Profit and Trade Deficit in the U. S. Economy

A Marxist perspective*

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In the economic literature there has been a lack of empirical and theoretical studies linking the relationship between profits and trade. The few theoretical researches that exist consider that profits increase when there is a trade surplus in a country. However, there is an apparent contradiction regarding the fact that the United States has run a large and growing trade deficit nevertheless U. S. corporate profits have systematically continued to rise. Following a Marxist perspective it is possible to make consistent the role of the U. S. as the hegemonic economy with its large and growing trade deficit since the latter has been necessary to increase the mass of profits. In this sense, the trade deficit in the U. S. economy might have acted as a counterbalancing force of the fall in the profit rate.

Keywords: U. S. Economy, Profit, Trade Deficit.

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“Knowledge would be fatal.  
It is the uncertainty that charms one.  
A mist makes things wonderful.”  
Oscar Wilde, *The Picture of Dorian Gray*.

I. Introduction

In the economic literature there has been a lack of empirical and theoretical studies linking the relationship between profits and trade. As it is well known, the United States is the biggest debtor in the world in absolute terms since for many years this country has experimented foreign deficits, mostly in its balance on goods and services (see Papadimitriou et al., 2001). Notwithstanding this situation, U. S. corporate profits have systematically continued to increase. This apparent contradiction has only been previously mentioned within the Post-Keynesian theory with limited results. The current paper builds on Marxist theory to address this problem: following a Marxist perspective it is possible to make consistent the U. S. economic hegemony with its large and growing trade deficit since the latter has been necessary in order to continue to increase the mass of profits. In this sense, the trade deficit in the U. S. economy might have acted as a counterbalancing force of the fall in the profit rate. Therefore, we believe that the current paper follows the direction described by Jeong (2012):

What is needed is to concretize and extend non-deductively Marxian thesis of the tendency of the rate of profit to fall as a theory of ‘world market crisis’ by introducing the moments of many capitals, specially credit and finance in a world scale, following the spirit of the ‘second half’ of Marx’s plan of critique of political economy (Jeong, 2012: 24).
The rest of the paper is organized as follows: in section II we will try to summarize the theories that have clearly linked profit and trade imbalances: Kaleckian and Post-Keynesian theories; section III will try to address the same problem following a Marxist framework; section IV will try to present the empirical evidence of the link existing between profit and trade deficit for the United States; and finally section V presents our main conclusions.

2. A Brief Note on Commercial Deficits and Profits in Kaleckian and Post-Keynesian Theories

Jerome Levy (Levy et al., 1997; Levy, 2001) and Michal Kalecki (Kalecki, 1954) put forth their derivation of the profits identity as a consequence of their serious interest in economics and, specifically, in unemployment issues (Levy, 2001). Nonetheless the process of derivation is different; both Levy and Kalecki profit equations are ‘essentially identical’ (Levy, 2001: 18). For the sake of simplicity, we will only follow the general case presented by Kalecki (1954), which was derived by looking at the income and expenditure categories of the Gross National Product (GNP) accounts.¹

Kalecki’s general profit equation (Kalecki, 1954) deals with an open economy in which government expenditure and taxation are not negligible. In this case, the respective balance sheet of the Gross National Product will be:

¹ Levy’s original derivation of the profits equation ‘… consisted of 100 or more terms that represented every type of transaction and every non transaction accounting charge’ (Levy, 2011: 17-18). Levy et al. (1997) and Levy (2001) offer a complete revision of the derivation of the profit equation following Levy’s view.
Income Expenditure
+Gross profits net of (direct) taxes +Gross investment
+Wages and salaries net of (direct) taxes +Export surplus
+Taxes (direct and indirect) +Government expenditure on goods and services

+Capitalists’ consumption
+Workers’ consumption

=Gross National Product
=Gross National Product

If we subtract taxes minus transfers from both sides of the previous balance sheet, then, in the income side, it is necessary to drop the item “Taxes (direct and indirect)” and to add transfers to wages and salaries; whereas in the expenditure side it is necessary to add the item “Budget Deficit” since the latter is equal to the difference between “Government expenditure on goods and services” and taxes minus transfers. Thereby, the final balance sheet will be:

Income Expenditure
+Gross profits net of taxes +Gross investment
+Wages, salaries and transfers net of taxes +Export surplus

+Budget deficit
+Capitalists’ consumption
+Workers’ consumption

=Gross National Product minus taxes plus transfers
=Gross National Product minus taxes plus transfers

Simple manipulation of the previous identities shows that:

\[ \text{Gross profits net of taxes} = \text{Gross investment} + \text{Capitalists’ consumption} + \text{Budget deficit} + \text{Export surplus} + \text{Workers’ savings} \quad \cdots \cdots (1) \]
Equation (1) is the Kalecki’s general case profit equation (Kalecki, 1954). As it can be seen, an increase in the export surplus will raise profits (holding all other factors constant):

It follows directly from the above that the export surplus enables profits to increase above that level which would be determined by capitalists’ investment and consumption. It is from this point of view that the fight for foreign markets may be viewed. The capitalists of a country are able to increase their profits at the expense of capitalists of the other countries. Similarly, a colonial metropolis may achieve an export surplus through investment in its dependencies (Kalecki, 1954: 51).

As Milberg (2006) and Milberg and Schmitz (2011) have put forward, Kalecki (1954) saw the trade surplus as the basis for expanding the profit share through a profit multiplier (which was developed by Robert Blecker) since an increase in exports implies a rise in sales and an increase in profits:

\[ \Delta P = \left[ \frac{1}{1 - C_r} \right] \Delta (X - M) \quad \ldots \quad (2) \]

Where in equation (2) we have that \( P \) depict profits; \( C_r \) is capitalists’ propensity to consume out of profits; \( X \) are exports and \( M \) are imports.

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2) According to Kalecki’s simplified profits model (Kalecki, 1954), which analyzes the determinants of profits in a closed economy without government expenditure and taxation, the causality runs from gross investment and capitalists’ consumption to gross profits since the formers are determined by the decisions of capitalists. In other words, capitalists may decide to invest and consume more in a given period than in the preceding one, but they cannot decide to earn more; therefore capitalists’ investment and consumption decisions are the ones that determine profits and not vice versa. The same holds for the general case profit equation.
Consequently, in this view, profits should correspond with external surplus and not with deficit.

To our knowledge, there have been few explanations regarding the apparent contrast between Kalecki’s profit equation (Kalecki, 1954) and the data for the U. S. economy, being prominent exceptions the works by Milberg (2006) and Milberg and Schmitz (2011). Using the Post-Keynesian theory of mark-up pricing, Milberg (2006) argues that United States’ firms have successfully used offshore sourcing in global production networks (or global value chains, whereby lead firms have increasingly broken up the production process into parts and located these parts in different countries) to reduce costs and raise mark-ups without pushing up the final prices of goods and services. According to Milberg (2006), this concern with cost control (as opposed to price control) constitutes a shift in the strategy of firms, and it results from product and process innovation by oligopoly firms, which in turn results as a response to changes in technology and in market demand conditions (specifically, the increased price elasticity of demand in consumer product markets whereby firms retain mass manufacturing methods whilst introducing considerable product differentiation and customization). In this sense, the new firm strategies have changed the structure of U. S. production trade, making it more dependent on imports of intermediate (as opposed to final) goods and services in order to achieve cost reductions that derive in the maintenance of the mark-ups and the profit share in a period where product market prices have not moved up much. Thus, the U. S. trade deficit is compatible with the hegemonic role of the U. S. corporations and potentially with a robust rate of investment and growth (Milberg, 2006):

Imports are being driven by U. S. firms themselves in their effort to cut costs by importing low-cost inputs of goods and services. In the process, these
firms have also reduced the demand for, and cost of, U. S. labour, further easing the costs of production. The result of this is that a growing trade deficit is essential to retaining profits, mark-ups and market share – just the opposite of Kalecki’s prediction (Milberg, 2006: 3).

In the same vein, Milberg and Schmitz (2011) present a profits glut explanation of the structural imbalances between U. S. and China, arguing that the current account deficit has an autonomous dimension independent of the capital account and that it has been driven by the corporate strategies of individual firms and specifically by corporate offshore sourcing strategies. Therefore, the current account imbalance cannot be simply considered as the passive inverse of the capital account imbalance, but it is driven by autonomous microeconomic forces that include firm strategies.

However, the explanations offered by Milberg (2006) and Milberg and Schmitz (2011) fail to clarify why the reasoning on the relation between deficit and profit based on national accounting cannot be applied, nor explain how it should be adjusted to make it consistent with the facts. The following section will try to present an analysis of the same problem following a Marxist framework, where we will try to show that the link between trade deficit and profit can be correctly understood from a Marxist standpoint.

3. Profit and Trade Deficit: A Marxist Standpoint

In volume III of *Das Kapital*, Marx (1894) placed foreign trade amongst the causes that prevent the fall in the rate of profit. There he refers to the analysis by David Ricardo and briefly discusses aspects such as the influence of prices and the size of the market in the rate of profit. The effects of the
changes in value resulting from the interaction of domestic markets allow to increase the surplus value rate and to cheapen the elements of constant capital in times when gold is the money of the world.

In order to understand the effects of trade on profits, Marxist economic theory should have a developed theory of international value; however this is not the case. For example, the law of value at the national level asserts that capitals with different productivities that produce the same use value will obtain different proportions of surplus value that vary directly with the levels of productivity. This is so since both capitals sell at the same price and therefore the capital with higher costs generates less surplus value and the opposite occurs with the more productive capital. David Ricardo asserted that the latter did not occur when there is international trade because some producers with a lower productivity can, under certain circumstances, sell cheaper than the more productive ones. In order to arrive to this conclusion Ricardo used the quantitative theory of money to explain prices and he abandoned the labour theory of value.3) Karl Marx criticized Ricardo and posed that the law of value was modified (Matsui, 1951; Shaikh, 1980). It is beyond the possibilities of this essay to explain how the labour theory of value is modified according to Matsui (1951) and Shaikh (1980), but it is enough to say that what matters for now is that the rate of surplus value is determined in the international scale. A clear illustration of how to deal with the international nature of surplus value is the work of Emmanuel (1972) on unequal exchange: industrialized capitalists countries seize of surplus value that has been produced in less developed countries.4) To reach this conclusions Emmanuel

3) A pioneer Marxist analysis in this regard is the one of Matsui (1951).
4) Emmanuel’s work was criticized since its original publication in french in 1962 (see the comments of Charles Bettelheim in Emmanuel, 1972), but it continues to be considered as a basis for some works (see for example Heintz, 2003).
(1972) assumes that there exists equalization of the rates of profit but he does not take into account the analysis of international prices. Moreover, at the empirical level it seems to be that Emmanuel (1972) was wrong on the issue of the equalization of the rates of profit (Zachariah, 2006), and at the theoretical level the basis of the theory of unequal exchange has also been criticized by some Marxists (Shaikh, 1980).

If the link between profits and trade developed by Emmanuel (1972) is incorrect, would it be possible to utilize the Kaleckian/Post-Keynesian framework sketched in section II? To answer this question suppose that in the trade between two countries there is an even balance of payments and that in one of them begins an increase of the monetary expression of value or that in the other country the same variable drops without any consequent change in the rate of exchange in either case. Let us assume that the monetary expression of value in the other country remains constant. In both cases the first country could import means of production and thus increase its rate of profit. Such a situation benefits all the capitals except the exporting ones. In both cases the currency of the first country is overvalued with regards to what is required to maintain an even trade balance. If overvaluation increases, the benefits to non-exporters will be greater but also the damages to the non-exporters; and because overvaluation produces a deficit that will have to be covered with debt or foreign investment, interest or profits will be value transfers that will end up cancelling the ones generated by trade.

Therefore, exchange overvaluation temporarily raises the rate of profit and although it deserves a discussion beyond the possibilities of this work it should be concluded that the relation between profit and trade deficit under a Marxist approach is contrary to the one resulting from a Post-Keynesian view of the problem. How such a sharp contrast between both conclusions can exist? In principle, through the nature of credit money: sales prevent the
seller from getting a value equivalent to the one rendered to the buyer – credit money has no value. So actually the seller only gets value when he becomes a buyer even though money obtained through a sale is the universal representative of value. Monetary accounting without considering labour value leads to the Post-Keynesian error. On the contrary, an analysis based on value must conclude that a deficit allows the buyer to take hold of the value produced in other country.

It has been assumed that the deficit is covered with credit or with investment. What happens if one of these is produced independently? For example, if the United States, being its currency the world money, is lent beyond its needs of foreign trade? In this case credit or investment must result in an increase of foreign deficit and of the mass and rate of profit. This seems to give a new meaning to the Kaleckian statement that capitalists earn what they spend, except because it is a profit that they will have to return in the future.

Relating the previous analysis to the analysis of the rate of profit, we can say that there is more than one counteracting causes that prevent the fall in the rate of profit. In the same vein, the recovery of profitability that took place in the U. S. has to do not only with the increase in the rate of exploitation but also with the transfer of surplus value achieved through foreign trade deficit. However, the relative importance of each variable must be assessed with time because deficit is a value transfer that also leads to the disappearance of companies and to indebtedness resulting in value transfers in the opposite direction. The same should be done with the increase in the rate of surplus value for it has taken place along with a rise in the debt of the workers of the United States.

Since there are also other variables that affect the behaviour of the absolute amount of profits, we should build a multivariate model in order to measure the real influence of each independent variable. The elaboration of
such a model will be a subsequent stage of this research, but let us briefly present an idea of the difficulties that await in this path: according to Shaikh and Tonak (1994) ‘[e]xports (…) transfer value out of a nation (…) in an amount equal to the trade margin of the foreign trading capital’ (Shaikh and Tonak, 1994: 67). Why if according to Shaikh and Tonak (1994) exports are a transfer value towards another country and imports are just the opposite, the disequilibrium of trade does not appear as a complete transfer?5)

In what follows we will analyze the relationship between commercial deficit and profits, knowing since the beginning that the result will be only exploratory due to the omission of key variables.

4. Empirical Evidence

For the trade deficit to be enduring it must be appropriate for the reproduction of capital for some time. This means that it must lead to profits. We will try to present statistically evidence analyzing the relationship between profits and the balance on goods and services for the U. S. economy during the period of 1960 to 2010 using the available data (quarterly seasonally adjusted): corporate profits and the balance on goods and services data were respectively extracted from the National and Income Product Accounts (NIPA)6) and the Bureau of Economic Analysis (BEA).7) Figure 1 shows the

5) Transfer value is $T = d(X^* - M^*)$, where $d$ was calculated as 0.12 and $X^*$ and $M^*$ denote respectively exports and imports. From this calculation Shaikh and Tonak (1994) concluded that $T$ was not significant in order to calculate the surplus value.

behaviour of both variables:

Figure 1. U. S. economy (1960.I-2010.IV): Corporate profits (P; right axis) and balance on goods and services (BGS; left axis) in millions of current dollars

As we can see, in the U. S. economy there was a huge increase in profits that occurred between 2001 and 2006. This increase can be hardly explained by the rise in the rate of exploitation because in such a short time it is almost impossible to have the required variation in wage and productivity. On the other hand, it is precisely between 2001 and 2006 when the balance on goods and services in the United States went from -361,771 million dollars to -753,288. The correlation coefficient between corporate profits and the balance on goods and services is around of -0.89. This negative relationship is buttressed by the scatter diagram and the negative linear regression between both variables:

7) U. S. balance on goods and services: Balance on Goods and Services (Line 74) from BEA: Table 1. U. S. International Transactions.
Figure 2. Scatter diagram with linear regression between corporate profits (P) and balance on goods and services (BGS)

From figures 1 and 2 it is possible to observe that there is a negative relationship between corporate profits and the balance on goods and services in the U. S. economy for the period of 1960 to 2010.

Finally, we carried out Granger non-causality tests (Granger, 1969) between profits and the balance on goods and services.8) Tables 1 and 2 respectively present the Granger causality test and the VAR Granger causality test:

8) A brief statistical analysis of the series reveals that both variables are non-stationary series integrated of order 1, that is, $I(1)$ series (see Table A.1 in the appendix for unit root tests). Very briefly, a series can be described as integrated of order $d$, that is $I(d)$, if, in order to be stationary (denoted $I(0)$), the series requires to be differentiated $d$ times.
Table 1. Pairwise Granger causality tests between corporate profits \((P)\) and the balance on goods and services \((BGS)\) *1)

<table>
<thead>
<tr>
<th>Null hypothesis**</th>
<th>F-statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta P) does not Granger cause (\Delta BGS)</td>
<td>1.81</td>
<td>0.13</td>
</tr>
<tr>
<td>(\Delta BGS) does not Granger cause (\Delta P)</td>
<td>8.78</td>
<td>0.00***</td>
</tr>
</tbody>
</table>

1) In few words, Granger (1969) causality refers to the capacity of one variable to forecast another. If the probability associated to each test is greater than the chosen level of significance (0.01 in this case), then it is necessary to accept the corresponding null hypothesis.

* Number of lags (=4) was selected according to Schwarz and Hannan-Quinn optimum information criteria.

** \(\Delta\) denotes the first differences of the variables. Since \(P\) and \(BGS\) are \(I(1)\) series, \(\Delta P\) and \(\Delta BGS\) are \(I(0)\) variables (see Table A.1 in the appendix).

*** Denotes the rejection of the null hypothesis at the 1% level of significance.

Source: Own elaboration with the E-views 5.1 package.

Table 2. VAR Granger causality/Block Exogeneity Wald tests between corporate profits \((P)\) and the balance on goods and services \((BGS)\) *1)

<table>
<thead>
<tr>
<th>Null hypothesis**</th>
<th>Chi-square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta P) does not Granger cause (\Delta BGS)</td>
<td>7.23</td>
<td>0.12</td>
</tr>
<tr>
<td>(\Delta BGS) does not Granger cause (\Delta P)</td>
<td>35.13</td>
<td>0.00***</td>
</tr>
</tbody>
</table>

1) This test can be considered necessary to model a variable. If the probability associated to each test is greater than the chosen level of significance (0.01 in this case), then it is necessary to accept the corresponding null hypothesis.

* Number of lags (=4) was selected according to Schwarz and Hannan-Quinn information criteria.

** \(\Delta\) denotes the first differences of the variables. Since \(P\) and \(BGS\) are \(I(1)\) series, \(\Delta P\) and \(\Delta BGS\) are \(I(0)\) variables (see Table A.1 in the appendix).

*** Denotes the rejection of the null hypothesis at the 1% level of significance.

Source: Own elaboration with the E-views 5.1 package.

As it can be seen from Tables 1 and 2, statistical analysis shows that variations in the balance on goods and services precede variations in profits. Therefore, it can be said that the causal relationship runs exclusively from
balance on goods and services to profits. As figures 1 and 2 show, this relationship is negative; therefore the evidence for the U. S. economy supports the view that a deficit on the balance on goods and services “has caused” increases in the U. S. corporate profits.9)

5. Conclusions

We have examined a concrete and specific aspect of the United States’ economy that is closely related to the economic crisis: the link between profit and trade deficit. In doing so we have found a positive relation between both variables: the higher deficit corresponds to higher profits, or trade balance is associated to lower profits, which amounts to the same. Besides Marxism, the only theory that has addressed the problem is Post-Keynesian theory; however, the Post-Keynesian explanation of the problem is limited in the sense that it is fails to clarify why the reasoning on the relation between deficit and profit based on national accounting cannot be applied and does not explain how the latter should be adjusted to make it consistent with the facts. By contrast, the observed behaviour can be explained within a Marxist theory that makes use of the concepts of value and surplus value to account for profits. Therefore, one must add the transfer of value produced by foreign trade to the domestic profits since the deficit in the balance on goods and services is the appropriation of a value produced in other countries.

9) The estimation of the parameters that underlie this relationship is beyond the scope of the current essay since we are exclusively interested in presenting evidence regarding the relationship between profits and the balance on goods and services and not in presenting a full econometric model for profits which would require taking into account other variables that may affect profits.
Obviously, a lot of work remains to be done, but the results seem to us clear enough for the moment to follow the path that has been laid out, which also confirms our conviction that Marxist theory is as up to date today as in the time when it was first produced by its authors. An indispensable step to follow next seems to be the implementation of a multivariate statistical analysis.

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## Appendix

Table A.1. Order of integration of corporate profits ($P$) and the balance on goods and services ($BGS$)

<table>
<thead>
<tr>
<th>Variable $d$</th>
<th>ADF(14)$a$</th>
<th>PP(6)$b$</th>
<th>KPSS(14)$c$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>$P$</td>
<td>-0.2</td>
<td>-2.9</td>
<td>1.0</td>
</tr>
<tr>
<td>$\Delta P$</td>
<td>-4.9*</td>
<td>-5.0*</td>
<td>-4.6*</td>
</tr>
<tr>
<td>$\Delta^2 P$</td>
<td>-12.2*</td>
<td>-12.2*</td>
<td>-12.2*</td>
</tr>
<tr>
<td>$BGS$</td>
<td>-0.8</td>
<td>-2.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>$\Delta BGS$</td>
<td>-9.2*</td>
<td>-9.2*</td>
<td>-9.2*</td>
</tr>
<tr>
<td>$\Delta^2 BGS$</td>
<td>-9.8*</td>
<td>-9.8*</td>
<td>-9.8*</td>
</tr>
</tbody>
</table>

*a* Augmented Dickey-Fuller test (Dickey and Fuller, 1981) following Schwarz criteria with 14 as maximum lags.

*b* Phillips-Perron test (Phillips and Perron, 1988) with 6 as bandwidth.

*c* Kwiatkowski et al. test (Kwiatkowski et al., 1992) with 14 as bandwidth.

$d$ $\Delta$ and $\Delta^2$ respectively denote the first and second differences of the variables.

* Denotes the rejection of null hypothesis at the 5% level of significance. Critical values at 5% level of significance for ADF and PP tests are: Model A = -2.88 (including intercept); Model B = -3.43 (including intercept and trend); and Model C = -1.94 (without intercept or trend). In turn, critical values for the KPSS test are: $\eta_\mu = 0.46$ (including intercept) and $\eta_\tau = 0.15$ (including intercept and trend).

Conclusions: series are $I(1)$.

Source: Own elaboration with the E-views 5.1 package.
References


국문초록

미국 경제의 이윤과 무역 적자 : 마르크스주의적 관점

알레한드로 바예바에사·이반 멘디에타 무노즈

이윤과 무역의 관계에 대한 실증적이고 이론적인 연구를 다룬 경제학 문헌은 많지 않다. 한 나라에서 무역 흑자가 발생할 때 이윤도 증가함을 다룬 이론적 연구도 거의 없다. 그런데 미국 기업 이윤이 지속적으로 늘어나고 있음에도 불구하고 미국 무역 적자가 큰 규모이며 또 증대하고 있다는 사실은 일견 모순적으로 보인다. 마르크스주의적 관점에서 보면, 헤게모니 경제로서 미국의 역할과 무역적자의 지속적인 증대는 양립 가능하다. 무역적자가 펠레상적으로 이윤증가시키기 때문이다. 이런 점에서 미국 경제의 무역 적자는 이윤을 저하를 상쇄하는 힘으로 작용하고 있는 것으로 보인다.

주요 용어: 미국 경제, 이윤, 무역 적자.