inhumane laws aimed at regulating illegal migration in accordance with the needs of capital and not those of migrants. In order to work further on answering the question put forward we will present what has happened in Latin America where
capitalism has failed to exploit all the labor force it could have exploited in the last fifty years. Later on we will submit a possible explanation of what has happened based on a version of the Marxist theory of value: in terms of labor value it is more expensive to exploit a worker in a developing country than in a more developed one. Finally we illustrate that explanation to show that if in monetary terms it is the same to exploit a worker in two countries with different productivity, the cost of such exploitation is very different in terms of labor value.

**Diminished Capability of Capitalism to Exploit the Labor Force**

The reduced capability to absorb the labor force is expressed through the prevalence of autonomous labor or self-employment. Tables 1 and 2 clearly show that the amount of self-employed workers within total employment is huge, a situation which has remained unchanged for over fifty years. And that portion has even increased in many cases. If we take the United States as a measure of the possibilities of capital to exploit labor, we see that the potential is very big in Latin America and that the gap between what is effectively exploited by capital and what is possible has remained huge for more than fifty years. For example, the share of autonomous workers today in Latin America is similar to that in the United States in 1900 (Reich 1986: 124).

### Table 1  Latin America, structure of the total urban employed population, by category of employment, 2006; percentage of total urban employed population

<table>
<thead>
<tr>
<th>Country</th>
<th>Employers</th>
<th>Wage earners</th>
<th>Self-employed</th>
<th>Domestic service</th>
<th>Other categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>4.1</td>
<td>75.9</td>
<td>20.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td>5.1</td>
<td>45.6</td>
<td>43.7</td>
<td>4.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Brazil</td>
<td>5.0</td>
<td>62.2</td>
<td>24.4</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>3.2</td>
<td>70.7</td>
<td>20.4</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>5.4</td>
<td>49.3</td>
<td>40.2</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>7.5</td>
<td>67.9</td>
<td>19.7</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>Ecuador</td>
<td>6.6</td>
<td>56.0</td>
<td>33.1</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>4.9</td>
<td>57.9</td>
<td>32.8</td>
<td>3.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Guatemala</td>
<td>5.8</td>
<td>54.2</td>
<td>36.3</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Honduras</td>
<td>4.0</td>
<td>55.9</td>
<td>36.4</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>3.9</td>
<td>73.2</td>
<td>22.8</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>5.8</td>
<td>38.1</td>
<td>55.7</td>
<td></td>
<td>0.3</td>
</tr>
<tr>
<td>Panama</td>
<td>3.7</td>
<td>66.9</td>
<td>22.5</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Paraguay</td>
<td>6.2</td>
<td>51.2</td>
<td>31.6</td>
<td>11.0</td>
<td></td>
</tr>
<tr>
<td>Peru</td>
<td>5.3</td>
<td>46.2</td>
<td>42.7</td>
<td>5.2</td>
<td>0.6</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>4.6</td>
<td>54.4</td>
<td>36.1</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>Uruguay</td>
<td>3.9</td>
<td>71.2</td>
<td>24.7</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Venezuela</td>
<td>4.5</td>
<td>58.5</td>
<td>35.2</td>
<td></td>
<td>1.8</td>
</tr>
</tbody>
</table>
Notes to Table 1
a Data refers to the year nearest to 2006.
b Corresponds to population aged 15 years and over.
c 31 urban agglomerations.
d Referring to production cooperatives.
e Municipality capitals.
f Includes members of cooperatives.
g Refers to a member of a cooperative.
h Refers to a member of a production cooperative.
i National.


Table 2  Latin America, self-employed population, 1950 and 2006

<table>
<thead>
<tr>
<th>Country</th>
<th>Self-employed (%)</th>
<th>1950</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td></td>
<td>7.8</td>
<td>20.0</td>
</tr>
<tr>
<td>Bolivia</td>
<td></td>
<td>21.1</td>
<td>43.7</td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
<td>28.6</td>
<td>24.4</td>
</tr>
<tr>
<td>Chile</td>
<td></td>
<td>22.4</td>
<td>20.4</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td>23.4</td>
<td>40.2</td>
</tr>
<tr>
<td>Costa Rica</td>
<td></td>
<td>10.9</td>
<td>19.7</td>
</tr>
<tr>
<td>Ecuador</td>
<td></td>
<td>35.1</td>
<td>33.1</td>
</tr>
<tr>
<td>El Salvador</td>
<td></td>
<td>24.8</td>
<td>32.8</td>
</tr>
<tr>
<td>Guatemala</td>
<td></td>
<td>38.9</td>
<td>36.3</td>
</tr>
<tr>
<td>Honduras</td>
<td></td>
<td>37.5</td>
<td>36.4</td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td>37.4</td>
<td>22.5</td>
</tr>
<tr>
<td>Nicaragua</td>
<td></td>
<td>23.6</td>
<td>55.7</td>
</tr>
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<td>Panama</td>
<td></td>
<td>37.7</td>
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<tr>
<td>Paraguay</td>
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<td></td>
<td>31.6</td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td>36.1</td>
<td>42.7</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td></td>
<td>47.8</td>
<td>36.1</td>
</tr>
<tr>
<td>Uruguay</td>
<td></td>
<td>14.7</td>
<td>24.7</td>
</tr>
<tr>
<td>Venezuela</td>
<td></td>
<td>28.6</td>
<td>35.2</td>
</tr>
</tbody>
</table>

1950 are rural and urban and 2006 are urban labor force.
a Data refers to the year nearest to 2006.
b 31 urban conglomerates.
c Municipality capitals.
d National.
e 1960.


This has been pointed out by some researchers. Rendón (2003: 249–250), in a more precise analysis than provided by the two tables, emphasizes that in Mexico, the country with the least unemployment in the region, for every three hours of wage-earning labor there is approximately one hour of non-paid labor. In a study on Latin America, the International Labour Organization (ILO) (1982), using data
from 1950 to 1980, found that the activities considered as underemployment (which include almost all autonomous labor: urban informal labor, domestic labor and traditional agriculture labor), had not decreased between 1950 and 1980. Instead they had only moved from the countryside to urban areas. Part of wage-earning labor is considered as underemployment because it pertains to survival activities. Many of these activities are an example that shows the weakness of capitalist expansion because the owners of the business not only fail to obtain an average profit but do not even get the equivalent of an average wage.

An Economic Commission for Latin America (ECLA) study confirms the poor capability of Latin American capitalism to exploit the labor force: “between 1990 and 1996 at a regional level, the participation of self-employed workers (excluding administrative, professional and technical workers) and the relatives with no remunerative activity went from 24.7% to 27.2% of the non-agricultural labor force. In that same period, the share of the small companies (with five or less workers) went from 20.2% to 23.1%, and that of domestic service grew from 6.7% to 7.1%” (Weller 1998: 31).

The deficiency of capitalism in labor exploitation is worldwide:

What we are witnessing from China to Argentina and from South Africa to South Korea and India, throughout the world and in every region of the global South, is the deepening of this process—precarization—which increasingly incorporates the labor force which was formerly organized, and now is being pushed towards an increasingly insecure and precarious situation that forces the workers to fight for their basic survival means and leaves them without the compensations and labor security they used to have. Now, workers are descending instead of ascending in the wage scale. For a growing number of people, the “modern global capitalist economy” is going in the opposite direction to what some thought was happening thirty years ago. (Boyd 2009: 75–76)

Towards an Explanation

To explain the major difficulties in absorbing the labor force in the developing countries we must focus on what defines the volume of the labor force in a country. The value of the means of production establishes the volume of labor exploited by capital; capitalist accumulation modifies capital volume as well as the value composition of capital.

Employment and Value Composition of Capital

In the “general law of capitalist accumulation” Marx stated that if capital should grow without modification of the composition of capital, the increase of the labor
force would limit capital growth. The increase in the value composition of capital allows for capital to grow faster than labor and to produce an industrial reserve army that sets a limit to the increase in wages. It must be stressed that unemployment is a creation of capitalism. There must be enough unemployed workers or workers in poor working conditions that can be moved to any production branch wherever they are needed. This makes accumulation to always find the available labor force, and also to control wages and to discipline the labor force.

A sufficient industrial reserve army is the one that allows limiting wages and helps to maintain discipline at the work place. But what happens if this industrial reserve army is too large? In this case capital wastes the expansion possibilities it has, and the living conditions of workers worsen.

For the time being we do not intend to analyze what an excessive industrial reserve army means for workers and capitalists. What we want to know is if there are any differences between developing and industrialized countries. Conventional literature sees the issue as something purely quantitative: different shares of capital and labor which can combine efficiently when prices are adequate. Accordingly it would be a mere quantitative difference. We will find out that it is not so.

The lessened absorption of the labor force in developing countries can be explained by a larger value composition of capital (VCC). This does not seem reasonable because, as these countries are not developed, they do not produce their own technology and thus, at the very best, they import the same means of production that are incorporated in industrialized countries. ECLA pointed out an element that could account for a larger value composition of capital: the inadequacy of imported industrial plants to the production scales required by Latin American countries (Pinto 1991). However, ECLA did not explain the aspect we assume as the most relevant: the importation of means of production by countries that export commodities produced with lower productivities than the ones established worldwide.

The value of any commodity is the weighted average of the national values in accordance with the production in each country. We will call this variable world value.

Next we will state the following important aspects to explain the major difficulties of employment absorption in developing countries:

- Imported commodities in any country are purchased according to the current rate of exchange and thus a certain kind of “imputed national values” are established which are different from the world value.
- In developing countries the above-mentioned aspect implies that imported commodities, mostly means of production, have national imputed values higher than the world values.
• Thus value composition in industries using imported means of production is higher than the corresponding value composition of the same industries in countries with higher productivity.

Value and Importation

Is there anything similar to the national value for the imported commodities? In order to fully understand this issue of international trade we will assume that two countries that manufacture the same commodities with different productivities sell them in the world market. Country A has a larger productivity in each branch, and country B has a smaller productivity. If both countries should sell their commodities in the world market, they would have to sell them at the same prices.

Consider the exchange rate $c_{ab}$ capable of equalizing the monetary value of two baskets with exactly the same goods. The monetary expression of the value would be higher in the more productive country, which means that the value unit is expressed in more money in the more productive country. (This statement is demonstrated in the Appendix.)

What would happen with an imported commodity? First, in terms of price, it would be exactly the same in both countries, in money it would cost the same in both economies.

Nevertheless, in terms of the purchasing power of workers and capitalists it would not be the same, because average income in the more productive country would be higher. That means that in the less productive country the "imputed value" of the imported commodity is higher or, more precisely, that the price system establishes the value of an imported commodity according to national values and thus more work is necessary to purchase it. This is a complicated way in which value establishes the price, a way of assigning value. One single value is distinctively measured in each country according to its productivity. We have then an answer to the first question in this section: Is there such a thing as a national value of an imported commodity, an imputed value? Yes, it is established by exchange rates reflecting differences between the values of the commodities exchanged by the country under study and the values in the world market.

Importation of Means of Production

If, as it is reasonable, the developing country imports its means of production this will result in the imported means of production costing more labor value than in the manufacturing countries or in other countries with higher productivity. Therefore the incorporation of the new technology is more expensive in the developing country than in other nations with higher productivity. As difference
in productivity increases; the cost of incorporating new technology for developing countries will rise. The developing country gets most of its means of production in exchange for commodities that cost more because they are produced less efficiently. Suppose that the means of production is produced in the industrialized country with a value composition of 1, then each direct labor unit requires means of production of one value unit. The means of production is exchanged for means of consumption that have a value of around 1 in the industrialized country. The VCC has a clear meaning which shows the effort they must undertake to achieve that technical condition of production. If the VCC went from 1 to 2, they should accumulate at a certain rate to reach that VCC level, and with the same rate of accumulation time increases if the desired VCC grows. In the case of the developing country we assume that it produces an exportable commodity at half the rate of world productivity; consequently the VCC would double that of the industrialized country and the accumulation effort to achieve it would thus be twice as big as the one required by the industrialized country. The consequence of a higher VCC is that the developing country will have less capacity to absorb the labor force than the industrialized one.

When considering manufacturers with different productivity in the field importing means of production it might turn out that only the value composition of capital in the industries that undertake the importation is higher than that of the industrialized country. Because in the developing country there are branches or industries that do not incorporate imported means of production in the same proportion as in the industrialized countries, it may be that the average VCC can be lower than that of the industrialized countries.

It must be emphasized that the analysis of the imported commodities using the theory of labor value sheds a light on the problem of international trade which conventional economy cannot render, because it deals with prices in isolation from labor value. This theory might perceive but not explain the fact that the same price has different meanings in distinct nation states because the purchasing powers are unequal. If this were to be the case we would find it clearly defined as a problem. The term "purchasing power parity" is ambiguous because the consequence of purchasing power parity is a monetary unit: at that a particular exchange rate the monetary unit would be able to purchase the same amount of products in both countries involved.

To sum up, the prices in the world market cannot be understood if they are separated from value. Only as measures of national values can prices be understood. The same price represents uneven amounts of value because efficiencies in social labor are different as they depend on the amounts of capital per worker, on different natural and social conditions, and so on. In the case of an imported merchandise, it turns out that it cannot be acquired equally in all countries, despite it having the
same price, because, in general, the GDP per capita at PPP is different in each of them. This is particularly important in the case of imported means of production because it implies that the value composition of an industry will be higher in the less developed country, and that accounts for its diminished ability to absorb the labor force.

Next we will illustrate two aspects of what we stated above: the difference between national values that hide behind similar prices and a gross estimation of the value composition of capital and its difference with the capital per worker ratio.

We can describe the relationship between market price and value as follows:

$$\lambda_i = \epsilon_i \frac{P_i}{\alpha}$$  \hspace{1cm} (1)

Where \(\lambda_i\) is the value of the product \(i\), \(\alpha\) is the monetary expression of value, and \(\epsilon_i\) is the error with which the price measures the value. Such error is composed by both a systematic portion (production prices and land rent, for example), and another portion imputable to random variations because of differences between supply and demand.

From the above it follows that if we divide a price by the monetary expression of value, we get the approximate value of a product. The value tells us exactly the purchasing power of the population of a country for that product. If a product has a value of 1/10 of a year of labor and the surplus rate is 100 percent, then a worker will be able to consume no more than 5 units of that product per year, because with half a year of necessary labor he could only get that amount if he spent all of his income on buying that product. If we apply the above calculation to two products with very different values, errors will have little effect.

Figure 1 shows the relative prices of wheat in Mexico with respect to the US prices for the same product. We see that the Mexican wheat prices are higher by 24.2 percent, on average, during 1966 to 2003; this magnitude is considerably smaller than the differences in productivity between the two countries. The latter is inferred from the percentage of the population devoted to agriculture: 21 percent of the labor force in Mexico during 2000 to 2005 and 2 percent for USA for the same period.

Our estimate of the gross value of the wheat yields the following data and results—see Table 3. We see that consistently, with the data of population occupied in agriculture, a wheat ton costs around six times more in labor value, and that cannot be seen in the price data. The result shows clearly that differences in productivity are considerable and should not be ignored in the analysis of the capitalist reality.
Figure 1  Relative wheat price Mexico to USA (%), 1966–2009

Source: Our own elaboration with Faostat data from http://faostat.fao.org

Table 3  Estimations of relative values for year 2000

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mexico</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Price of wheat in national currency / Metric T.</td>
<td>1,460</td>
<td>96</td>
</tr>
<tr>
<td>2. Monetary expression of value in national currency x 10^2 per year of labor</td>
<td>171.57</td>
<td>68.85</td>
</tr>
<tr>
<td>3. Labor value (years x 10^2) = 1/2</td>
<td>8.56</td>
<td>1.39</td>
</tr>
<tr>
<td>Relative value Mexico USA</td>
<td>6.14</td>
<td></td>
</tr>
</tbody>
</table>


A second illustration directly linked to the problem we are dealing with, i.e. the employment absorption ability, is shown in Table 4. The capital per worker ratio is generally at current prices or at constant prices. When dividing it by the monetary expression of value, we have a gross estimation for the value composition of capital. The example of Bolivia, one of the poorest countries in Latin America, is dramatic. While in terms of prices capital per worker is little more than a sixth of that in the US in 1990, in value terms it would surpass the United States by 14 percent (40.3 percent in 1985, see Figure 2)!^6

The pattern of the differences in the value composition of capital between these Latin American countries and the United States is demonstrated in a larger sample of countries. Figure 2 shows that price composition of capital (discontinuous lines) in Mexico, Argentina, and Chile represented between 30 percent and 40 percent of that of the United States from 1965 to 1992, while the one from Venezuela was between 70 percent and 80 percent of that of the US before the 1980s. In contrast, value compositions in the former countries represented between 70 percent and 90
percent of that of the US while in Venezuela it was up to 20 percent higher since the late 1970s.

Table 4  Gross calculation of VCC 1985 (selected countries)

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Real gross domestic product per worker*</th>
<th>Capital per worker (K/L)*</th>
<th>VCC=2/1</th>
<th>K/L to US ratio value (%)</th>
<th>K/L to US ratio price (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>1990</td>
<td>36,859</td>
<td>33,567</td>
<td>0.91</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Argentina</td>
<td>1990</td>
<td>13,406</td>
<td>11,244</td>
<td>0.84</td>
<td>88.86</td>
<td>32.40</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1990</td>
<td>5,315</td>
<td>5,721</td>
<td>1.08</td>
<td>114.05</td>
<td>16.48</td>
</tr>
</tbody>
</table>

* International dollars per worker.

Source: Our own elaboration with Penn World Table 5.6 data at 1985 prices.

Figure 2  Relative value or price (p) compositions of capital, selected Latin American countries, 1965–90 (92)

Source: Our own elaboration based on Penn World Table Mark 5.6.

**Conclusion**

Contrary to the ideological vision that Marxist theory in general and value theory in particular are not useful in analyzing economic reality, we have applied a version of the latter to understand a central problem of contemporary capitalism:
the weakness to exploit all the labor force available. The future of capitalism
depends greatly on its ability to solve this problem.

We have shown that a possible explanation as to why capitalism has difficulties in
extending its exploitation is that history cannot easily be repeated. To accumulate in
a developing country is different than in industrialized countries, because lessened
productivity brings extra problems for accumulation by increasing the composition
of capital necessary to absorb the available volume of labor force. This problem
required analysis of the relationship between value and price of imported goods,
because many of the means of production are imported by developing countries.
We find a clear and interesting outcome. The imported commodities that are not
manufactured in a given country have a world value and can only have an imputed
national value established by the exchange rate, and if PPP is used, this imputed
value will be higher than the world value if the productivity of the country under
study is lower than world productivity in the products it trades. It is an outcome
that confirms Marx’s basic idea: value regulates price.

Appendix

This appendix deduces the relationship between labor productivity and the
Marxist theory of value. Labor productivity is a notion empirical economists
use widely when they develop wage policies or, for instance, make comparisons
between countries. Neoclassical theoretical economists like Keynesians or Radical
economists also make use of this notion. This article points out that whoever uses
the concept of labor productivity, however, is implicitly using the theory of labor
value, perhaps in most cases even without knowing it. Clarifying this relationship
between economic practice and the theory of labor value will certainly benefit
both empirical economists and economic theorists. We will show that, by defining
productivity using Marxian theory of value, gross domestic product per worker
(GDPW) at purchasing power parity (PPP) is related to productivity so defined.

Our deduction assumes value-prices, i.e. prices proportional to values. It is
clear this is an abstraction because of the profit equalization tendency, rent, etc.
However, because market prices are close to labor values, GDPW at PPP is a good
approximation to productivity as defined by the labor theory of value.7

Definitions

1. Value $\Lambda$ and productivity $\Pi$

Value is defined by:

$$\Lambda = L(I - A)^{-1}$$  (Expression 1)
Where:
A matrix of input output coefficients, $a_{ij}$ is physical quantity of merchandise j necessary to produce one unit of merchandise i.
L row vector of unqualified labor coefficients
A row vector of values

Productivity is defined by:

$$\Pi = \frac{1}{AY} \quad \text{(Expression 2)}$$

Y is a column vector, a basket of physical quantities of merchandises

Monetary expression of value: $\alpha_k$ in country k

$$P_k Y_k = \alpha_k A_k Y_k \quad \text{(Expression 3)}$$

$P_k$ is a row vector of value-prices of country k. It is important to point out that $\alpha_k = P_k Y_k / A_k Y_k$ and from definitions of value and Y it follows that $\alpha_k$ is equal to GDP per worker.

2. Probing that $\Pi_A > \Pi_B \rightarrow \alpha_A > c_{BA} \alpha_B$

By hypothesis it is assumed that productivity of country A is greater than productivity of country B:

$$\Pi_A > \Pi_B \quad \text{(Expression 4)}$$

Substituting expression 2 in 4

$$A_A Y < A_B Y \quad \text{(Expression 5)}$$

Considering $c_{BA}$ purchasing power parity exchange rate PPP:

$$P_A Y^* = c_{BA} P_B Y^* \quad \text{(Expression 6)}$$

$Y^*$ is a specific basket used to calculate PPP.

Substituting 3 in 5

$$\alpha_B P_A Y < \alpha_A P_B Y \quad \text{(Expression 7)}$$

Assuming it is possible to substitute expression 6 in 7
\[ \alpha_b c_{BA} P_{Y} < \alpha_a P_{Y} \]  
(Expression 8)

and

\[ \alpha_b c_{BA} < \alpha_a \]  
(Expression 9)

That is what we need to prove. It means that a greater productivity defined as above implies greater GDP per worker at PPP.

Notes

1. Remember the new law approved by the European Parliament authorizing imprisonment of families (including children) of illegal residents for up to 18 months prior to their deportation.
2. For example, in 2002 in Mexico 13.5 million workers were self-employed or were relatives without wage of a total labor force of 41.1 million; while in the USA 9.8 million workers were in that condition from a total labor force of 124.6 million. Data for the USA were taken from Household Data Bureau of Labor Statistics (2003). Mexican data come from Secretaria de Trabajo y Prevision Social (2003).
3. “Capitalist production can by no means content itself with the quantity of disposable labour-power which the natural increase of population yields. It requires for its unrestricted activity an industrial reserve army which is independent of these natural limits” (Marx 1979: 788).
4. “Remember specially that unemployment at large, as clearly detachable from the personal deficiencies of the unemployed was unknown in the Middle Ages, except as a consequence of social catastrophes, such as the devastations produced by wars, civil or epidemics” (Schumpeter 1971: 257).
5. That is generally not complied with because it is necessary that the vectors in both countries conform to \( P_\alpha = k P_\beta \), i.e. they should be collinear.
6. The estimations are based on data with constant prices, but whether or not that modifies the results should be further studied, because the ratios we have worked with are in current prices.
7. See by example Tsoulfidis (2008).
8. \( Y^* \) is, in general, not equal to \( Y \); hence \( P_\alpha Y^* \) could be different to \( C_{BA} P_\beta Y \). However, because \( Y^* \) is a subset of \( Y \) that can be seen as a statistical sample it is possible to assume \( P_\alpha Y = C_{BA} P_\beta Y \). In any case, this is not a problem of our deduction but a practical one of all empirical work using PPP.

References