

THE DISPUTE BETWEEN THE PHILLIPS CURVE AND THE INERTIALIST ANALYSIS IN THE FORMULATION OF BRAZILIAN INFLATION THEORIES DURING THE 1970s-1980s.

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RESUMO

O objetivo deste trabalho é investigar como a curva de Phillips foi incorporada as teorias de inflação e debates acadêmicos brasileiros durante as décadas de 1970 e 1980. Os modelos monetaristas de curva de Phillips elaborados para explicar a inflação brasileira durante a década de 1970 propunham a adoção de políticas ortodoxas como medidas de estabilização. A validade desses modelos foi contestada por economistas neoestruturalistas, que rejeitavam as análises baseadas nos modelos de curva de Phillips. O debate entre neoestruturalistas e monetaristas desempenhou um papel importante no desenvolvimento de teorias de inflação durante o período destacado.

Palavras-chave: curva de Phillips, inflação, estruturalismo, monetarismo.

ABSTRACT

This paper aims to investigate how the Phillips curve was incorporated into Brazilian inflation theories and academic debates during the 1970s -1980s, and the discussions it raised among Brazilian economists. The monetarist Phillips curve models embodied in Brazilian inflation theories during the 1970s intended to guide the orthodox stabilization policies. The validity of these models was later challenged by inertialist economists, who rejected the analysis based on the Phillips curve models. The debate between inertialists and monetarists played an interesting role in the Brazilian academic debate developed during such period.

Keywords: *Phillips curve, inflation, structuralism, monetarism.*

Classificação JEL: B22, B29, B50.

ANPEC: *Área 1 - História do Pensamento Econômico e Metodologia*

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INTRODUCTION

This paper aims to investigate how the Phillips curve was incorporated into Brazilian inflation theories and academic debates during the 1970s -1980s, and the discussions it raised among Brazilian economists. To this purpose, the present analysis will rely on papers published in Brazilian economic journals during the referred period. The main focus of this research is the debate carried out, on one hand, by the Brazilian economists Antonio Carlos Lemgruber and Claudio Contador (Rio de Janeiro Getúlio Vargas Foundation economists), who adopted the Phillips curve model to study the Brazilian inflation, and on the other hand by the a group of economists who can be labelled as the “inertialists”, from the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), who contested the latter model.

The period we investigate was characterized by a persistent rise in the inflation rates, and different explanations were advanced to understand it. Among those accounts, a group of Brazilian economists linked to the academic environment of the US, proposed some analytical contributions based on the Phillips curve models. The relevance of this work relies on the fact that this process has been scarcely considered by the historians of economic thought. This should not be the case since the insertion of the Phillips curve models in the academic debate proposed by Brazilian monetarists caused a considerable impact in the economists’ community.

To place in context the discussions we are going to present, we need to introduce briefly the situation of the Brazilian academic environment in Economics shortly before the period we are discussing. During the 1960s there was an important change in Brazilian university system, and especially in Economics. The first undergraduate courses in Economics in Brazil had been created in the late 1930s. Almost none of the faculty had degrees in Economics from abroad, and the contact with the rest of the profession all around the world was minimal.

In the context of the Cold War and the Alliance for Progress, the governments of the US and Brazil signed the MEC-USAID agreement, which approximated both governments in terms of educational policy. At the same time, some American foundations established contacts with institutions in South America to improve the research in the Social Sciences and to build or reinforce university institutions in different Latin American countries. The Ford Foundation established a strong relationship with some of the leading Brazilian universities (Fernandez & Suprinyak, 2014), promoting an “institution-building” approach. The foundation’s aim was to improve the teaching and research in the Social Sciences, including Economics among these. Besides some funding for the creation of the first graduate programs in Economics, Ford promoted the idea that a young generation of (future) professors should be trained some prestigious universities in the USA. The Brazilian office hired Werner Baer, then a professor at Vanderbilt University, to lead the creation of those pioneering programs.

As a result of this program, some promising young scholars received funding to study in the US. When these young people returned to Brazil, the first of them in the late 1960s and early 1970s, they brought back home, for the first time, the discussions that were taking place almost simultaneously in the leading American universities. And, in a country haunted for many years by the ghost of inflation, few subjects appeared as relevant as the debate about the Phillips Curve. And so, in the suitcases and minds of a new generation of scholars, this subject was introduced in the recently created Brazilian Economics academy.

One important characteristics of the Phillips curve models that were incorporated to the Brazilian academic debates during the 1970s is that they were monetarist in essence, inspired by the accelerationist models of Friedman and Phelps. Those models were rather mechanical, meaning that institutional and historical features tended to be put aside into this conceptual framework.

The negligence of historical and institutional features by the Phillips curve proponents triggered the inertialists’ criticism during the late 1970s and early 1980s. The Phillips Curve models did not include the wage policy, the main cause of inflationary inertia in feedback models proposed by the inertialists; this

fact was pointed as one of the main reasons why inflation forecasts based on the Phillips curve failed to explain the Brazilian inflation dynamics as shown in Lopes and Resende (1979) and Lopes (1981).

The structuralist-monetarist controversy was not new in the Brazilian academic scenario by that time. The debate started in late the 1950s, lost intensity during mid-1960s, but still remained relevant in the Brazilian economic discussions until the late 1970s (BOIANOVSKY, 2012). The introduction of the Phillips curve model in the Brazilian inflation discussions can be understood as an element that rekindled the structuralist-monetarist controversy during the late 1970s and early 1980s, as a result of the resurgence of this debate.

With the aim of showing how the dispute between the Phillips curve and the inertialist models unfolded in the highlighted period, this essay is focused on the reaction of the inertialists based on the Pontifical Catholic University of Rio de Janeiro (PUC-Rio) to the Phillips curve analysis proposed by economists based on Rio de Janeiro Getulio Vargas Foundation (FGV-Rio) and is divided into five sections, besides this introduction and a short conclusion. The first section shows some aspects of the Brazilian inflation debates during the 1970s and the 1980s. The second section makes some considerations regarding the feedback model developed by Mario Henrique Simonsen. The third section explains the incorporation of the Phillips curve into the inflation debate during the 1970s. The fourth section shows some reactions of neo-structuralists to the analyses based on the Phillips Curve model. Last section concludes.

1. THE INFLATION DEBATES DURING THE 1970s AND THE 1980s: ORTHODOX SHOCK *VERSUS* GRADUALISM, AND INERTIALISM *VERSUS* MONETARISM.

The Brazilian debate about price stabilization during the highlighted period initially involved the proponents of the orthodox shock (the International Monetary Fund economists, from now on mentioned as IMF, for example) and the gradualists. Proposals based on the orthodox shock approached a rigid control of the monetary supply and/or the nominal aggregate demand, which should grow according to the rate of expansion of the "full employment" output level to clear inflation (SERRANO, 2010) ⁴

On the other hand, economists claiming for gradual politics such as Cláudio Contador, whose analysis was based on the Phillips curve model, sought to stabilize prices which would avoid a major stabilization crisis. They also proposed a fiscal and monetary adjustment, one that would be less rigid than the one recommended by the IMF and would be implanted slowly for a longer period of time.

Gradualism guided the Brazilian stabilization plans from 1958 to 1967 and was firstly employed by the Monetary Stabilization Program in 1958 (during the government of Juscelino Kubitschek). Afterward, it was employed by the Three-Year Plan (1962, during the government of João Goulart), and finally by the Government Economic Action Plan (PAEG) from 1964 to 1967, during the military dictatorship (BASTIAN, SÁ-EARP, 2012).

In the late 1970s, inertialists who adhered to the inflationary feedback model proposed by Simonsen (1970) joined the debate, also disagreeing with the orthodox shock stabilization program. Although gradualists and inertialists shared a similar criticism towards the orthodox shock (in the sense that they discredited a radical decrease of the GDP in order to achieve price stability), their policy recommendations were considerably different.

According to Lopes (1979), the feedback model proposed by those who he referred as structuralists was linked to the Latin American structuralist theory, whereas the Brazilian Phillips curve model had a

⁴ Due to great number of citations to Brazilian sources, all the citations have been translated in order to facilitate reading

monetarist influence, and was based on the accelerationist version proposed by Friedman (1968) and Phelps (1967).

The structuralist theory understood inflation as a process determined by problems of structural nature, resulting from a historical process during the development of peripheral capitalism. It is not a purely monetary phenomenon motivated only by poorly formulated price expectations. In this sense, the inertialist theory of inflation can be seen as an extension of the structuralist tradition, both seeking a heterodox explanation for chronic inflation. However, the approximation between theories does not mean that the inertial theory arose from structuralism (MODENESI, 2005).

Some of the inertialist economists could be also referred as neo-structuralists. The neo-structuralists' analysis claims that an orthodox shock would be harmful since it might lead to a permanent output loss. The solution they presented was focused on price controls. According to Vernengo (2006): "These authors called for a 'heterodox shock', by which they meant extreme price controls; that is, prices should be frozen completely to avoid inertia. Given their distrust in orthodox policies, the inertialist authors became known as neo-structuralists" (VERNENGO, 2006 p.483)⁵. Monetarists alternatively support orthodox stabilization policies⁶. It is worth noting that not all inertialists shared the idea of the heterodox shock as a stabilizing measure or can be classified as neo-structuralists. P rsio Arida and Andr  Lara Resende (1985), also inertialists, suggest neutralizing inflation by introducing an indexed currency that circulates in parallel to the official currency (known as the Larida proposal), which inspired the Real Plan.

The following pages are devoted to a brief exposition of the inflation feedback model, followed by the Phillips Curve models proposed to the Brazilian economy and the inertialist controversy.

2. A FEW CONSIDERATIONS ON THE DEVELOPMENT OF THE INFLATION FEEDBACK MODEL IN BRAZIL.

The inflation feedback model can be understood as a Latin American contribution to the inflation theories. According to Carvalho (2015), it was proposed independently by Mario Henrique Simonsen (1964, 1970) and Felipe Pazos (1963, 1969, 1972). For the purposes of this work, only M rio Henrique Simonsen's analysis will be discussed.

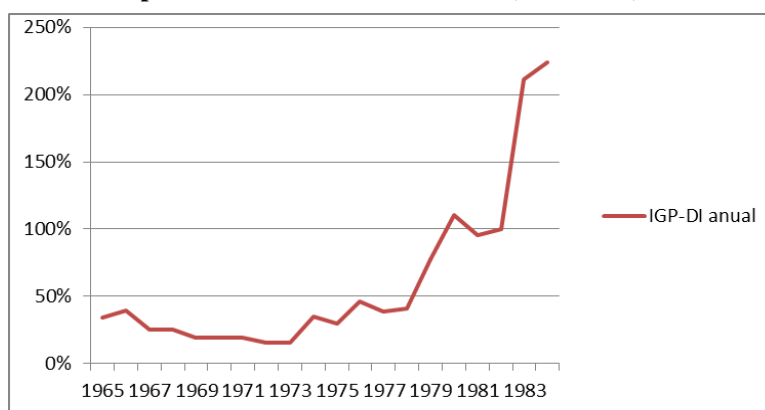
In 1970, Mario Henrique Simonsen⁷ published a book titled "*Inflation: gradualism vs. shock treatment*" and proposed that inflation results from the indexing process. Simonsen's model of inflation feedback inaugurated a research program in the Brazilian academy (CARVALHO, 2015), structuring the theoretical body of what nowadays is known as the "inertial theory of inflation". In his book, Simonsen (1970) evaluated the Brazilian inflationary experience between 1964 and 1969, pointing out the dissemination of the monetary correction formula as one of the main factors of inflation acceleration and, therefore, of economic instability. The monetary correction mechanism prevents from reaching monetary stability, therefore, it would be impossible to apply orthodox mechanisms to control price acceleration. According to Serrano (2010):

⁵ The term "inertialist" is adopted instead of the term "neo-structuralist" because the "inertialist" nomenclature seems to be more precise to describe the elements of the group of economists who reacted to the Phillips curve analysis. Perhaps not all economists fit the definition of neo-structuralists. For a better understanding of the terms, it is recommended to read Carvalho (2015) and Modenesi (2005).

In Brazil, the idea that inflation depends at least from past inflation is relatively old. The idea that current inflation would be related not only to expectations but also to the broad existence of contracts that are periodically adjusted for past inflation is old. This idea stems, of course, from our historical experience of chronic inflation and has gained relevance with the expansion of the so-called "monetary correction" of interest rates, taxes, currency "devaluations", and the compulsory wage adjustment policy implemented by the Brazilian military government of 1964 (SERRANO, 2010 p.402)

Simonsen's proposal stimulated economists to consider the impact of formal monetary correction mechanisms on inflation indexes. However, it was only after the persistent changes in the inflationary level (as shown in graph 1) that the ideas of what we know as Inertial Inflation Theory began to be developed (SILVA, 2008) ⁸.

Graph 1- Annual Inflation in Brazil (1965-1983)



Source: IGP-DI (Getúlio Vargas Foundation).

According to this theory, in chronic inflationary processes — characterized by high rates of inflation, but not high enough to be considered hyperinflation — it is possible to detect an autonomous self-reproducing component (trend) and a component responsible for changes in the level of inflation (shock). Within this analysis, it can be concluded that the current price levels tend to be transmitted through later periods, increasing the inflation rate. This is the essence of the inflationary inertia (SILVA, 2008).

In order to contain the inertial inflationary growth, Simonsen (1970) argued that the gradualist approaches proposed during the 1970s could work in the case of a partial indexation of the economy, but not in the case of a full indexation. A full indexation would require a shock approach in order to reach stabilization again.

Simonsen's theory of inertial inflation incorporated the Brazilian wage policy using the "sawtooth graph". The pattern drawn by wage readjustments when plotting a chart contained peaks and valleys connected by solid lines, so that it resembled the teeth of a saw. Therefore, the graph used to explain the Brazilian wage dynamics was known as "sawtooth". This model appeared in the Brazilian literature with the name "Curve of Simonsen" appearing for the first time in the book "The Brazilian Inflationary Experience" (Simonsen, 1964) and after this first appearance of the sawtooth model, it took some years for Graphs that contemplate wage dynamics appear in a common way in Brazilian inflation studies (VERA, 2013 p 268) The sawtooth graph was incorporated into economic theories as a consequence of the intellectual environment during the Second World War period, which allowed economists to learn and borrow

⁸ after the stability period of 20% per year from 1967 to 1973, the inflation rate increased 40% per year during 1974-1978, 100% per year during 1977-1982 and 200% per year during 1983-1985.

modeling formats from the engineering and mathematics fields (CARVALHO, 2015 p. 65) and was later used by the Brazilian inertialist theories which aimed to deny the Phillips Curve model.

3. APPLICATIONS OF THE PHILLIPS CURVE TO THE BRAZILIAN ECONOMY

The purpose of this section is to examine how the Phillips curve was incorporated into the Brazilian inflation theories and academic debates during the 1970s and 1980s and in the debates raised among Brazilian economists. To do so, the present analysis will be based on articles published in Brazilian economic journals.

The Phillips curve models incorporated into the Brazilian academic debates during the 1970s were monetarist-inspired, based on the accelerationist models of Friedman (1968) and Phelps (1967), and contained a major analytical modification: the unemployment variable was replaced by the output gap. Another interesting feature is that the objective of those models was to promote price stabilization instead of a lower level of unemployment. Therefore, these initial Phillips curve models applied to Brazil cannot be accused of triggering inflation as in the case of Samuelson and Solow's 1960 paper. As a matter of fact, such accusation was never made for the Brazilian analysis.

The models were essentially mechanical, so the institutional and historical characteristics tended to be set aside within this conceptual framework. The neglect of these features within the Phillips curve analysis triggered the neo-structuralist / inertialist critique during the late 1970s and early 1980s which will be discussed in the next section.

3.1 The contribution of Antônio Carlos Lemgruber⁹

Lemgruber (1973) wrote one of the most influential¹⁰ papers with an estimation of the Phillips curve for Brazil, titled "*Brazilian inflation and the controversy over inflation acceleration*" published in the *Revista Brasileira de Economia* (literally *Brazilian Journal of Economics*). He intended to test whether the accelerationist model of the Phillips curve could be applied to the Brazilian inflationary experience¹¹.

According to Lemgruber (1973), although the Brazilian inflation was used by Friedman (1968) to illustrate how the accelerationist model works, there were no empirical tests applied to the Brazilian economy so far. This justifies his motivation and the relevance of the paper.

The theoretical model proposed, as I already mentioned, was based on Milton Friedman's accelerated inflation theory and emphasized the differences between anticipated and effective inflation, incorporating the concept of adaptive expectations. In this new iteration, the Phillips curve exists only in the short term,

⁹ Lemgruber has an undergraduate degree in economics from the Federal University of Rio de Janeiro (UFRJ), a Master's degree in economics from the University of Virginia, and a PhD in economics from the Brookings Institute, in Washington. He was the president of the Brazilian Federal Reserve from March to August of 1985 and also a Professor at Rio de Janeiro Getúlio Vargas Foundation (FGV-Rio) for some years during the 1970s and the 1980s. Source: <<http://www.fgv.br/cpdoc/acervo/dicionarios/verbete-biografico/lemgruber-antonio-carlos>> accessed in 21/12/2016 2:45 PM.

¹⁰ This affirmation is based on the fact that Lemgruber's 1973 paper is quoted by all PUC-Rio's economists mentioned in this paper. The two Phillips curve analysis for the Brazilian economy mentioned by them were Lemgruber (1973) and Contador (1977).

¹¹ Besides Lemgruber's and Contador's papers, Mario Henrique Simonsen (1974), Gonçalves (1974), Carvalho (1975), Barbosa (1979/1983) and Cysne (1985) also studied the Phillips curve for Brazil but their studies are not relevant for the discussion presented in this paper.

when the rate of anticipated inflation does not correspond to the effective one. In the long run, when expectations are corrected, whatever the rate of inflation is, it will be consistent with the natural rates of unemployment and output. The model also incorporates Okun's Law to estimate the output gap.

The potential output, in turn, was estimated using a trend line fitted through peaks. It is important to highlight that due to the lack of satisfactory data to estimate the unemployment rate in Brazil back then, the estimation of the Phillips curve was made based on the data of the commodities market (through the Okun law) rather than on the labor market (BASTOS, PEREIRA, 2014), producing an output gap *vs.* inflation trade-off. This was a common trick in earlier papers that managed to work around the data availability problem. Nevertheless, Lemgruber (1976) shows that the estimation of the Phillips curve based on the commodities market was already used by other economists, such as Friedman and Schwartz (1967) Lucas (1972) and Lucas (1973).

Using the Okun law, it was possible to make the inflation depend on the idle capacity that was used as a proxy for unemployment. The results pointed out that there was, in fact, a short-term Phillips Curve for Brazil, but one that would be vertical in the long run. Lemgruber concluded that the Brazilian inflation acceleration was linked to the Phillips curve, confirming Friedman's thesis about the existence of a short-run trade-off.

Lemgruber's 1973 analysis seems to be a merely empirical work and is a rather short one. The purpose of providing an empirical test of the acceleration hypothesis applied to the Brazilian economy is the main goal and it might seem like he is not engaged in any discussion with other Brazilian economists. This paper appears to be a pioneering experiment that was later used by Contador (1977) as a reference, and questioned by inertialists who rejected the validity of the Phillips curve. However, in 1974 he would write a paper trying to approach the Phillips curve and the inertial model proposed by Simonsen (1970), demonstrating that he was not unconcerned about the last updates in the Brazilian academy, as discussed in the following paragraphs.

Lemgruber (1978) also gave his contribution to the debate concerning the treatment of shock *versus* gradualism, also addressed by Simonsen (1970). This theme was approached in the third chapter of the book "Inflation, Currency and Macroeconomic Models - The Case of Brazil (1978)", a work in which the centrality of the Phillips curve in Lemgruber's research agenda becomes clear. The concept appears in all chapters of the book, illustrating the trade-off between inflation and recession in the short term, and serves as a subsidy for the analysis of price stabilization.

In "Gradualismo ou Tratamento de choque : algumas simulações (Gradualism or Shock Treatment: Some Simulations)," Lemgruber (1978) investigated the pros and cons of both stabilization programs and emphasized that the focus of the discussion, which took place in several countries, was not only about stabilizing prices but also about how these programs affected the output and the society. Both implied some recession and a fall in the real output, although such effects would be restricted in the short term, and the main difference between programs would be the magnitude of the fall in inflation and output.

Lemgruber (1978) tried to guide the decision on which stabilization program would be the best, and performs some simulations based on the accelerationist hypothesis using the model of the Federal Reserve Bank of St. Louis which includes a Phillips curve. Lemgruber (1978) concluded that it was valid to reduce the rate of growth of the economic variables, since the short-term recessive effects would be compensated by the stabilization of prices, by the resumption of the higher growth in later periods, and finally, by a growth equivalent to the potential rate of growth in the long term. In order to understand the path to be adopted to reduce inflation (via gradualism or shock treatment), it would be necessary to assume that the authorities had an "indifference curve" between inflation and recession, which would make it possible to analyze the costs and the benefits of each program. If the benefits of a greater deceleration of inflation outweigh the costs of a larger output gap, then shock treatment is adequate. Otherwise, gradualism would be the best alternative.

Lemgruber continues with his effort to apply the Phillips curve to explain the Brazilian inflationary experience in "Rational Expectations and the Real Output / Inflation Dilemma in Brazil" (LEMGRUBER, 1980). In this paper, there was an attempt to reconcile the accelerationist Phillips curve model (with adaptive expectations) with the hypothesis of rational expectations to explain the period of 1950-1978. As a result of the union of these elements, a "kinked Phillips curve" was obtained, and the effects on output and inflation caused by changes in the money supply were emphasized.

According to the rational expectations hypothesis as proposed by Muth (1961), agents adjust their expectations immediately, and prediction errors are rare since agents do not make systematic errors. Thus, the trade-off between inflation and unemployment would be null even in the short term, a result that invalidated the Phillips curve.

The rational expectations hypothesis was incorporated in the economic debate during the 1970's. However, the acceptance of the rational expectation hypothesis was not unanimous and aroused disputes among economists (LEMGRUBER, 1980). One of the most recurring criticisms pointed to the rigidity of prices (and consequently of inflation) downwards, so that price adjustment would be slow in the real world due to the existence of markets with contracts and non-competitive markets (LEMGRUBER, 1980 p 507). Rigidity would prevent automatic price adjustment and invalidate rational expectations when agents are compelled to adjust their expectations downward. However, the rational expectations hypothesis should not be discarded, as this becomes relevant to explain the inflationary acceleration since prices were not sticky upward.

In order to evaluate the Brazilian economy, Lemgruber (1980) proposed a model that reconciled the idea of inflation rigidity with the hypothesis of rational expectations, based on the existing models of Laidler-Parkin (1975) and Lucas (1972, 1973). As a result, he obtained a kinked Phillips curve that was structured as follows: rational expectations would work when inflation accelerated and the Phillips curve would become vertical, so expansionist and systematic monetary policies would have no effect on the output level in this situation. The rigidity of inflation would become evident in cases of inflation slowdown, and the Phillips curve resulting from this scenario would be negatively sloped. In this case, a short-run dilemma between inflation and real output would arise.

The combination of inflation rigidity with rational expectations leads policymakers to a serious problem: on the one hand, the rational expectation hypothesis implies that expansionary policies would have no effect on the real output. On the other hand, from the inflation downward rigidity comes the conclusion that contractionary policies aiming to reduce inflation would cause a contraction of the real output and an increase in the unemployment level. Also, it would be more difficult to achieve price stabilization since prices are sticky downward. Due to the occurrence of these effects, intermittent stop and go policies as those adopted in Brazil¹² should be discouraged as they can produce catastrophic effects.

Alternating between periods of acceleration and deceleration of the money supply would result in asymmetric effects on economic variables, and the final result would not be neutral. Lemgruber (1980) suggested a direction for economic policy: when the initial scenario is of a high level of inflation as was the case of Brazil, a coherent, systematic and gradual program of deceleration of the money supply growth should be adopted – with no oscillations between growth and contraction of the monetary base.

¹² According to Lemgruber (1978:7), within the 1960s and the 1970s there were altering periods of monetary expansion and monetary contraction. The periods of loose monetary policy were: 1960/64, 1967, 1971/73, 1975. The periods of tight monetary policy were: 1965/66, 1968/70, 1974, 1970.

3.2 The Phillips curve of Cláudio Contador¹³

The use of the Phillips curve to propose the adoption of gradualist policies was the main focus "*Economic growth and fight against inflation*", written in 1977 by Cláudio Contador, published in the *Brazilian Journal of Economics*. Although the model had a structure similar to Lemgruber (1973), the paper made explicit suggestions of economic policy.

Contador (1977) began his text describing the main problems of the Brazilian economy of his time: deficit in the balance of payments, rising prices, slowing economic growth and poor income distribution. These problems turned impossible to establish economic growth as the main political objective, because growth policies created inflationary pressures. It would also be impossible to solve all those problems because focusing on one of them might lead to another getting worse. Priorities should be established.

Contador pointed out that a stabilizing economic policy could only be implemented after the government stated the politically feasible targets for the variables. In order to determine such targets, he chose two variables, inflation and idle capacity, and focused on their short-term trade-off.

He adopted the assumption that the economy can operate in equilibrium below the full employment level. Then, the economy will move towards the full employment level. However, output should not grow beyond this level because the only resultant effect would be the increase of nominal variables without leading to an increase of the physical production, therefore, accelerating the inflationary process.

The empirical model presented by the author is based on the standard adopted by the Council of Economic Advisors of the American Presidency for the measurement of the full employment output. According to this standard, the potential output is estimated by connecting the peak levels of the output with a trend line (log line). Peak levels are assumed to be close to the full employment level, as in Lemgruber (1973)¹⁴.

Idle capacity (unemployment proxy) is measured by the Okun's law, which establishes a relation between the deviations of the unemployment rate from the natural rate of unemployment and the output gap (Lopes and Resende, 1979). The output gap is understood to be the difference between potential output and effective output. Figure 1 shows the results obtained for potential output, effective output and idle capacity¹⁵. Once the idle capacity is obtained, the next step in his model is to incorporate a Phillips curve to find the relationship between inflation and idle capacity for Brazil.

In order to explain the Brazilian inflationary phenomenon, Contador uses the theoretical framework of the Phillips curve to show that the growth achieved during the "economic miracle", a period of fast economic growth comprehended between 1968-1973, occurred through the progressive use of the idle capacity of the economy (allowing the economy to grow without inflation). Once the economy reached a level close to full employment, inflation began to increase and then accelerated.

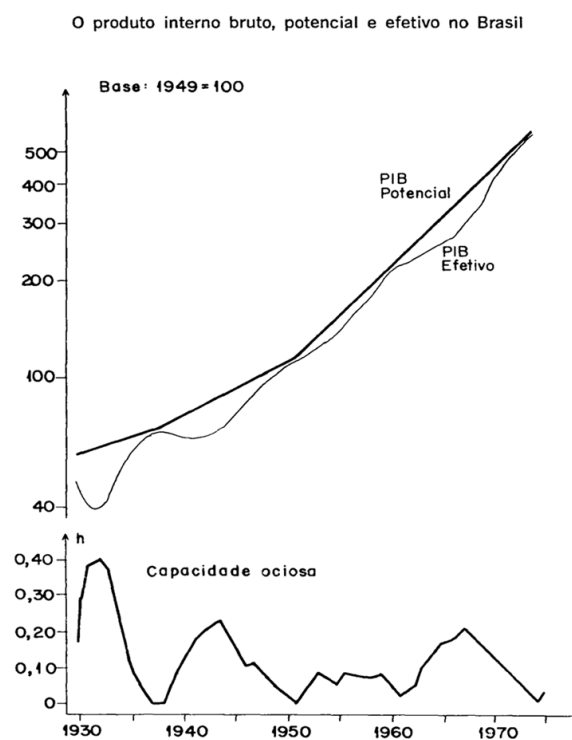
¹³ Contador holds a bachelor's degree in economics obtained at the Federal University of Rio de Janeiro (1966), a master's degree in economics from the University of Chicago (1971) and a Ph.D. in economics from the University of Chicago (1973). Contador is a retired Professor at the Federal University of Rio de Janeiro (UFRJ) and by the time the debate exposed in this paper occurred he was a Professor at Rio de Janeiro Getulio Vargas Foundation (FGV-Rio), during the years 1974-75 and 1978-80. Source: <<http://www.escavador.com/sobre/5648053/claudio-roberto-contador>> accessed in 22/12/2016 12:45.

¹⁴ Contador compares the results he obtained using peak levels with Lemgruber's (1973) estimates, asserting that they are close.

¹⁵ The estimation of the potential output for the Brazilian economy is later described as problematic by Cardoso and Resende (1980), who pointed that the measurement of the potential output involves an estimation of labor force participation, impossible to measure in Brazil due to the absence of statistical series for the labor force and employment. They suggest that the Brazilian Phillips curve models should portray the trade-off between growth and inflation instead of output gap and inflation.

The model also incorporated adaptive expectations (Friedman, 1968; Phelps, 1968). To illustrate an example of how the mechanism works, suppose that the Government adopts policies to lower the unemployment rate, boosting demand and in the following period, raising prices. Due to the rigidity of contracts, nominal wages remain constant between negotiations and, as a consequence, actual real wages differ from those expected. The unemployment rate becomes lower than the natural rate of unemployment, since a lower real wage leads to a bigger labor demand. The workers' inability to react in the short term along with the forecast error explain the existence of the short-term raise in the employment rate. In the long run the forecast errors are corrected and the workers react by adjusting their wages according to the effective inflation, which coincides with the expected one. The trade-off ceases to exist and the unemployment rate coincides with the natural rate, but the price level will be higher.

Figure 1 - Estimation of potential and effective output for the Brazilian economy



Source: Contador (1977 p.137)

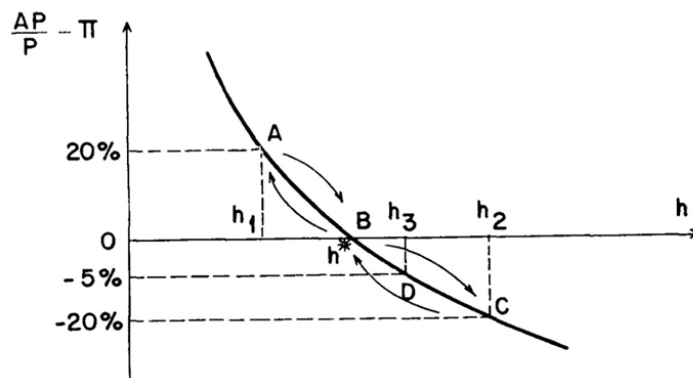
Therefore, policies aimed at stimulating demand and reducing unemployment would have an effect on real variables only in the short run. In the long run, only nominal variables would change. If the decision is to reduce the rate of inflation instead of raising unemployment, the process is analogous. One important difference is that the unemployment rate becomes higher than the natural rate during the adjustment process of expectations, which in turn, become more difficult to go downwards. This makes inflation containment measures socially costly and politically unpopular:

The very shape of the Phillips curve - progressively steeper at higher inflation levels and less slanted at higher unemployment levels shows why anti-inflationary policies are painful and politically unpopular. This approach justifies why the fight against inflation must be gradual rather than abrupt. Gradualism is the most efficient way of minimizing production (or growth) losses and at the same time reducing the rate of inflation. (CONTADOR, 1977, p. 145)

The defense of gradualism is clear in the highlighted section. The gradualist combat of inflation imposes a smaller economic sacrifice according to Contador's interpretation of the Phillips curve.

In his point of view, the sudden reduction of the inflation rate proposed by the orthodox shock would have a high social cost since it abruptly increases idle capacity and unemployment (this occurred during a plunge in the production from 1964 to 1966 in Brazil). The proposal to gradually combat inflation avoids this abrupt increase in unemployment and consists of pursuing gradually lower inflation targets. For example, instead of lowering expectations from 40% to 20% by raising the idle capacity from h^* to h_2 (see figure 2), inflation could be reduced initially by only 5%, setting 35% as the initial target. Reaching the desired level of 20% inflation takes longer, but the decrease in output and social consequences become less costly. As the agents reformulate their inflationary expectations, the government must continue to provoke small frustrations in expectations. This effect is represented by displacements between B and D along the Phillips curve in Figure 2.

Figure 2 - Trade-off between inflation and idle capacity



Source: Contador (1977 p.148)

In the gradualist perspective proposed by Contador inspired by Almonacid and Pastore (1975) research on gradualism vs shock treatment, inflation expectations play an important role in the dynamic behavior of the inflation rate. Hence, if the government wishes to reduce inflation it has to pursue the reduction of inflationary expectations. In order to reduce the expectations, Contador (1977) suggests that governments should make well-planned announcements of the objectives targeted along with a system of price monitoring that leads workers and entrepreneurs to understand and, most importantly, to believe in the goals of the government.

Regarding the applications of his model, Contador (1977) concluded that idle capacity is negatively associated with inflation and positively associated with expectations. When the economy is in its natural rate of employment, the idle capacity is 4-5% for the economy as a whole and 16-19% for the industry. The short-term trade-off is between 0.24-0.29 for the industry and 0.32-0.34 for the economy as a whole. These results mean that for every 10% of unanticipated inflation, there is a drop of 2% to 3% in idle capacity. It is possible to conclude that a decrease in the output gap and, consequently, idle capacity, pressures inflation downwards.

However, by the time Contador's article was published, the Phillips curve had already undergone several theoretical revisions, and it had already faced its most categorical criticism: the rational expectations, developed by the new classical economists. It completely annulled the existence of the trade-off between inflation and unemployment, even in the short run. Yet, the accelerationist version of the Phillips curve was still used in empirical studies in Brazil. It is interesting to notice how this analytical tool accused of creating inflationary policies in the US was used to provide guidelines to fight inflation in Brazil.

In general terms, the Phillips curve models applied to Brazil had a monetarist inspiration and the main purpose of these analyses was to elaborate proposals to combat inflation. Such proposals were based on the conventional conclusion that the product retraction, whether achieved through gradualism or shock treatment, was inevitable in order to achieve price stability. In addition, the Brazilian version of the Phillips curve had the trade-off between unemployment and inflation replaced by the trade-off between the output gap and inflation. This section exposed the developments of Lemgruber and Contador, the most quoted authors by economists of the inertialist reaction. The next section addresses this reaction, highlighting some criticisms and alternative diagnostics.

4. AGAINST THE PHILLIPS CURVE

In the late 1970s and early 1980s, economists from the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), developed a research on stabilization measures for the Brazilian economy, which moved toward even higher levels of inflation. The work developed by these economists denied the applicability of the Phillips¹⁶ curve to the Brazilian economy, using wage indexation to justify their position (BRESSER-PEREIRA, 2010). According to Modiano (1984), there were two main lines of theoretical development on the prices' behavior in the Brazilian economy. The "traditional chain" consisted of works based on the Phillips curve model characterized by "deflationary optimism". The term refers to the fact that the results proposed by these models suggest that small changes in the activity rate (through the adoption of recessive policies) would be sufficient to promote a considerable effect on the decrease of prices. Modiano (1984) states that from the work of Lopes and Resende (1981), a theoretical line was developed that challenged the Phillips Curve models, characterized by "deflationary pessimism". In this perspective, recessive policies would not have much impact on price cuts but would have an unnecessary impact on production. In this section, I will present their criticism to the application of the Phillips curve.

4.1 The pioneer reaction of Francisco Lopes¹⁷ and André Lara Resende¹⁸ .

In 1979 André Lara Resende and Francisco Lafaiete Lopes published a study entitled "*On the causes of the recent inflation acceleration*" as part of the research "*Inflation and Balance of Payments: A Quantitative Analysis Of the economic policy options* ", financed by the National Economic Research Program (PNPE). This work started an alternative way of thinking about the dynamics of Brazilian inflation (MODIANO, 1984), contesting the analysis based on the Phillips curve.

In this paper, they perform a quantitative analysis of the causes of the inflation acceleration that began in 1977, using the behavior of industrial prices as a proxy for the general economy prices. These prices were

¹⁶According to Rodrigues (1996) the opposition to the traditional theory can be seen as : "However, in the early 1980s, there was an incipient climate of political openness in Brazil, making the fight against inflation along with the promoting of economic growth one of the main "flags" of the opposition to the military regime. There was then a clear controversy between these proposals by the "opposition economists", and the emphasis on the need for contention policies, espoused by economists attached to more conservative ideas, who came to dominate the government after a brief period of "heterodoxy" in the first year of the decade" (RODRIGUES, 1996, p. 47)

¹⁷ Francisco Lopes has a degree in Economics from the Federal University of Rio de Janeiro (1967), a master in Economics from the Graduate School of Economics of the Getúlio Vargas Foundation (FGV) in Rio de Janeiro (1967) .and from Harvard University (1970). He also has a PhD degree in Economics from Harvard University (1972).(MANTEGA, REGO, 1999 p.333)

¹⁸ André Lara Resende has an economics degree from PUC / RJ (1973), has a Master degree in Economics by EPGE (1975) and obtained his PhD from the Massachusetts Institute of Technology(MIT) in 1979 with the thesis "Inflation and Oligopolistic Price in Semi-Industrialized Economies".(BIDERMAN, 1996 p.285).

estimated incorporating the effects of wage policy and external shocks on Brazilian inflation - two factors left aside by the analyses presented in the previous sections.

Their main feature is their contestation of the economic models based on the accelerationist Phillips curve. They claim earlier models not only fail to incorporate the Brazilian wage policy rule (the main variable causing persistent high inflation rates), but also they neglected the impact of external price shocks. Therefore, the Phillips curve models also discard phenomena such as the inflationary upswing caused by the first large oil crisis of 1973.

While earlier models (Lemgruber, 1973; Contador, 1977) had apparently satisfactory results for the Brazilian economy, they made the mistake of implicitly considering the value of wages solely as a market clearing price.

The model proposed by Lopes and Resende (1979) intends to incorporate the Brazilian wage policy implemented in 1965 responsible for sustaining the inflation inertia. This policy established compulsory and periodic wage adjustments and, as a consequence, wages could only be adjusted downwards through labor turnover, and they could not be reduced through market clearing. This is a unique institution of the Brazilian economy and cannot be ignored by economists.

In order to adapt the model to the Brazilian reality, the authors divide the labor market into two sectors. First, we have the market sector, the only one considered in the basic Phillips curve models. The latter models rely on the implicit hypothesis that market mechanisms have the capacity to neutralize the effects of wage policy.

The second sector is the institutional. In this sector, wages become dependent on wage policy. The legal minimum wage is used as a proxy for the value of general wage readjustments. This adjustment makes possible to measure whether the wage policy is relevant or not in determining the inflationary process, besides setting the weight of each sector according to the price variation. The authors also included in their model the cost of industrial goods, the impact of internal shocks (including an external sector), the price of imports and the balance of payments.

Their results concluded that the output gap had an insignificant coefficient, with a sign opposite to what was expected. The market sector had become statistically insignificant in the determination of wages. Therefore, the favorable results obtained in earlier estimates pointing the gap as a significant determinant of inflation were only possible due to the fact that those models were incomplete, leaving aside the external sector and wage policy.

Thus, they contested Lemgruber's (1973) and Contador's (1977) estimations. If their estimations were incorrect, so were their policy recommendations. Lopes and Resende (1979) argued that the most successful years in terms of reduction of the inflation rate were precisely those in which there was a stronger control over minimum wage's value (1964-1967). Price controls were one of the alternative measures (to the adoption of recessive policies) to combat inflation proposed by neo-structuralists.

As for the period of inflation acceleration of 1973-1974, they argued that the external supply shock, consequence of the raise in oil prices, was the main driver behind it. During this period, the relationship between the output gap and inflation moves along with the expectations of the Phillips curve, which makes the trade-off between the output gap and inflation appear to be significant. They argued that earlier Phillips curve models "manufactured" a statistic that made significant the inverse relationship between output gap and inflation.

The wage policy was particularly important in explaining inflation in 1979. In November of that year, the wage policy rule changed from annual periodicity to semi-annual readjustment. This reduction in periodicity acts as a propeller of inflation in an economy in which the mark-up remains constant. The results obtained with the estimates indicate that, for industrial prices (again as proxies for general prices

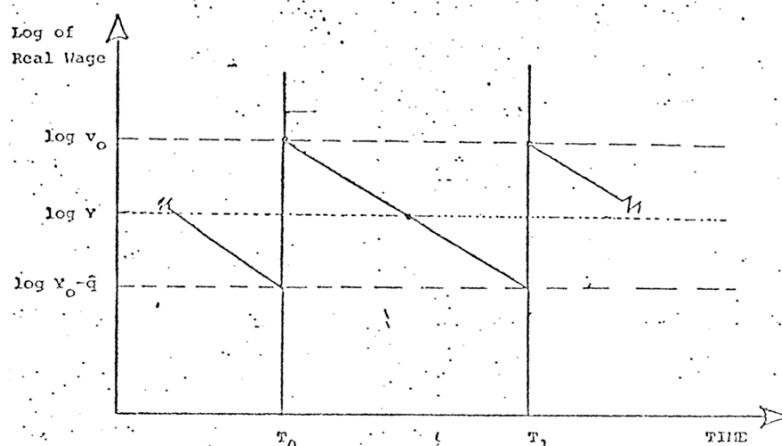
in the model), there is no trade-off between inflation and output gap. It was concluded that the adoption of recessive policies may be innocuous if the objective was to control prices.

The main contribution of this paper, therefore, was to develop a model of price determination for the Brazilian economy considering structural and institutional characteristics which results questioned of the validity of the trade-off proposed by Phillips curve models.

4.2 Francisco Lopes and Edmar Bacha's inertialist model ¹⁹.

Francisco Lopes and Edmar Bacha (1979) also contested the applicability of the Phillips curve models to the Brazilian economy. In their article "*Inflation, Growth and Wage Policy: in search of a Brazilian paradigm*", they analyzed how wage policy influenced inflation levels in Brazil, adopting Simonsen's model of inertial inflation.

Figure 3 – The "Sawtooth" Graph



Source: Lopes and Bacha (1979 p.4)

The 1965's wage law imposed compulsory salary adjustments with a fixed periodicity, but the date of the readjustments could be freely established by each category. As a result, the adjustment dates changed according to each sector, making it difficult to synchronize the effects of anti-inflationary policies between the different categories. Under the 1979's new rule, wages should be readjusted every six months and the readjustment amount was the sum of the increase in productivity and the cost of life during the period. According to Lopes and Bacha (1979), the analyses based on the Phillips curve did not take in consideration the Brazilian wage policy, an essential institution to understand the country's inflationary dynamics.

The model proposed in their paper included the Brazilian wage policy, representing the wage behavior graphically by using the "sawtooth" model. The graph shows how at the realignment date, both real and nominal earnings reach their highest peaks. During the period between readjustments the real wage falls continuously eroded by the rate of inflation. By the end of the period the real wage reaches its lowest point, immediately before the readjustment, returning to the peak when the readjustment is done. These movements give the sawtooth form to the graph. It is possible to notice that the more salary readjustments occur in a period, the closer to full indexation the economy is.

¹⁹ Edmar Bacha has a degree in Economics from Federal University of Minas Gerais in 1963. He obtained his master's degree (1965) and the Doctorate in Economics (1968) from Yale University. (BIDERMAN, 1996 p.231).

In the analysis of the impact of the wage policy on the Brazilian labor market, the authors noted that the wage law created a "statutory" wage that could hypothetically be circumvented by companies. The statutory wage could be result of the wage increasing above the official criterion (since there was no ceiling established), or via resignation followed by re-employment, if the wage was to be reduced. These mechanisms would nullify the effect of the compulsory adjustment set by the wage policy.

This possibility encouraged an analysis of the interaction between institutionally established wages and market established wages, which was ignored in earlier papers, namely Lemgruber (1973) and Contador (1977). As shown before, Lopes and Resende (1979) had already challenged earlier Phillips curve models, concluding that the statutory salary and the price of domestic inputs influenced the prices of the Brazilian industry during the period 1960-1978.

Lopes and Bacha (1979) presented theoretical arguments to defend the hypothesis according that Brazilian wage policy is the main determinant of the wage rate established by the market. According to them, it would be costly to force a decrease in wages with an increase in the turnover of the workforce (due to the negative moral repercussion and the disincentive to increase productivity), which avoids downward pressure on wages. On the other hand, it would be unlikely that there would be a steep increase in wages voluntarily in an economy where there is predominantly excess of labor supply. Thus, salaries observed in the formal market²⁰ tend to follow the value established by the wage policy²¹, and it is difficult to deviate from the wage policy rule. Thus, they concluded that stabilization policies for the Brazilian economy must take into account that the wage policy is fully effective.

In their model they consider a steady state relation between inflation and real output growth. The first equation relates growth capacity with inflation as a result of two cumulative effects of inflation on saving and investment: the forced savings effect and the inflation tax effect. These combined effects allow idle capacity to grow with inflation, with its ceiling growth defined by the tendency of the real wage to deteriorate in the face of rising inflation, causing the forced saving effect to disappear. Also, the velocity-income of the currency tends to increase, nullifying the effect of inflationary tax.

The costs of orthodox stabilization policies are finally examined. They show through graphical and equation analysis how a monetary contraction, *ceteris paribus*, produces not only a temporary stabilization crisis, but a *permanent* reduction of the output. The wage indexation affects this result, because the closer the economy is to full indexation, the lower the monetary shock will decrease the output. The indexation, therefore, neutralizes the losses in the output and can undermine the effects of the shock. An alternative way to combat inflation based on their model is to expand the productive capacity (or utilization of the idle capacity), since the inflation rate is affected when idle capacity deviates from its normal rate. Another proposal is to fight inflation through full wage indexation, in order to avoid monetary control programs.

4.3 Francisco Lopes's criticism of the Phillips curve

Lopes makes an assessment of eight estimates of the Phillips curve²² for the Brazilian economy in paper titled "*Inflation and Activity Level in Brazil: an Econometric Study*", published in 1982. He concluded

²⁰ Wage policy does not seem to influence the value of wages in the informal economy

²¹ Wages may also rise as a result of increased productivity, as apparently occurred in Brazil. (BACHA and LOPES, 1979 p.10)

²² Besides the criticisms discussed in this section, Modiano (1983) also makes an interesting contribution in questioning the validity of the Phillips relation applied to Brazil. Modiano (1983) analyzed the relationship between inflation and economic activity following the "original" model of the Phillips curve, using the nominal wage instead of the output gap. According to him, the Phillips curve models were in discredit in the Brazilian academic scenario due to their failure in predicting the acceleration and persistence of inflation during the 1979-1982 period. He mentioned the emergence of new theories concerning the Brazilian inflation dynamics, with models focused on the role of wage policy in the process of accelerating inflation, a perspective that he followed. As a result of the estimations of the econometric model, the author concluded that, although

that the results obtained by these estimates were unsatisfactory. He also studied how the desynchronized indexation of wages affected the inflationary process.

Going beyond Lopes and Resende (1979), he critically reviewed the current econometric studies that attempted to analyze the relationship between inflation and the level of activity and concluded that their results were also not satisfactory. Most Phillips curve models used idle capacity as a proxy for unemployment. This adaptation accounts for the implicit assumption that there is a stable relationship between unemployment rate and output gap (Okun's Law), but that was also a source of bias in the estimations. The estimations obtained appeared satisfactory, resulting in coefficients significantly different from zero and with a correct signal, indicating a relevant relation between inflation and activity level.

However, the first critique of the results obtained with Phillips curve models indicated that their results were overestimated. In other words, the results obtained with the Brazilian models are greater than those estimated for other countries. The greater the gap coefficient, the greater the impact of the level of activity on inflation. Thus, the overestimated coefficients for the Brazilian results may mask the true influence of the variation of the activity level on inflation.

Also, the results seem to suggest that it is possible to obtain satisfactory reductions in the inflation rate with moderate reductions in the activity rate. Lopes (1982) classified this corollary as a "deflationary optimism" as opposed to the "inflationary pessimism" present in the Phillips curve models estimated for the US economy.

Finally, the estimations have substantial standard errors (of the order of 10% points for the inflation rate) and they could not predict the accelerationist inflation in the early 1980s as a consequence of the second oil crisis. The estimation of the gap coefficient also showed a high dependence on the definition adopted, changing the signal when comparing the periods before and after 1964. These facts make it difficult to associate the gap variations to the rise of inflation.

As already shown before, the Lopes and Resende model (1979) was built to correct two important omissions (wage policy and external shocks) of the Phillips curve models, that made them unable to explain changes in the inflation rate when they were not a result of the gap variation.

The results obtained by Lopes and Resende's (1979) model seemed to confirm that the Brazilian indexed wage policy is an institution that cannot be overlooked by any model. The two-sector model of the labor market has given the striking observation that the market sector is not relevant in determining nominal wages, only wage policy. Therefore, there is apparently no relation between level of activity and inflation in the Brazilian economy.

The significant relationship between idle capacity and inflation found by Phillips curve models, would be only statistical illusions resulting from the contamination of observations by external shocks (periods corresponding to the years 1977, 1976, 1979 and 1980) or imperfect indexation of nominal wages (during 1965, 1966, 1967, 1968). External shocks occurred in periods of economic growth, when the gap narrowed whilst the wages control were implemented in periods of economic decline (when the gap between the potential and the actual rate of output widened). These factors together have created statistical illusions. Given the presence of these statistical bias and considering the institutional structure of Brazilian wage policy, the relation between the gap variation and the inflation rate disappears, as well as the Phillips curve.

significant, the value of the idle capacity variable coefficient is small. Due to the fact that the Brazilian inflation surpassed 100% per year by that time, policies aiming to restrain demand were not useful as stabilization measures. The results obtained also constituted a deflationary pessimism, opposing the deflationary optimism present in the traditional estimates of the Phillips curve.

In his new analysis, Lopes (1982) criticized and corrected his 1979's paper (Lopes and Resende, 1979). Although he pointed out important inconsistencies of the Phillips curve models, he also criticized the exaggerated and doubtful result that the market sector does not influence nominal wages. He acknowledged that wage policy determined the inertial inflation pattern of the Brazilian economy, but this does not mean that it is impossible to escape the wage policy and that the market could not influence the price of wages.

It would not be plausible to conceive a labor market shielded from variations in supply and demand. Companies could offer a higher than expected readjustment or they laid off to lower wages. The direction and frequency of these readjustments depend on the market sector in which they operate. This relationship would have disappeared in his earlier work with Resende possibly because some equations had identification problems and had badly constructed variables that could not capture well the effect of external shocks.

Lopes (1982) proposed a new model to overcome the deficiencies presented in the previous paragraph. This new model relied on the measurement of labor costs, determined by the wage policy, but also flexible enough to take into account variations in the level of activity. It also took in consideration inflationary shocks caused by changes in the domestic price of oil. Once the adaptations have been made, the final equation obtained explains the relationship between the inflation rate of the industrial prices during the last 12 months, the average rate (semiannual or annual) of the institutionally defined minimum wage and inflationary shocks caused by supply and demand variations.

The model had satisfactory estimates, with a good statistical adjustment of the model. As for the relationship between activity level and inflation, the results suggested that a change in the gap over a period produces a much larger impact on inflation in the first year of this period, losing its strength in subsequent years. To explain this last result, Lopes (1982) suggested that a variation in the level of industrial activity has an effect on excess demand/supply in the modern segment²³ of the labor market (without affecting the traditional segment), thus affecting the nominal wage of this sector. This would be neutralized in the medium and long term by shifts in labor supply when movements from less developed sectors of the labor market to the more developed sectors lower the nominal wages again.

The proposed model also presented a labor market divided into two sectors, just like Lopes and Bacha (1979). The results showed that the inertial inflation pattern is determined by the wage policy rule. In this way, wage policy dominates expectations and overlaps market forces.

The results obtained corroborated the deflationary pessimism proposed first in Lopes and Resende (1979), against the deflationary optimism of the Phillips curve models. Once again, the capacity of recessive policies to stabilize inflation was questioned²⁴

²³ Industry is considered the modern sector while agriculture is traditional sector.

²⁴ According to Modiano (1984), there were two main lines of theoretical development on the behavior of prices in the Brazilian economy. The traditional one consists of works based on the Phillips curve model characterized by "deflationary optimism". The term refers to the fact that the results proposed by these models suggest that small changes in the rate of activity (through the adoption of recessive policies) would be sufficient to promote a considerable effect on the decrease of prices. From the work of Lopes and Resende (1981), there was a theoretical alternative that challenged the Phillips Curve models, characterized by "deflationary pessimism". In this perspective, recessive policies would not have much impact on price reductions.

CONCLUSION

This paper presented the debate between monetarists and inertialists during the 1970s and the 1980s and its place in the development of inflation theories within these decades. It was possible to identify the existence of a dispute over the guidance of anti-inflationary politics in Brazil. On the one hand, Lemgruber (1973) and Contador apply the Phillips Curve model to Brazil obtaining satisfactory results and proving the existence of an inverse relationship between idle capacity and inflation acceleration.. The results of the latter analysis proposed what critics called a "deflationary optimism", according to which a small change in the rate of activity (for example, a contraction of the output, although not very violent, Contador (1977)) could produce a considerable impact on the rate of inflation.

Against this result, inertialists proposed that Phillips Curve models were insufficient to analyze the complex Brazilian inflationary dynamics. These economists used the inertial model to examine the inflation and understand that it is mainly determined by the wage policy, a variable discarded in the Phillips curve models. The results from the inertial models pointed to a "deflationary pessimism" according to which the level of activity has little influence to fight inflation.

The relevance of the inertialist theories produced by Brazilian economists in the explanation of our specific inflationary dynamics should be emphasized. The most striking difference between the Phillips curve and the inertialist model relies on the incorporation of an institutional feature by the latter. The Phillips curve models are essentially mechanical and ahistorical (CARVALHO, 2015) understanding inflation as a monetary phenomenon. The inertialist model, as mentioned, interprets inflation based on the structuralist framework. Thus the institutional characteristics are considered as determinants of the inflationary process. The wage policy rule is the main cause of inflation within this model, and it cannot be regulated by demand. Hence, economic policies that aims to reduce inflation by controlling demand will certainly fail and the only consequence of such policies might be a permanent output loss. This is the reason why the orthodox polices proposed based on the Phillips curve models would probably fail to control the Brazilian inflation.

The inertialist theory triumphed over the early proponents of the Phillips curve in the terms of guiding economic policy, and in the 1980s another debate arose about the best method of combating inflation. This time it was characterized by the dispute among the proponents of the inertialist theory who argued that the best way to control inflation was by indexing the currency or freezing prices. However, despite these Phillips Curve Models did not orient economic policies during the 1980s Phillips curve models did not completely disappear from the Brazilian academy, regaining its vigor with the new economic consensus and being used until nowadays.

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