



NEW FORMS OF MANIFESTATION OF THE INDUSTRIAL RESERVE ARMY OF LABOUR: THE MODERNIZED WORLD

Emerson Fernando de Oliveira¹
Mirian Beatriz Schneider²

Abstract:

This article aims to promote the recovery of the approach applied by Marx regarding the form of existence and manifestation of the Reserve Army of Labor (RAL). The expansion of new forms of work in the 21st century as a result of the adjustment of the working class to the needs of capital appreciation is discussed for the construction of the main argument. Subsequently, the thesis that the forms of work operating in RAL are examples of surveillance of the Marxist law of value-work is sustained. Finally, the Brazilian RAL is measured based on the PNAD (National Household Sample Survey) database and the main characteristics of the occupations that compose it are presented. These theoretical considerations reveal the possibility that the form assumed by RAL in the contemporary world represents the genuine expression of an absolutely capitalized world, a product of the development of the immanent contradictions of capitalism, discussed by Marx in *Capital*.

Keywords: Marxism; Capitalist accumulation; Labor market; Industrialization; Political economy.

NOVAS FORMAS DE MANIFESTAÇÃO DO EXÉRCITO INDUSTRIAL DE RESERVA: O MUNDO MODERNIZADO

Resumo:

O objetivo deste artigo é promover a renovação da abordagem utilizada por Marx referente à forma de existência e manifestação do Exército Industrial de Reserva (EIR). Para a construção do argumento central, discute-se a expansão de novas formas de trabalho no século XXI, em decorrência do ajuste da classe trabalhadora às necessidades de valorização do capital. Na sequência é sustentada a tese de que as formas de trabalho operantes no EIR são exemplos da vigência da lei marxista do valor-trabalho. Por fim, a partir da base de dados da PNAD, o EIR brasileiro é mensurado, por conseguinte, são apresentadas as principais características das ocupações que o compõem. Essas considerações de ordem teórica revela a possibilidade da forma de ser assumido pelo EIR no século XXI representar a genuína expressão de um mundo absolutamente capitalizado, produto do desenvolvimento das contradições imanentes do capitalismo, discutidas por Marx em *O Capital*.

Palavras-chave: Marxismo; Acumulação capitalista; Mercado de Trabalho; Industrialização; Economia Política.

¹ Economista, Mestre em Economia pela Universidade Estadual do Oeste do Paraná e Doutorando em Economia pela Universidade Federal da Bahia. E-mail: emereconomy@gmail.com.

² Graduada em Ciências Econômicas pela Universidade Estadual do Oeste do Paraná (1994), mestre em Desenvolvimento Econômico pela Universidade Federal do Paraná (1998), Doutora em História Econômica pela Universidad de León/Espanha (2003), e Pós Doutora em Economia Aplicada pela USP (2010) e em Políticas Públicas pela UFPR (2021). Professora Associada da Universidade Estadual do Oeste do Paraná, atuando Colegiados do Curso de Ciências Econômicas e nos Programas de Pós-Graduação em Desenvolvimento Regional e Agronegócio e de Economia. E-mail: mirian-braun@hotmail.com.

1. INTRODUCTION

Would it be authentic and opportune to dedicate ourselves today³ in a critical way to the discussion of the Reserve Army of Labor (RAL)? After all, Marx critically addressed this subject in *Capital*, first published in 1867. And would not it be doubly questionable to use this approach to debate RAL in the 21st century? However, it is not a matter of rejecting Marx's theory. His work and influence are immense. His place is out of the question. This is not the point.

The point is that until the beginning of the 21st century, the crises of capital increasingly led to a forced repetition or reinterpretation of Marx's theory in a changed social context. This is what actually happens with most studies on RAL. Thus, it should be clarified right away that, for Marx, RAL is the result of the unstoppable capitalist logic that replaces variable capital with constant capital, transforming part of the working class into superfluous capital. However, if this population is a necessary product of capitalist accumulation, it becomes, in turn, a lever of accumulation. In these terms, the superfluous population acts by supplying the labor force to the accumulation process, pressuring the employed population to overwork or incorporating the Active Army (Marx, 1996b).

The deepest reason why RAL continues to be discussed in the 21st century, as explained above, lies in the fact that Marxist studies have remained until today more committed to the dynamics of modernity against pre-modern society and, therefore, immanent to the history of modernization. This is not surprising, as capital and the fetishistic categories that derive from it in no way entered history in a pure and ideal form but are inextricably associated and mixed with traditional structures and forms of thought (Kurz, 2003).

Today, more than 150 years after the first publication of *Capital*, we can say it presents us with a thematic core that undoubtedly deserves our attention: the crucial importance of differentiating Marx's dialectical expository method from an empiricist notion of causality. We would say that, even as a matter of intellectual probity, it is necessary to recognize the relevance of the alert. It is because, at the same time that Marx left us a theoretical basis that analyzes the progress of the most abstract, formal, and potential forms of capitalist contradictions, he left us the realization of these contradictions embedded in the still unexplored problem of modernization.

However, something seems clear to us: Marx's dialectical expository method suggests that each stage of capitalist development has a certain law of reproduction, and according with the development degree of the productive forces, laws relations that regulate it are modified. In summary, RAL as an accumulation lever pressing or incorporating the Active Army indicates that it is the expression of capital appreciation needs in a given historical period, that is, the empirical capital of an empirical transition period (the past seen from today).

Importantly, we cannot detach Marx from Marxism and modernity and accuse Marxists of misinterpretation. Rather, it is necessary to observe what is immanent to the history of modernization in *Capital* and, therefore, becomes obsolete in the current stage of capitalism

³ This today refers to the beginning of 2018, when I prepared at the Western Paraná State University, together with Professor Dr. Mirian Beatriz Schneider, my thesis project concerning the *Characteristics and Measurement of the Brazilian Reserve Army of Labor, from 2001 to 2015*. In this context, a first version of the following discussion emerged.

development. At the same time, we need to ask which moments Marx discussed the process of wealth accumulation, which only becomes effective today despite being so developed in his time. Thus, we believe that it is possible to analyze RAL in the current social context.

With these considerations in mind, this article does not seek to despise or refute studies on RAL in the 21st century. On the contrary, we need to critically move beyond traditional conceptions rather than dismiss them. What we aim for is to establish a free intellectual space to make thinkable which for many theorists is unthinkable. We believe that, in this way, it is possible to truly contribute to Marx's theory.

Thus, this article aimed to discuss the forms of existence and the manifestation of RAL in the modernized world. That said, in the first section, we examine the development of the labor process up to the period of flexible accumulation. In the second section, we try to discuss the possibility of the form assumed by RAL to produce value. In the third section, we measure and expose the main characteristics of current occupations in RAL, focusing on the Brazilian labor market. Finally, in the fourth section, we present the main conclusions of the study.

2. NEW METHODS OF CAPITAL ACCUMULATION: PRODUCTIVE RESTRUCTURING AND ITS CONSEQUENCES IN THE LABOR PROCESS

In the discussion about the advances of the labor processes under capitalism, there is the Marxist source composed of the chapters of the First Book of *Capital*. This first volume demonstrates how capital moves, adjusting the material bases to its determination, to the determinations of production and valorization of value, until it reaches its most developed form: the machine. This fact provided capitalism to finds its appropriate technical. The past production form for capitalism, that is, manufacturing, does not allow this adjustment, due to organization and labor process are empirical, therefore, the increase in productivity is restricted. In the other hand, the process stages isolation results in constant movements among workers. As a main consequence, capital cannot control the reproduction of the working class to its needs of valorization.

According to Marx (1996a p.18), with the introduction of machinery, "[...] the working environment acquires a material mode of existence that presupposes the replacement of human strength by natural forces." In this process, Marx (1996a) analyzes the body of the factory and its articulation, discussing how the machinery increases the exploitable human material, appropriating the worker's lifetime through the madness of the expansion of the working day and its progress, allowing that human material be provided in ever smaller time intervals, systematically freeing workers or exploiting them intensely to make possible the progress of capital accumulation. Thus, the pressure of freed workers compels those occupied to overwork, while, conversely, the overwork of the occupied incessantly throws workers into decisive industrial branches. Therefore, Marx (1996b) demonstrates the need for the working class to be adjusted to an adequate scale for the progress of social accumulation.

However, what Marx (1996a/b) announces about the labor process is realized in Taylorism/Fordism. The Taylorism/Fordism binomial was the dominant representation of the productive system that prevailed throughout most of the 20th century. This binomial was based on the combination of Fordist series production with the Taylorist chronometer, in addition to sustaining itself in fragmented piecework, with a dividing line between elaboration and execution of the labor (Antunes, 1999). The process was organized in fractional and piecework, which reduced the workers' performance to a constant set of activities. It was about converting the worker into an appendage of the machine/tool to endow capital/work with higher intensity

in the extraction of surplus labor. This productive process modified capitalist industrial production, extending to the automobile industry and, respectively, to all industrial spheres.

Nevertheless, the implantation of the Taylorist scientific process of labor and its mixture with Fordism cannot be understood as purely technical. First, it is necessary to expose that the process itself is essentially capitalist. This brings us closer to one of the central contradictions of capitalism: In the words of Marx (2011, p. 943), "Capital itself is the moving contradiction, [in] that it presses to reduce labor time to a minimum, while it posits labor time, on the other side, as a sole measure and source of wealth."

Despite the above contradiction being the root cause of capitalist crises, it could be overcome during Taylorism/Fordism by a peculiar mechanism of compensation: as productivity increased, greater amounts of living labor were absorbed in absolute terms than was released in RAL – from the expansion of markets. An example is the production of automobiles, in which the working time decreased, but, at the same time, the Active Army absorbed even more human material in the same fraction of time (Kurz; Trenkle; Lohoof, 1999).

Thus, RAL could act as a lever for accumulation by incorporating the Active Army or pressuring the employed to overwork since there were still real possibilities for the Active Army to absorb large proportions of living labor from the expansion of markets, thus integrating new layers of consumers. The main consequence of this dynamic is reflected in the speed of product innovations that supplanted the speed of innovations in processes, allowing the contradictory foundation of capital to be overcome by an expansion movement.

This trend began to show signs of exhaustion from 1970 onwards, precisely when the Taylorist/Fordist pattern of accumulation ceased to respond to the retraction of markets and expansion of RAL. On this basis, Brenner (2006) explains that the root of the 1970 crisis consists of a secular crisis that followed the continuous excess of production capacity in the world manufacturing sector. Put in these terms, the exhaustion of the Taylorist/Fordist binomial is the most phenomenal representation of the crisis in the 1970s. A process of labor and production restructuring began as a response to the crisis, readjusting the working class to the new need for capital appreciation.

The labor and production restructuring resulted in the offensive of capital and the State against workers and the prevailing conditions in Taylorism/Fordism via flexible methods of capital accumulation based on a productive and technologically advanced organizational pattern. It is a work process whose objective is to enhance exploitation, minimizing unproductive labor. The effects of flexible accumulation have immediate results in the labor market, such as productive deconcentration, labor flexibility, labor deregulation, and working-class fragmentation.

New sectors of production, new methods of providing services, new markets, and, above all, increased rates of commercial, organizational, and technological innovations emerged with flexible accumulation. In fact, several products became cheaper and were introduced into mass consumption with innovations, mainly in the electronic sphere. However, the speed of process innovation overlapped the speed of product innovation for the first time in the capitalist system. As a main consequence, more work began to be rationalized (in absolute terms) than could be reabsorbed by the expansion of markets, as occurred in Taylorism/Fordism (Kurz; Trenkle; Lohoof, 1999).

Thus, the reduction in the number of workers in industrial, stable, and manual labor has become a frequent trend from flexible accumulation. Therefore, a working-class adjustment process. It does not mean that RAL ceased to be a necessary product of wealth accumulation but that its way of operating as a lever for accumulation has metamorphosed. The point is that,

on the one hand, the Active Army's expectations of absorbing workers decreased, and, on the other hand, the chances of the worker released in RAL to find ways of working unrelated to the traditional molds of production increased.

Importantly, capitalist social formation occurs in different spheres, with specific internal and external rules of operation, based on the fact that the capitalist class owns the means of production. In this approach, with flexible accumulation, the relationship between capitalist and worker was transformed but not overcome. For instance, it is currently common for workers released into RAL to resell the goods produced by the company that dismissed them. This formula has the power to disguise methods of exploitation. The worker believes he/she is free for working in his/her own place, organizing his/her work away from a boss watching over him/her or giving orders, he/she feels like a capitalist, he/she believes he/she is appropriating the wealth produced by his/her workforce. However, the numbers show that only 1% of the world's population owned 47% of the wealth, while 10% owned 85% in 2018 (Shorrocks; Lluberas; Davies, 2018). If the wealth produced is expropriated, even if absolute poverty decreases, if the working class is only proportionally less poor by producing wealth and power for the capitalist class, it remains just as poor (Marx, 1996b).

Moving into or Now in the 21st century, the development of RAL is the genuine expression of capital adjusting the working class to its valorization needs. The underlying assumption is that whether labor is performed in RAL or Active, the dynamics of capitalist production do not matter as long as human energy is transformed into merchandise. Therefore, what, why, and with what consequences it is produced, does not really matter to those involved in the process; a specific sphere dissociated and abstracted from any content, considering that only abstract energy can be expended where one works. Denying this preposition implies saying that capitalism has come to an end because if labor is the only source of wealth and it, in turn, has become superfluous, then the system is involuntarily submitted to absolute rationing of its sole valuation base.

On the contrary, people are looking for even more alternative forms of production, distribution, and sharing of goods from flexible accumulation. It has a name: labor. An example is the sharing economy, with people using apps to rent rooms, cars, and even household goods. However, informality is one of the most prevalent forms of labor in the 21st century, such as door-to-door salespeople, street vendors, hawkers, market traders, and collectors of recyclable materials.

In addition, more and more additional jobs are needed. Carrying out two or more jobs is essential to finance a standard of living that is at least acceptable. Therefore, it is common to see people who work in the construction industry in the morning, resell goods from door to door after lunch, return to construction at the end of the day, go home for dinner after working hours, and then start working as night watchmen. Finally, they work as a waiter at the weekend, without a formal contract and fixed salary, relying only on tips.

On the other hand, the State approves labor and social security reforms at the same time, but not in the interest of the worker. Standard working hours are suppressed, pre-established wages are reduced, and temporary or on-demand labor is expanded. RAL workers are also required to constantly switch between subordinate and autonomous jobs. From flexible accumulation to the boundaries between salaried work and free enterprise, the so-called entrepreneurs, are developed in the wake of outsourcing, without a fixed job, without union support, without means of production and without appropriating the wealth produced by their workforce.

Therefore, jobs are divided into two: on the one hand, stable labor typical of industrial

production is in decline, and labor rights are incessantly reduced or extinguished; on the other hand, forms of labor expand in RAL, whose exploitation is enhanced. All this is the representation of an organized system of exploitation and oppression, a process of social dumping, but, above all, of reaffirmation of the logic of capitalist production.

3. THE ISSUE OF THE EFFECTIVENESS OF THE MARXIST LAW OF VALUE-WORK

Society believes it has consolidated a system of eternal prosperity with flexible accumulation, in which the destructive madness of capitalism has been lastingly pacified, while, at the same time, merchandise without a quantum of labor allows the continuous valorization of capital. However, this is not the point. The song of songs of the honorary function of labor is about individuals who are forced to take up new forms of work under the pressure of growing social dumping. Likewise, it does not mean that capitalism has detached itself from its base of value, namely, living labor.

One could argue that the work carried out in RAL does not allow the use value to be the mediation of the exchange value. First, the accumulation process is not linear; on the contrary, capitalism has evoked all forces since its period of primitive accumulation to allow, as Marx (2011) states, that the creation of (relative) wealth reaches further development to conserve value already created as value. In this sense, productive forces and production relations manifest themselves as ways for labor to produce wealth and value the capital-money structure based on its contradictory foundation.

Second, we cannot agree with the theses that disregard or underestimate the process of creating exchange value in RAL when conceiving the new demands for the valorization of capital and the flexible form of labor as a representation of social labor, which is more socially combined and enhanced. On the contrary, we defend the thesis that the labor society needs less and less stable labor and more and more different forms of unregulated, subcontracted, outsourced labor, which is, on a growing scale, part of the dynamics of capital appreciation.

As can be seen, there is a clear trend toward the expansion of dead labor and the reduction of living labor in the capitalist system. However, it is exactly because capital cannot eliminate living labor from the valorization process that it must increase labor productivity by leveraging methods of extracting surplus value at shorter time intervals (Antunes, 1999). The drop in human energy expenditure, as well as the reduction in physical labor, articulated with intellectualized labor in the Active Army, allows us to demonstrate that the thesis according to which capital no longer seeks to exploit living labor ends up converting the trend for a drop in living labor and the increase in dead labor when the former is extinguished (Antunes, 1999).

One hypothesis is that there is a trend to increase dead labor and reduce living labor. Another very different hypothesis is to assert that capital can exist without living labor. Capital could not be produced without living labor and, therefore, money. Without money, the substance and form of value external to the merchandise and the process of recognition and validation of labor could not occur in capitalism, since it takes place *post-festum* (Mollo, 2013). Therefore, all this cannot be conceived as a defect in the form of labor. On the contrary, this makes it suitable for capitalism. As a main consequence, the articulation between living and dead labor is essential for the (re)production of the capitalist mode of production.

For this reason, capitalist production was not sufficient with just an available RAL that sometimes incorporated or pressured the Active Army as accumulation evolved until the 21st century; it required making workers compatible with the systematic creation of exchange values

in the sphere of RAL to have freedom of action. Therefore, the individual worker provided more work with the decreasing number of workers in the Active Army, but the increased volume of workers in RAL increased along with new forms of labor, which compelled the continuation of the decreasing number of workers in the Active Army. Its importance can be seen in the following example: if living labor were currently limited to the scope of the Active Army, then the occupied working population would be absolutely insufficient to carry on global production on its present scale. Most individuals in RAL would have to start working. It would happen because, in the 21st century, the workers who are part of RAL cannot be conceived as superfluous to capital, unlike the productive structure of the Active Army in the mechanical sense of carrying out labor.

Thus, the reduction of the stable worker, heir to the binomial Taylorism/Fordism, the rationalization of labor (in absolute terms) in the Active Army, and the universal expansion of precarious forms of labor in the form of deregulated, subcontracted, outsourced labor, developed in the period of flexible accumulation, are strong examples of the validity of the Marxist law of value-work. On the other hand, we cannot agree with the thesis of the transformation of science and technology into the main productive force, replacing the Marxist theory of value-work, as defended by Habermas (1968, p. 72):

[...] science and technique become the first productive force and thus the conditions for applying the Marxian theory of value-work fall. It no longer makes sense to compute contributions to capital [...] if technical and scientific progress has become an independent source of surplus value compared to the source of surplus value that is the only one considered by Marx.

Antunes (1999) emphasizes that Habermas' mistake is to disregard living labor, science, and technology as a contradictory unit, subject to capitalist conditions. Science and technology are subject to the form of value in the capitalist system. It is not about exploring its own potential. It is about science and technology being hampered by the material base of relations between capital and labor. Therefore, the trend of science and technology to explore their potential is contained by the need to accumulate wealth. Prisoner of this material base and dynamited by capital, it could not become the main productive force.

Therefore, could it be argued that innovations advancing through flexible accumulation are the enemy of the working class? If the evolution of science and technology is subject to the needs of capitalist accumulation, it is possible to agree with the aforementioned question. However, it is a superficial approach. Understanding innovations simply as the enemy of workers, as a Marxist thought of emancipatory praxis, leads criticism only to the repressive and destructive moments of science and technology. Thus, all the progress of the productive forces is denied. Consequently, the critique shifts to focusing on absolving the aspect of innovations from the repression and destruction of the capitalist system and making it a result of capitalist accumulation. In this context, innovations in a post-capitalist society would just be assimilated without any modifications. However, we believe that the praxis that results from this is not emancipatory, as the productive forces, as *savoir-faire*, must represent progress and not simple reintroduction.

Thus, what could be the point of discussing the progress of science and technology under capitalism? First, the essence of the productive forces must be observed as a potential force, as a possibility that capitalism did not exploit for the benefit of the productive forces, but for its abstract capitalist end in itself. Second, the apparent reality of this potential must not be affected by its capitalistic appearance. Third, as the material representation of innovations is subject to

the dictates of capitalism, its concrete configuration must be overcome [*Aufhebung*]. Hence the contradictory unity of science and technology subsumed under the value form can be abolished [*Abschaffung*] precisely with its social fetish-form, on the other hand preserving [*Erhaltung*] all the *savoir-faire* that can be embodied in a society in which relations are consciously shaped. Therefore, we believe that a critique of innovations has a great chance of not slipping into a new constitution in which *science and technology* appear as the enemy of the working class.

In practical terms and considering Ortlieb (1998), we can do the following essay: we can observe all the questionable studies carried out on the *local* and *self-help economy*, which are repeatedly addressed by the social sciences. The essence of these studies is the attempt to discuss a new dynamic of production, which is doomed to failure from the beginning but is continually put into practice because it often means the only way of survival for those who are in RAL and, therefore, belonging to the dynamic of capitalist production. However, they are contestable *only* to that extent, as the *savoir-faire* accumulated in these studies is remarkable. Thus, a movement of preservation [*Erhaltung*] and abolition [*Abschaffung*] could link all their unexplored potentialities at a later stage of society's development.

For our objectives, the above approach is a suggestion to discuss critically and non-critically science and technology as an ideological reference point for the working class. However, it is not up to us to discuss beyond these lines. It is important to point out that the theses that consider science and technology as the main productive force totally ignored that, ultimately, RAL and the Active Army are states of aggregation in the same social-fetish form, i.e., a self-referential process disconnected from any other need for context, which incessantly articulates living and dead labor to maintain as a value the value already created. The very immanent conflict between RAL and Active Army would only be due to a common reference system whose employees, in Marx's terms, can be pointed out as *masks of character* in service of the capitalist end in itself.

We must consider the working population in RAL can assume different shades in the dynamics of articulation between living and dead labor. In this regard, Marx (1996b) considers that RAL should be divided into three layers, namely, floating, latent, and stagnant. According to the author, the population of the first layer is repelled and absorbed by the Active Army. However, considering the form assumed by RAL in the development of flexible accumulation, workers in the floating layer tend to flow into the latent or stagnant layer since these two layers can be remunerated.

According to Marx (1996b), the formation of the latent layer derives from the population of rural workers to the extent that capitalist production takes over or took over agriculture, thus decreasing the absolute demand of the rural population with the accumulation of capital that works there, without its repulsion being complemented by higher attraction, as in the non-agricultural sector. However, these workers in the 21st century cannot be conceptualized as if they were in the latent layer just because they are waiting to transfer to the industrial sector but also because, as capitalist production takes over agriculture and non-typically capitalist sectors⁴ in the urban area, part of the population is on the prowl to occupy jobs in the non-typically capitalist sphere (stagnant layer) or the typically capitalist sphere (latent layer), in which the industrial sector has not yet taken over in an absolute way.

The third layer of RAL, for Marx (1996b), includes workers in redundant irregular

⁴ In this article, non-typically capitalist activities refer to those essentially linked to self-subsistence and/or carried out in family units.

occupations of the large industry and agriculture. However, essentially capitalist activities⁵ are carried out in the stagnant layer, in contrast to the latent layer. However, these workers do not necessarily work irregularly with the evolution of the democratic social state, as stated by Marx (1996b).

Thus, understanding the form of existence and manifestation of RAL as a creator of value allows us to conceive the changes in the world of labor as the expression of capital adjusting the working class to its needs for valorization. Therefore, what are the forms of existence of RAL and their relation to capitalist accumulation in the 21st century? We mention some of them below, for the record:

- i) There is an ongoing trend in which workers in RAL act as a lever for wealth accumulation through the expenditure of the labor force in occupations in RAL itself and not necessarily by incorporating or pressuring the Active Army;
- ii) The work carried out at RAL as part of the internal dynamics of capital appreciation reaffirms the validity of the Marxist law of value-work;
- iii) Due to the forms of labor in RAL disconnected from the traditional production patterns hide the fact that there is a process of structural unemployment that dynamizes the expansion of different forms of labor in and with a miscellany of exploitation methods;
- iv) Although capital incessantly adjusts RAL to its need for valorization, capitalism cannot be conceived as a system of eternal prosperity because the potentiation of labor exploitation implies a growing dynamization of social stability and draining of produced resources by labor, attenuating its contradictory foundation, as cited by Mészáros (1995);
- v) In order to have freedom of action, the destructive traits of the capitalist system accentuate both the exploitation of the working class and repress its coercive and despotic dimension, especially when the worker believes he/she is free because he/she is not directly circumscribed to the hierarchical system structured in the image of the capitalist and worker;
- vi) Despite the despotic dimension of capitalism being repressed, we cannot say that all repugnance against the constraints imposed by capital/labor has been erased. Dissatisfaction with the capitalist mode of production is in force. However, the societal logic driven by the capitalistic metabolic mechanism has repressed it to the psychic core of the social being. Thus, the possibility of resistance and claim (protest) against the capitalist system cannot be ruled out.

4. MEASUREMENT OF THE BRAZILIAN RESERVE ARMY OF LABOR

The discussion carried out so far to expose the form of existence and manifestation of RAL in the current social context is important for rescuing the Marxist concept of RAL formulated in a modified social context, basing it on the modernity problem and preserving its functional aspect of leveraging accumulation cited by Marx (1996b).

Capitalist statistics do not discuss labor according to the Marxist approach, which is one of the obstacles to measuring RAL. In these terms, to date,⁶ the only attempt to measure RAL

⁵ Here, essentially capitalist activities refer to those in which the individual works by exploiting his/her *business* in an economic unit.

⁶ This *to date* refers to the beginning of 2018.

at a global level based on official statistics was carried out by Foster, McChesney, and Jamil Jonna (2011) in the article *The Global Reserve Army of Labor and the New Imperialism*. However, in addition to the authors not measuring RAL according to its layers, they analyzed the total RAL by repeating Marx's writings, without further theoretical development.

In this respect, statistical issues become even more problematic when it comes to measuring RAL at a global level. It explains why we focus on measurement at the national level. In this sense, to date, the only attempt to account for the Brazilian RAL is the study by Granato Neto and Magno Germer (2013) entitled *The Recent Evolution of the Brazilian Labor Market from the perspective of the concept of the Reserve Army of Labor*, in which RAL is measured between 2001 and 2009 according to its layers. However, the theoretical development carried out by the authors represents a repetition of Marx despite the remarkable adaptation of Marxist concepts relative to the available data.

Considering that no study to date has measured and exposed the main characteristics of the occupations that are part of RAL with a critical view of the foundation of capitalist modernity, we seek to begin to fill this gap based on the discussions carried out in the previous sections and the measurement carried out here. Thus, statistics from PNAD⁷ (National Household Sample Survey) between 2001 and 2015 are used as a database for measuring RAL.

Importantly, PNAD is not disclosed while the Demographic Censuses are taking place. Thus, the year 2010 was removed from the measurement. That said, we are interested in the PNAD data referring to labor (activities carried out in the main job) and income (Per Capita Household Income – PCHI). PNAD divides the Brazilian population into working age (PIA) (individuals aged 10 years and over) and non-working age (PINA) (individuals under 10 years old).

We used PIA, which comprises the occupied, unemployed, and non-economically active population (PNEA) to measure RAL and Active. The variables used in the measurement are shown in Chart 1.

Chart 1– Conceptualization of the variables used to measure RAL and Active.

Variable	Conceptualization in PNAD
Employed (Private and Public Sectors)	Individual who worked receiving remuneration in cash, goods, or benefits.
Unemployed	Individual who did not work but was looking for a job in the reference period. ⁸
Houseworker	Individual who worked providing paid service, in cash or benefits, in one or more household units.
Non-economically active population (PNEA)	Individual who did not have a job and did not take effective action to search in the reference week.
Workers in production for their own consumption	Individual who worked in subsistence production and at least for one member of the household.
Self-employed	Individual who worked in his/her own business, with or without a partner, without having a paid employee, and with or without an unpaid worker.
Auxiliary family worker	Individual who worked without receiving remuneration to help the resident of the household or relative.

Source: Prepared by the authors based on PNAD (2001 to 2015).

⁷ Importantly, PNAD (National Household Sample Survey) was replaced by the Continuous PNAD from 2015. PNAD (2001 to 2015) shows in detail the methodology for obtaining the available data.

⁸ The reference periods are time intervals at which the data prepared for publication by PNAD are reported; each survey has a reference period, but these periods can be observed in PNAD (2001 to 2015).

As already stated, official statistics do not classify labor market categories according to Marxist theory. Therefore, the variable above needed to be adapted (Table 1). Thus, Chart 2 shows the main justifications for adapting PNAD data to the concepts of RAL and Active Army.

Chart 2 – Adaptation of PNAD categories for the concepts of RAL and Active Army.

Variable	Position by condition relative to the workforce
	Active Army
Employed (Private and Public Sectors)	Workers who are directly linked to a corporation or state institution, usually with pre-established working hours and remuneration, not working in their own place, with the work process being determined and organized by another person through a direct employee hierarchical system and employer.
Reserve Army of Labor (floating layer)	
Unemployed	Workers who do not work because they were repelled from the Active Army or the occupations of RAL or are looking for their first job. Therefore, they are in the most fluent layer of RAL.
Reserve Army of Labor (latent layer)	
Houseworker	Workers who provide domestic services in one or more household units (the family). Therefore, a non-typically capitalist form of activity.
PNEA	This category is quite heterogeneous so that there is a trend for the latent layer to be overestimated because its composition ranges from retirees to those unable to work and hence individuals who are not part of RAL or Active. The alert is important considering the impossibility of separating these individuals from the PNAD statistics. However, we assume that PNEA is made up mostly of workers who perform domestic services in their own homes. Therefore, they are inserted in activities that are not typically capitalist, that is, they are members of the latent layer.
Workers in production for their own consumption	Workers who produce their own food in rural areas. Thus, they perform activities that are not typically capitalist.
Reserve Army of Labor (stagnant layer)	
Self-employed	Workers who work in their own business and do not pay labor, nor do they have pre-established working hours and income, working in economic units, that is, in typically capitalist activities.
Auxiliary family worker	Unpaid workers who tend to act by helping other workers in typically capitalist sectors without receiving monetary consideration.

Source: Prepared by the authors.

Having described the motivations that allowed the adaptation of the information made available by PNAD to Marxist concepts, the Active Army is calculated as follows:

$$\text{Active Army} = \text{Private sector (except houseworker)} + \text{Public sector} \quad (1)$$

Regarding the measurement of the floating, latent, and stagnant layers, we have:

$$Y_i = \text{Unemployed} \quad (2)$$

$$X_i = \text{Houseworker} + \text{PNEA} + \text{Labor for own consumption} \quad (3)$$

$$Z_i = \text{Self employed} + \text{Auxiliary family worker} \quad (4)$$

where Y_i = floating layer, X_i = latent layer, and Z_i = stagnant layer.

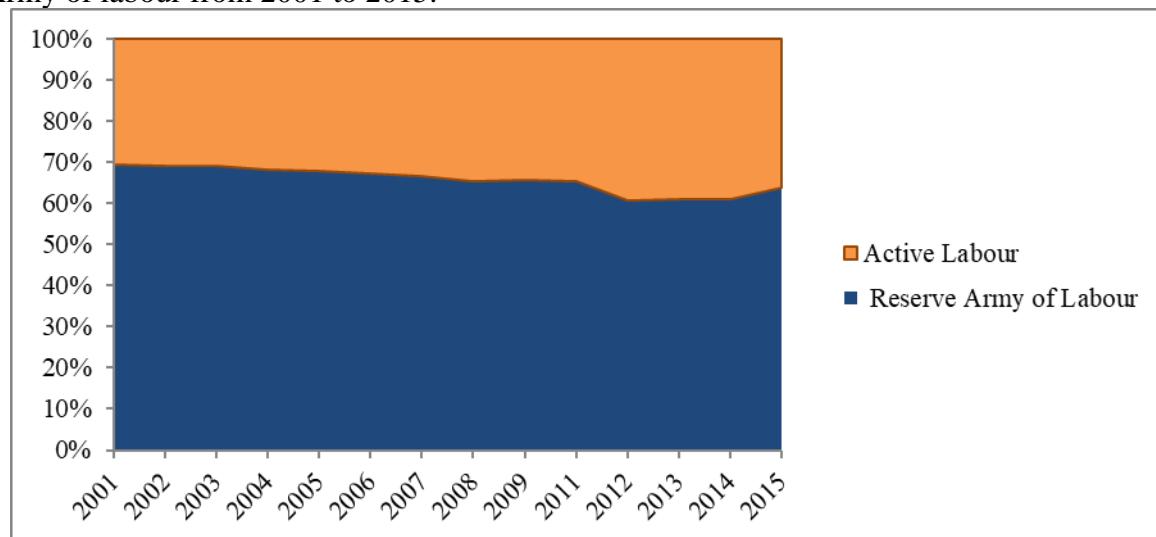
Therefore, the measurement of the Reserve Army of Labor is given by:

$$RAL = Y_i + X_i + Z_i \quad (5)$$

4.1 The Brazilian Reserve Army of Labor from 2001 to 2015

Based on the previously exposed form of measurement, we have the following overview of the division of the Brazilian working class into RAL and Active Army (Figure 1).

Figure 1 – Division of the working class into Industrial Reserve Army of Labour and Active Army of labour from 2001 to 2015.



Source: Prepared by the authors based on research results.

Figure 1 shows some information about the Brazilian working class in the 2000s. We can observe that workers were mostly inserted in RAL so that they constituted 66% of the labor market. However, Figure 1 does not show a significant process of growth or decrease of the relative RAL but, in a way, the maintenance of its proportions.

In order not to make a forced reinterpretation of it, it is convenient to insert the dynamics of Brazilian production in the global industrialization process to capture a peculiar element: the basic relations of capitalism from the perspective of the owner and non-owner of the means of production were not modified in its industrialization process (after 1930), and later with flexible accumulation (after 1970). In these terms, the insertion and affiliation of the Brazilian economy to capitalism and its structural transformation along the lines of flexible accumulation become essentially a possibility determined *within itself*. In other words, the production relations contained within themselves the possibility of restructuring the system worldwide even if it was not possible to assimilate in an absolute way the scientific and technological matrix of the central countries.

However, there is no doubt that the advance of *labor-saving* innovations that we observe today was given by others. There is also no doubt, according to Oliveira (2003), that technical progress is sequestered in patents, in addition to being ceaselessly subjected to obsolescence. The advance of *labor-saving innovations* on the periphery takes place at a time when capitalist accumulation is intensified because an immense volume of dead labor is available globally, which is transferred in the form of technical progress to other countries that had a late

industrialization process (Oliveira, 2003). As a main consequence, peripheral countries can only copy what is disposable by the central economies, but they cannot assimilate the scientific and technological matrix of innovations; the second consequence is that the copy of the disposable quickly becomes archaic. Therefore, the foundations of accumulation are dynamited and intensified as global capitalism increases the substitution of dead for living labor.

The point here is that flexible accumulation in the peripheral economies took advantage of the RAL created by the national industrialization that took occurred *within itself*, not necessarily needing to destroy the old forms of labor, but in small Taylorist/Fordist segments. Hence, there was a trend to enhance the extraction of added value without impeding full exploitation, as the offensives of capital and the State against workers and labor relations had already intensified in Brazil before the insertion of flexible accumulation at a global level. Given this, the peripheral economies did not approach the social level of the central economies but, on the contrary, the destructive traits of capital and labor in the peripheral economies that were disseminated in the central economies.

Given this peculiarity, a still rigid productive structure with a flexible form was reconciled in the peripheral economies, thus enabling the evolution of value creation in existing forms of labor. Theoretically, the peripheral economies are dependent on the scientific and technological matrix of the central countries, while, simultaneously, the industrial expansion of peripheral countries tends to contain the formalization of traditional labor relations. The second sustains accumulation, that is, it meets the needs for capital appreciation, but, in articulation with the first, it enables the evolution of a still relatively rigid productive structure, which enhances the exploitation of labor in the Active Army and RAL yearning to expand the assimilation of the structural traits of the flexible accumulation method.

In these terms, the trend to maintain an extensive RAL and stagnation of traditional labor relations translates into a few variations in the labor market between RAL and Active Army (in relative terms). On the other hand, the remunerated layers of RAL, namely, latent and stagnant, tend to be the most expressive in RAL, as shown in Table 1. However, although in absolute terms the Active Army had higher growth rates than RAL, the volume of the latent layer is sufficient to contain the relative expansion of the Active Army (Table 1). Thus, on the other hand, the Active Army expands (in absolute terms), while exploration intensifies value creation in RAL, which, in turn, assists in industrial expansion. *We dare not say that this expansion translates into better working conditions.*

Table 1 – Percentage and absolute participation of RAL and Active Army in the labor market (in thousands).

Period	Active Army	Reserve Army of Labor		
		Floating	Latent	stagnant
2001	40,932 (30%)	7,785 (6%)	63,200 (46%)	22,417 (16%)
2007	52,083 (33%)	8,060 (5%)	71,138 (45%)	24,524 (15%)
2015	57,425 (36%)	10,014 (6%)	66,851 (41%)	23,847 (15%)

Source: Prepared by the authors based on research data.

Let us now consider the main characteristics of the predominant occupations in RAL. For that, PNAD data is used, as they provide the number of workers inserted in a given occupation according to the branches and length of stay at work. In turn, crossing these data with the number of workers who belong to the latent and stagnant layers, we have the

percentage participation of workers in the branches of work that make up the last two layers of RAL and the time spent in occupations that belong to these layers.

Table 2, relative to the latent layer, shows that 100% of the houseworkers were inserted in the domestic services branch. This result was already expected, as housework is understood by PNAD as that in which the individual provides service in one or more family units in exchange for monetary value or benefits. Housework is essentially made up of black women from low-income families who are essentially dedicated to the work of day laborers, caregivers, and nannies. It is a form of labor that imposes minimal social protection, double working hours, low income, discrimination, harassment, and higher rates of mental illness, among other forms of exploitation (PNAD, 2019).

All subsistence workers were in the agricultural sector, which is explained by the fact that these workers produce their own food. Importantly, PNEA was also measured as part of the latent layer. However, considering the heterogeneity of this population, which is composed mainly of people who do not have any source of income, their branch and place of work cannot be counted, but this population probably survives from the local economy and self-help.

Table 2 – Percentage participation of the branches of labor in the latent and stagnant layers (the percentage values refer to the average from 2001 to 2015).

Layer	Branches of labor											
	1	2	3	4	5	6	7	8	9	10	11	12
Latent	Houseworkers											
	Production for own consumption											
	100%											
	100%											
Stagnant	Self-employed worker											
	Auxiliary family worker											
	22%	11%	15%	24%	5%	7%	-	3%	-	8%	6%	1%
	64%	6%	1%	15%	6%	1%	0.2%	2%	-	3%	1%	0.1%

Source: Prepared by the authors based on research results – individual data from PNAD (2001 to 2015).

1 – Agriculture; 2 – Industry (including manufacturing industry); 3 – Construction; 4 – Trade and Repair; 5 – Accommodation and Food; 6 – Transport, Storage, and Communication; 7 – Public Administration; 8 – Education, Health, and Social Services; 9 – Domestic Services; 10 – Other Collective Social and Personal Services; 11 – Other Activities; 12 – Poorly defined or unreported activities.

Table 1 shows that between 2001 and 2015 self-employed workers were inserted mainly in the following sectors: trade and repair (24%), agriculture (22%), construction (15%), and industry (11%). They are individuals who worked, for example, as salespeople, family farmers, masons, metallurgists, and furniture and clothing manufacturers. These occupations have a trend towards low formalization of labor relations, low levels of remuneration, low productivity, and low education among workers. The same is observed for the auxiliary family worker: 64% of these workers carried out activities in the agricultural sector.

On the other hand, the low representation of branches 8 (education, health, and social services) and 10 (other services) is a portrait of the antagonistic capitalist system since these branches comprise forms of labor carried out by specialized professionals, with specific training, such as doctors, psychologists, lawyers, administrators, accountants, and economists.

In other words, they are forms of work traditionally with better occupational conditions, higher levels of productivity, and remuneration. Therefore, they are not part of RAL or Active Army, being on the threshold of proletarianization. However, their low representativeness does not cause an overestimation in RAL.

Let us now consider the length of stay of workers in RAL. Although in absolute terms housework has increased from 2001 to 2015, going from 5.8 to 6.2 million, there is a trend for workers to remain in housework for less than 10 years, as shown in Table 3. We believe that this scenario comes from the aging of this population, expansion of educational policies, and moments of crisis in capitalism, causing families to dispense with domestic service. In contrast, self-consumption workers tend to produce their own food for more than 10 years (Table 3).

Table 3 – Length of stay in the latent and stagnant layers (percentage values refer to the average from 2001 to 2015).

Layer	Average length of stay in the occupation			
	Up to 1 year	Up to 4 years	Up to 9 years	More than 10 years
Latent				Houseworker
Production for own consumption				
	27%	40%	15%	18%
	7%	23%	17%	53%
Stagnant				Self-employed worker
Auxiliary family worker				
	10%	27%	18%	46%
	10%	34%	22%	34%

Source: Prepared by the authors based on research results – individual data from PNAD (2001 to 2015).

Regarding the stagnant layer, there is a trend for the worker to remain in self-employment for more than 10 years. This occupation presented the highest increase (in absolute terms) among those in RAL, going from 16.8 to 21.7 million between 2001 and 2015. It reaffirms our discussion in the previous sections, as the appearance of a supposed free work, a free initiative, or sovereignty of time in typically capitalist labor carried out in RAL has the power to repress, to the socio-psychic underground, the madness of labor relations in force in the 21st century.

Therefore, if we understand both the mechanism of capitalist production in the Active Army and also incorporate the occupations of RAL, which, in general, are hampered by potentiated forms of exploitation, accumulation leaps in quality, accelerating the process of income concentration and the increase in poverty, which can be evidenced by observing the trend of undernourishment of the working class from the differences between the monetary income earned by the worker and that which would be necessary to supply their basic vital needs. Table 4 shows these monetary differences.

Table 4 shows the Minimum Necessary Wage (MNW) calculated by the Inter-Union Department of Statistics and Socio-Economic Studies (DIEESE), as the one that should be in force to meet the basic vital needs of workers and their families (a family of two adults and two

children).⁹ Table 4 also shows the income earned by workers in the Active Army and the paid layers of RAL.

Table 4 – MNW and PCHI of the Reserve Army of Labor and Active Army from 2001 to 2015 (in Reais in September/October 2015).¹⁰

Year	MNW	Active Army	Latent Layer	Stagnant Layer
2001	1137.61	600.26	203.62	516.48
2002	1252.45	641.66	218.10	525.76
2003	1480.18	688.52	239.58	570.82
2004	1535.38	725.95	253.72	594.43
2005	1561.55	796.10	280.19	632.74
2006	1546.10	868.50	311.13	684.08
2007	1725.62	938.95	339.01	805.40
2008	2051.15	1018.40	371.91	818.61
2009	2085.93	1101.98	409.54	861.98
2011	2316.30	1326.11	518.82	1175.25
2012	2501.87	1448.03	593.02	1326.18
2013	2789.52	1583.74	649.63	1391.06
2014	2937.88	1703.38	713.09	1494.47
2015	3280.75	1829.00	765.00	1484.00

Source: Prepared by the authors based on research results – individual data from PNAD (2001 to 2015) and DIEESE.

Table 4 shows that the income in the Active Army and RAL was not enough to guarantee the worker earnings from the accumulation of wealth arising from flexible accumulation. At the same time, a process of malnutrition is observed among workers, mainly in RAL, in which PCHI, in addition to being lower than MNW, was significantly lower than the PCHI in the Active Army. The situation gets worse when we analyze the latent layer, whose PCHI in 2015 was 2.3 times lower than that of the Active Army. Importantly, according to Hoffman (2004; 2009), there is a considerable trend to underestimate national income, which presumably tends to be higher for high incomes. Thus, according to Table 4, malnutrition among workers between 2001 and 2015 fell mainly on women, as the latent layer, whose population is predominantly female, has greater discrepancies relative to MNW. However, workers' malnutrition in the stagnant layer also proves to be prevalent.

All of this cannot be seen as intrinsic only to the stage of development of the productive forces in the 21st century but, on the contrary, as an immanent trend in all phases of development of the capitalist system. This antagonistic character of the system is affirmed in the PCHI of workers not meeting their basic vital needs, while there is a trend to increase, at the same time, the income of the capitalist class. It is understood that more foreign wealth is produced as new methods of exploitation evolve in the sphere of RAL and Active Army, and the exploitation of labor is enhanced to the extent that wealth is expanded. In this sense, the exploitation of the working class increases with the powers of wealth, and it, in turn, directly increases with the poverty of workers. This is why Marx, in *Capital*, states that “*human life, in nine out of ten cases, is a mere struggle for existence*” (199b, p. 270, emphasis added).

⁹ The worker's basic vital needs were established by the Brazilian Constitution of 1988. Dieese (2016) calculates the MNW based on the constitutional specifications.

¹⁰ Income values were placed in the same monetary unit as in 2015. The geometric mean of the National Consumer Price Index (INPC) was used for each year of this interval for September and October, which equals the income index on October 1st.

5. BRIEF CONCLUSIONS

In the 21st century, the central contradiction of capitalism in reducing labor time to a minimum while positing labor as the only measure and source of wealth, produces changes in RAL that perhaps Marx did not imagine could occur, in the sense of labor becoming superfluous, not making it superfluous to capital, but just the mechanical structure of production in the Active Army. However, the capitalist system does what was once announced by Marx (2011): it evokes for life all the forces of science and nature so that the production of wealth is independent of the work employed in it; on the other hand, it seeks to measure the forces created by labor.

The fact that living labor is the only basis for capital appreciation increases, on an increasing scale, the exploitation of labor. In this sense, the new way of *being* of RAL remains a necessary product of accumulation. However, the historical novelty is that RAL becomes, in turn, a lever of capitalist accumulation without necessarily pressuring or incorporating the Active Army. There is no obsolescence of Marx's theory here. It means that RAL represents a more developed form of the multiple determinations of the potential, abstract, and formal contradictions exposed by Marx throughout *Capital*, becoming effective. In this process, the form of existence and the manifestation of RAL by linking itself to the new dynamics of capital to overcome its contradictory foundation is inscribed even more in a systematic that expands, to new levels, the intensification of the extraction of added value.

Therefore, if there were still hopes at the end of the 20th century that flexible accumulation could sustain an emancipatory praxis, society in the 21st century is even further away from this promise. The flexible worker should be the personification of those who do not submit to the dictates of capital and labor, those who, by finding free time for independent activity, would be able to consciously define their goals. These hopes recall the first writings of Marx and Engels (2007, p. 38), who predicted the future of a communist society, where:

[...] nobody has one exclusive sphere of activity but each can become accomplished in any branch he wishes, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have a mind, without ever becoming hunter, fisherman, herdsman or critic.

The lyrical image of Young Marx and Engels unfortunately does not represent the new reality of the work society. Optimists of this new society took the wrong train, precisely because they wanted to develop an emancipatory praxis in sync with the capitalist mode of production. Because, nowadays, as before, private interests are divided from common ones.

In these terms, flexible accumulation was developed fully enabling the potentiation of exploration. Therefore, the forms of labor in RAL are simultaneously forms of wealth accumulation and every extension of the accumulation of wealth mutually becomes a method of developing those forms of labor. In this sense, the situation of the working class tends to deteriorate as wealth is produced.

Thus, the analysis of the qualitative and quantitative importance of RAL in Marx's work from the dialectical expository method allows studying the forms of existence and the manifestation of RAL in the current social context without incurring a forced reinterpretation of *Capital*, better apprehending both the exploitation process and the contradictory foundation of capital, which is only capable of snatching self-destructive forces. Importantly, undertaking

a study of the historical and social specificity of RAL in contemporary capitalism requires sticking to the dynamics of capital restructuring in its valorization process. If, on the one hand, RAL is not a peculiarity of the 21st century, being an inherent element of the capitalist mode of production, as indicated by Marx, on the other hand, it is necessary to understand it in its new way of *being*, in its general historical determinations, placing it in the contradictory capitalist foundation.

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