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Paper by invitation

Keynesian Macroeconomic Policy: Theoretical Analysis and Empirical Evidence

Summary: Investment depends on subjective factors, such as expectations, conventions, and confident animal spirits. In a context of economic instability and crises, economic policy is the main source to support entrepreneurs' expectations and investment. In this sense, macroeconomic policies are capable of affecting effective demand and building a good institutional environment, which is essential to keep the entrepreneurs' expectations confident and promote their animal spirits. Given these propositions, this contribution has two objectives. The first is to develop a Keynesian type of macroeconomic policy able to stimulate investment and effective demand, and, as a result, mitigate unemployment. The idea is to offer alternative macroeconomic policy prescriptions in relation to the New Consensus Macroeconomics one. This proposal aims to establish the role, according to the Post Keynesian view, the logic of operation of each policy, and the proper coordination among these Keynesian macroeconomic policies. The second objective is to present, briefly, relevant empirical evidence of the Post Keynesian macroeconomic policies.

Key words: Keynes, Economic policy, Fiscal policy, Monetary policy, Exchange rate policy.

JEL: E12, E60, E62.

Keynes, in *The General Theory of Employment, Interest and Money* – hereafter General Theory – proposed an economic agenda in order to address the fact that “the outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and income” (John Maynard Keynes 1973, p. 372). The focus of his proposal was the capacity that the State should hold to steer the economic system, given that, if left to the free workings of market, the economic system and macroeconomic policies themselves – unless there was coordination among them – would not to solving, but to enlarging the main problems of monetary production economies. According to Keynes, the economic agenda of mobilizing resources to generate effective demand and distribute income involves nothing more than the set of conventional macroeconomic policies – fiscal and monetary and, in an open context, exchange rate policies.

As we know, in general, the cyclical instability of output and employment, and, as a result, changes in the income distribution are related to the entrepreneurs' decisions, which depend on subjective factors, such as expectations, conventions, and confident animal spirits, to expand investment, the economic system's driving force. This explains why Hyman P. Minsky (1986, p. 6) argued that, “if the market mecha-

nism is to function well, we must arrange to constrain the uncertainty due to business cycles so that the expectations that guide investment can reflect a vision of tranquil progress". In an uncertain world, in which entrepreneurs risk their power of command over social wealth trying to gain more of it in the future, and by means of that they create employment, income and wealth, economic policy is the main source of solidity that private enterprise has to support their expectations and investment. In this sense, macroeconomic policies – by which we mean fiscal, monetary and exchange rate policies – in a context of coordination is capable of affecting effective demand, as well as building a good institutional environment, which is essential to keep the entrepreneurs' expectations confident and stimulate their animal spirits.

Given that this paper has two objectives: on the one hand, it aims to develop a Keynesian macroeconomic policy framework able to stimulate investment and effective demand, and, as a result, mitigate the unemployment rate¹. The idea is to offer alternative macroeconomic policy prescriptions, which do not rely on the New Consensus Macroeconomics (NCM)² proposed by mainstream economists. Moreover, considering these Keynesian macroeconomic policies, this contribution aims to establish the role, the logic of operation of each policy, and the proper coordination among them; and, on the other hand, it aims to present empirical evidence of the Keynesian macroeconomic policies. More specifically, it shows and discusses the Brazilian macroeconomic policy implemented after the global financial crisis (GFC), 2007-2008, and during the Great Recession (GR), 2009.

Since we put forward a macroeconomic, fiscal, monetary, and exchange rate, policy regime, our intention is not to fully exhaust each of these policies, but to offer their general guidelines, that is, to show their specific goals, tools and channels of transmission. Thus, the aim is not to address all the relevant details of each policy, this has already been done by several authors³, but to analyze the coordination of these policies, which, according to us, has not been explored yet, even in the most recent textbooks of Post Keynesian economics, such as Eckhard Hein and Engelbert Stockhammer (2011) and Marc Lavoie (2014). This is our contribution: to construct strongly, relying on Keynes' original writings, a coherent regime of the Post Keynesian macroeconomic policies. In view of this attempt, the paper has a section dedicated to highlighting many interactions amongst these policies.

¹ As we know, the main Keynes' ideas and arguments are developed by the Post Keynesian Agenda, which aims to explain the *modus operandi* of the economic system in the context of decision-making under uncertainty, imperfect competition, path-dependency analysis and fiscal, monetary and exchange rate policies. However, Post Keynesians not only do they refer to Keynes' ideas and arguments, but also to Kalecki's contributions. Thus, Post Keynesian analysis relies on the basic insights of Keynes and Kalecki. For more details, see Geoffrey Harcourt (2006), Philip Arestis and Malcolm Sawyer (2011), Hein and Stockhammer (2011), Lavoie and Stockhammer (2012) and Sawyer (2012). It is important to mention that, on the one hand, considering the Post Keynesian Agenda, this paper focuses only on macroeconomic policy and, on the other hand, its analysis is based, mainly, on Keynes' writings.

² By the way, the latter is based on the Inflation Targeting Regime (ITR) in terms of monetary policy (and also monetary dominance prevails over the other economic policies), fiscal surplus targeting according to both the crowding out assumption and the Ricardian or Neo-Ricardian equivalence theorem and their inter and intra temporally income adjustment in terms of fiscal policy, and purely floating exchange rates.

³ For example, see Fernando Ferrari Filho (2006) and Arestis and Sawyer (2013).

This contribution contains five more sections. The next one presents why macroeconomic policies are needed. Section 2 describes, based on Keynes' original writings, the main proposals of the Post Keynesian fiscal, monetary and exchange rate policies, respectively. The third section presents, in general terms, examples of how these macroeconomic policies can be coordinated. The fourth section presents, briefly, based on the Brazilian case, empirical evidence, in terms of structure and results, of Post Keynesian macroeconomic policies. Finally, the last section summarizes and concludes.

1. Why Are Economic Policies Needed: A Keynesian Perspective

Within Keynes' monetary theory of production (1973), money is the starting point of the production process as well as it is the desired ending point of this process. Entrepreneurs invest their money willing to obtain more of it at some future point. When entrepreneurs invest, they create employment, production, and income to those both directly employed, and to other entrepreneurs who supply inputs and other factors to the production process. So, the economic system is demand-led, and investment is the key variable to determine its trajectory. In addition, the other components of aggregate demand are essential to validate the initial investment by demanding the goods and services that are supplied, and so justifying the level of labour employed.

However, this future time at which entrepreneurs expect the sale-proceeds of their current investment is unpredictable, so that by no means they are able to know, at the present, whether or not they will profit. Uncertainty prevails and, as long as the future cannot be foretold, entrepreneurs base their investment decision-making on expectations. If these prospects of future are uncertain about their outcomes, money is preferred to capital goods, highlighting the entrepreneurs' preference for liquidity as well as their use of money as a store of wealth. In such conditions, which are actually usual in our economy, the demand for money instead of capital goods provokes insufficiency of effective demand that cools the economic activity down, subduing conjointly employment and production. During its process, the cycle brings together further increase in unemployment and decrease in aggregate income, reinforcing its descent path and culminating at the intensification of the crisis and in recession.

To avoid this scenario, Keynes (1973, p. 379) states that, "the central controls necessary to ensure full employment will, of course, involve a large extension of the traditional functions of the government". The main component of these central controls is macroeconomic policies, because of three reasons. Firstly, they serve as an anchor to the entrepreneur's expectations, signaling the general tendency the government pursues, which translates itself in the direction it would drive the economic activity through. Secondly, one of the macroeconomic policies, namely the fiscal one, is able to directly impact effective demand, and so it can substitute private expenditures whenever they are reduced, preventing insufficient effective demand. Thirdly, macroeconomic policies, together with the political and juridical stances, build the society's institutional structure. The more prone-to-business, stable, credible and transparent such environment is, the more it would favor good and trustful expectations, stimulating investments.

So, macroeconomic policy is the true “market signals” in the Post Keynesian economics, serving as the basis upon which entrepreneurs form good expectations in their investment decision-making process. As we discuss throughout the next sections, Keynes (1971b, 1972, 1973, 1980a, 1980b, 1982) proposed active and coordinated macroeconomic policies, guided to economic growth with full employment and without income inequality as well as accompanied by price, financial, liquidity, exchange rate and external stabilities. The success of the macroeconomic policies is not for sure, after all uncertainty prevails so that mechanist behavior is not expected in the Post Keynesian theory as it is in the NCM. Still, as Keynes (1971a, p. 35) warned, “even if such a policy were not wholly successful, either in counteracting expectations or in avoiding actual movements, it would be an improvement on the policy of sitting quietly”.

To sum up, Keynes (1973, p. 378, emphasis added) argued that, “a somewhat comprehensive *socialization of investment* will prove the only means of securing an approximation to full employment”. For us, this idea of “socialization of investment” concerns the creation of endogenous institutional mechanisms, such as the State, its regulation and intervention, and, mainly, its macroeconomic policy coordination.

2. The modus operandi of the Fiscal, Monetary and Exchange Rate Policies in the Keynesian Context

2.1 Fiscal Policy

Keynesian fiscal policy has direct impact on aggregate demand – more specifically on consumption and investment – and constitutes the main instrument of State economic intervention⁴. It is anchored in tax policy, on the one hand, and in administering public expenditure (importantly, a completely different category from public deficit), on the other hand.

Tax policy is the key source of the public resources that finance public expenses. Furthermore, as Keynes (1972) pointed out, tax policy can also serve to increase available income, thus fostering expansion of effective demand. Lastly, it can also be used to enable unequally distributed income to be reallocated, by either income or inheritance taxes. Throughout his work, Keynes proposed capital levies (1971a) and progressive income taxes (1973) as means of improving income distribution⁵. For instance, to moderate the gains of the rentiers in the financial and exchange rate markets, Keynes (1971a, p. 55) argued that, “capital levy must surely be preferred on grounds both of expediency and of justice”. Moreover, in his General Theory, it was proposed, among other, inheritance tax, because “a fiscal policy of heavy death duties has the effect of increasing the community’s propensity to consume” (Keynes 1973, p. 373).

Meanwhile, in Keynes’ original perspective (1980a), the public spending management is split into two budgets: the ordinary, or, current, and the capital. The

⁴ In this sense, Arestis (2012, 2015) offers a wide number of theoretical and empirical arguments supporting the strong role fiscal policy plays in positively impacting effective demand.

⁵ Income inequality, as Arestis (2015, p. 243) argues, can be an economic policy objective, since it is the case “that inequality has become the most important challenge of the current century”.

former relates itself to the funds necessary to maintain the basic services the State provides to its population, whereas the latter accounts for expenditures regarded as automatically stabilizing economic cycles. Although Keynes (1980a) believed in the importance of these ordinary expenditures in fostering effective demand, he either had argued that the current budget should be in surplus or, at least, in equilibrium. In Keynes' words (1980a, p. 225, 278), "for the ordinary Budget should be balanced at all times. It is the capital Budget which should fluctuate with the demand for employment", so that, "I should not aim at attempting to compensate cyclical fluctuations by means of the ordinary Budget. I should leave this duty to the capital Budget". Hence, how would Keynesian counter-cyclical fiscal policy be achieved?

The capital budget is the other half of the public budget, in which State expenditures concerning how to maintain stable the economic system are discriminated. There are a number of rules regarding the capital budget operation, such as: (a) It may run into deficit but, in general, it is required that the surpluses obtained on the current budget would finance it. Likewise, debt occasioned by deficits in the capital budget would relate itself not to State unproductive borrowings in the financial markets, but rather to "thus gradually replacing dead-weight debt by productive or semi-productive debt" (Keynes 1980a, p. 277)⁶; (b) Based on Keynes (1972, 1973) capital budget public investments must not compete with private investments. They should be complementary to them, as Keynes (1972, p. 291) explains: "the most important *Agenda* of the state relate not to those activities which private individuals are already fulfilling, but to those functions which fall outside the sphere of the individual"; (c) These investments should be made by public or semi-public bodies⁷ and are normally related to social inversions, which "are [those] made by *no one* if the State does not make them" (Keynes 1972, p. 291); (d) As economic decisions always face uncertainty, time is a key variable agents take into consideration when deciding whether or not to invest. So, fiscal policy cannot merely be an instrument of last resort. Its main task, as an automatic stabilizer, is to prevent fluctuations by means of a capital budget that finance a stable and on-going program of long-term investments.

Regarding this last rule of capital budget management, as Keynes (1980a, p. 322) argued, the State as an automatic stabilizer entails "a long-term programme of a stable character [that] should be capable of reducing the potential range of fluctuation to much narrower limits". Therefore, it is not the State's function to intervene during peaks or slumps, but rather to prevent their occurrence. Once the budget for scheduled long-term productive investments has been established, it should address short-term fluctuations by rescheduling expenditures, that is to say, depending on the perceived phase of the cycle, it is needed to postpone or anticipate measures enrolled in the capital budget as soon as the first symptoms of cycle appear. So, although most

⁶ Dead-weight debt is the public liability that does not construct its future sources of payment, such as public bonds issued to assure funds to refinance previously contracted debts.

⁷ According to Keynes (1972, p. 288) semi-autonomous bodies are "bodies whose criterion of action within their own field is solely the public good as they understand it, and from whose deliberations motives of private advantage are excluded". In addition, "it is easy to give examples - the universities, the Bank of England, the Port of London Authority, even perhaps the railway companies" (Keynes 1972, p. 289).

of the times the automatic stabilization would focus on containing crisis, in the rare occasions in which aggregate demand is bigger than aggregate supply, capital budget investment projects shall be deferred to avoid generalized price rise⁸.

Furthermore, Keynes' proposal of capital budget (1980a) rests on the principle of overall budget balance in the long-run. The idea of public expenditures constructing productive institutions implies them being responsible for generating its own surplus and this return tends to balance the capital budget over time. As Keynes (1980a, pp. 319-320) stated, "capital expenditure would, at least partially, if not wholly, pay for itself". This possibility of a balanced capital budget in the long-term makes the Keynesian public budget much more rational and viable⁹, fostering the surpluses, and consequently enabling public savings in both sides of the budget, signaling greater intervention capability for the State to act counter-cyclically.

This logic makes budget deficits an even more remote likelihood; they would occur, confirmed Keynes (1980a, p. 352), if "the volume of planned investment fails to produce equilibrium". Only in such conditions, according to Keynes (1980a, p. 352), "the lack of balance would be met by unbalancing one way or the other the current Budget. Admittedly this would be a last resort, only to come into play if the machinery of capital budgeting had broken down". Nonetheless, Keynes (1980a, pp. 353-354) also argued that, to leave no doubt about his true intentions in prescribing fiscal policy, "so very decidedly I should cut down all this and not lead the critics to think that the Chancellor is confusing the fundamental idea of the capital budget with the particular, rather desperate expedient of deficit financing". As Maria Cristina Marcuzzo (2010, p. 190) argued, Keynes proclaimed what need to be done in order "to sustain the level of investment, but it should be interpreted more in the sense of 'stabilizing business confidence' than a plea for debt-financed public works". So, Keynes' "reliance on socializing investment rather than a fiscal policy aimed at smoothing out consumption levels over the cycle shows his concern for the size of the deficit, and the importance ascribed to market incentives to bring about the desired level of employment" (Marcuzzo 2010, p. 190).

In this sense, Minsky (1986), without resorting to the Keynes' segregated budgets and even underlining the importance of occasional short-term budget deficits, argued that private investment deficiencies need to be balanced by public spending of what he called Big Government. In monetary economies, declining profits signify frustrated entrepreneurs and trigger a whole chain of financial liabilities default, tending to lead to a critical situation among the institutions operating on financial markets. In this intricate and unstable scenario, where the real and financial dimensions of the economy are inseparable and mutually dependent, according to Minsky (1986, p. 297)¹⁰, "Big Government must be big enough to ensure that swings in private investment lead to sufficient offsetting swings in the government's deficit so

⁸ For examples on how the State cools the economy, see: *How to Pay for the War* (Keynes 1972).

⁹ In his 1933 *The Means to Prosperity*, Keynes (1972) argued that policies to expand public spending in times of stagnation, recession or depression are means for national treasuries to increase their revenue gathering and make it easier to achieve balanced budgets.

¹⁰ For this reason, Minsky (1986) proposed that Big Government should have the size equal to, or greater than, the rate of gross capital formation to GDP.

that profits are stabilized". Minsky (1986) added, however, that the public budget must necessarily be balanced in the medium- or long-runs, chiefly because the public sector is constantly in need of private financing that would only be granted if agents believe that public revenues are sufficient to answer for the State's financial payments.

The fundamental role the capital budget assigns to public spending on investment rather than on consumption concerns three aspects. Firstly, the accumulated stock of wealth depends on entrepreneurs' investment decisions, since they drive the use of machinery, equipment and, most importantly, human work to generate income and wealth. Secondly, as in Keynes (1972), the initial increase in wealth resulting from investment is able to produce a circuit of spending and thus, given the multiplier effect, leads to further increases in income and wealth. According to Keynes (1972, p. 340), "if the new expenditure is additional and not merely in substitution for other [...] the increase of employment does not stop there. The additional wages and other incomes paid out are spent on additional purchases, which in turn lead to further employment".

Lastly, as Keynes (1980a, p. 350) states "the question then arises why I should prefer rather a heavy scale of investment to increasing consumption. My main reason for this is that I do not think we have yet reached anything like the point of capital saturation". So, consumption spending would play a prominent role when a country's stock of capital reaches the saturation of overall scarcity that permits assets to become profitable. At this stage, public policy would be applied to stimulate consumption, which is essential to foment entrepreneurs' short-term expectations. Yet, beneath this scarcity ending point, there is room for growing the society's stock of capital and, consequently, for also expanding social wealth – fundamental for improving quality of life and basically dependent on investment spending.

In summary, for Keynes – and also for Post Keynesians, – fiscal policy has a strong macroeconomic role (Arestis 2012)¹¹ to pursue economic growth and income distribution. It must be implemented over time to prevent both peaks and slumps, avoiding entrepreneurs' lack of confidence. Although the expenditures undertaken in the current budget are important to sustain effective demand, the chief tool to automatically stabilize the economic trend is capital budget public investments. These investments should be complimentary to the private ones, have a technically social character and be preferable, made by semi-public institutions. Also, they should follow long-term profit logic, and rarely culminate in overall budget deficit, which may be a case just in extreme situations, such as the economic crisis in which the economic system has been standing on since the *subprime* collapse in 2008.

2.2 Monetary Policy

For monetary policy, Keynes suggested that its ultimate goal is to impede that "disastrous fluctuations in the volume of employment continue in the future as severely as in the past, and perhaps more severely" (1982, p. 137). Thus, Keynes' concerns and

¹¹ See, also, Arestis, Jesús Ferreiro, and Felipe Serrano (2015) on fiscal policy and other relevant policies that support the view elaborated in the text.

wishes in relation to a monetary policy strategy is setting economic growth as its ultimate goal, instantaneously bringing investment and employment levels under central bank's surveillance.

Why monetary policy is important? Because it would be used to align the relative prices of investment asset in the economic system, by managing the interest rate in the economy. In other words, when comparing the various yields on the assets available for choice, economic agents may judge it preferable – in terms of liquidity, carrying cost and quasi-rent (Keynes 1973, Chapter 17) – to channel their resources into assets that do not generate an expansion in economic activity – and particularly when the productive investments made in the past have resulted in excessive inventories and frustrated expectations.

Besides its ultimate objective, monetary policy also has five immediate goals: (i) As Keynes (1982) stated, one of these is price stability. Inflation affects expectations as long as it devalues wealth, shortens the long-run, and unleashes liquidity preference, likely to lead the economy to an insufficient effective demand¹²; (ii) Another immediate goal is, according to Arestis and Sawyer (2013, p. 163), “to bring to the forefront a form of monetary and financial policy, which is focused on financial stability”. Financial stability is understood as the absence of asset price bubbles, illiquidity, and insolvency, whose occurrence threatens the financial markets and the real economy. In this sense, and as Arestis (2015, p. 24) states, financial stability should turn the financial system into an instrument to financing productive investment, households and foreign trade, instead of providing “short-term gains for shareholders and huge profits for themselves”¹³; (iii) As it is by means of expectations and its counterpart, liquidity preference that monetary policy transmits its effects, a good state of expectations is required for the success of central bank policy. This makes the third immediate goal of monetary policy, namely to maintain expectations stable. If misguided prospects dominate, they result in volatile speculative and precautionary money demand, turning monetary policy ineffective; (iv) The fourth immediate goal is the supervision and control of the economic system liquidity. It means that monetary policy needs to avoid shortage of liquidity as well as it should prohibit banks from creating money in excess. Moreover, when controlling liquidity, central banks also act as lenders of last resort, preventing bankruptcy of financial institutions and its financial contagion risks; and (v) The last immediate goal of monetary policy is to stabilize the “value [of money] in terms of an international standard” (Keynes 1982, p. 128), that is, the exchange rate stability. Exchange rate movements have a vast influence not only on expectations, but also on the firm's financial and operational stances.

To reach these multiple goals, Keynes' analysis (1971b) that monetary policy has interest rate and regulation as its chief instruments is still the core of monetary

¹² Minsky (1986), Lavoie (2014), and, mainly, Davidson (1994) show the causes of inflation for the Post Keynesian theory in seven categories: (1) profit or monopolist price-making; (2) wage increases; (3) decreasing returns to scale; (4) external factors; (5) supply-shocks; (6) tax elevations; and (7) demand-shocks.

¹³ Financial stability is such a paramount objective of monetary policy, even more so because it had been forgotten prior to the GFC/GR, helping to cause them.

management. Thus, a question arises: what are these instruments and how do they channel their effects on effective demand and, consequently, on the economic system for reaching monetary policy goals?

The central bank interest rate is the price at which the monetary authority supplies reserves to banks. This rate is the cornerstone of the financial system yield-curve and, because of that, Keynes (1971b, p. 189) deemed it as “the governor of the whole system”. After establishing its interest rate, the central bank conducts its monetary policy in the money market to keep the rate at the announced level. To do so, monetary policy uses either the discount window or open market operations.

The discount window is the supply of reserves that central banks provide to banks that become illiquid due to more withdrawals than deposits of resources. Also, monetary policy exerts its lender of last resort function through the discount window¹⁴. Although this tool portrays the liquidity level intended by monetary policy, open market is the most used operation to manage the central bank interest rate, mainly because of its flexibility and its speed to achieve results. As Keynes (1971b, p. 225) stated, “open-market operations [...] produce a direct effect on the reserves of the member banks and hence on the volume of deposits and of credit generally, by their immediate consequences and apart from their indirect reactions”. Open market operations make the central bank interest rate effective, in accordance with the intentions of monetary policy. They are performed by the purchases and sales of bonds undertaken by the central bank in the money market. By these means, monetary policy manages the supply and demand for money and administers the yield-curve.

The interest rate has various transmission channels into effective demand and, consequently, economic growth and employment. These channels are: portfolio, credit, wealth, exchange rate and expectations.

The portfolio channel is the most important one for interest rate transmission, due to its direct impact on the investment opportunity cost. Following Keynes’ asset pricing theory (1973, Chapter 17), this channel acts by virtue of how agents and banks allocate their portfolios, based on the assets’ expected return, cost of carrying it all, and liquidity. Thereby, as soon as the central bank interest rate starts moving, the yield-curve shifts alike, as a result of the general reaction to the changed circumstances, throughout the financial system. As a consequence of how the portfolio channel impacts investment, its use as the chief monetary policy tool should be parsimonious; it is a cost of opportunity to investment, so that it competes with employment and wealth creation.

The second transmission channel is the credit channel, which produces its effects by means of how financial institutions set the interest rate they charge their customers, which is a mark-up over the central bank interest rate. Under these circumstances, at any time when this latter rate changes, the cost of contracting finance follows the same path. There are two impacts of this channel in the credit market and two in the capital market, affecting effective demand *via* consumption and investment, respectively. In the capital markets, these effects are: (a) Interest rates that

¹⁴ In this sense, Minsky (1986) also proposed a permanently active Big Bank (i.e. central bank). It should dedicate itself, on the one hand, to regulate the financial system so as to deter it from constructing increasingly fragile positions and, on the other hand, to act as the lender of last resort.

translate themselves into costs of investing. Whenever they are shifted by the central bank, they modify investment costs and, consequently, its level; and (b) As Keynes (1971b) argued, if agents wish to buy debt issued by firms for funding their investment, but they do not have sufficient reserves to do so, “borrowing to lend” is the option. So, interest rate shifts modify the gap between the interest rate charged on the borrowing and the yields given by lending the borrowed money, changing the volume of money supplied in the capital markets. The other credit channel impact occurs in the credit market: (i) Households borrow to consume and, as Keynes (1973, p. 196) affirmed, this demand for money “will partly depend on the cheapness and the reliability of methods of obtaining cash, when it is required, by some form of temporary borrowing”. Then, higher credit price reduces this sort of borrowing, pressing effective demand down; and (ii) Likewise, firms borrow working capital, and the augmented interest rate modifies their cash flows and, as a result, profits, what might culminate in a price adjustment by the part of the firm.

The third transmission mechanism is the wealth channel. Keynes (1973, p. 94) recognized it as “perhaps the most important influence, operating through changes in the interest rate, on the readiness to spend out of a given income”. The transmission relies on the impact that interest rate shifts have on the market price of financial assets and depends on the degree that households use this changed price to finance their consumption. The more consumption is financed by this kind of income variation, the larger is the effect of this transmission channel.

The fourth transmission channel, in open economies, is the effect of interest rate changes through the exchange rate. Besides the expected variation in the exchange rate level, the differential between domestic and foreign interest rates is the variable that external capital investments seek when deciding which assets to buy. Hence, modifications of the local interest rate in relation to world interest rates change capital flows and thereby the exchange rate, impacting conjointly the cost of inputs, foreign attractiveness of domestic production, and the financial position of firms with external liabilities. All these effects have impacts on effective demand and economic growth. Moreover, capital flows have one more effect upon which monetary policy needs to act. Inflows and outflows of external capital, change the liquidity in the money market, as it requires the conversion of foreign currency into domestic money, or *vice versa*. Consequently, the financial system yield-curve is affected in view of liquidity changes that emanate from the impact of external flows entering or leaving the economy, so that open market operations are required to offset the possible impacts of these flows. In this sense, coordination between monetary and exchange rate policies is important, as we will discuss below.

The last transmission channel of the interest rate is expectations. In relation to it, Keynes pointed out that it is “important to distinguish between the changes in the rate of interest which are due to changes in the supply of money [...] and those which are primarily due to changes in expectation affecting the liquidity function itself” (1973, pp. 197-198). If expectations are as stable as required for conducting monetary policy, the difference of judgments that agents have about the future interest rates would set their liquidity preference in different degrees, motivating them to negotiate debt contracts. While agents negotiate debt, there is room for monetary policy

to sell and buy public debt with which it makes open market operations. Nevertheless, diversity of individual expectations only happens if the central bank is able to maintain a safe state of expectations in the economy as a whole¹⁵. Otherwise, if the central bank fails in this attempt, conventions in the financial system would be disorganised, driving expectations towards a strong liquidity preference. As such, open market operations would have no space to succeed, and monetary policy would not achieve its goals.

Regulation is, of course, the other monetary policy tool. It can be defined as any legal enactment, in the form of act, norm, and law that Economic Authorities (EA) undertake to regulate how agents – that is to say, all financial institutions, non-financial firms, and households be them domestic or external – behave in the financial system. Regulating means that each kind of financial product should be addressed by financial regulation, which would rule how agents settle their financial transactions. As long as the latter assumes an immense number of forms, regulation, in practice, also bears a vast scope of types. So, regulation would always establish what should and should not be done within the borders of the financial system, restraining and opening trails that agents pursue. For this reason, although regulation is expected to be uninterruptedly updated, it should not change abruptly. If it does so, it would become difficult for agents to fix their portfolio strategies, culminating in increased liquidity preference and unstable speculative demand for money. In this situation, the central banks would not be able to implement monetary policy.

The transmission channel of regulation is both direct and indirect. On the one hand, regulation has its direct effect because it controls the behavior of agents in the financial system. In fact, this evidently is how monetary policy reaches its goal of keeping the financial system stable. On the other hand, the indirect effect of regulation is its aid to the management of the central bank interest rate. For instance, if there is regulation in practice, it reduces the interest rate sensitivity with respect to shifts of either the price of financial assets or foreign capital flows. The former is explained by the fact that whenever regulation is in place, the central bank interest rate does not need to, by its own, avoid and disarticulate asset price bubbles. By its turn, the diminution of interest rate elasticity in relation to the exchange rate derives from the control of external flows imposed by regulation, especially so when it focuses on limiting flows of very short-term speculative capitals.

In conclusion, proper conduct of monetary policy requires credibility, transparency, commitment of policy makers to public welfare, pragmatism, and discretionary power to adjust the tool in accordance with the circumstances. This is even more important given the monetary policy operation complexity, and its broad range of goals *vis-à-vis* its limited tools. Yet, for various reasons, monetary policy is a powerful policy to help, in coordination with the other macroeconomic policies, in the promotion of economic growth: it is able to stimulate real investment by shaping

¹⁵ That is why, in addition to being a transmission channel, expectations are a goal and a condition for a successful monetary policy. Bearing all this in mind, we may argue that the expectations channel is a kind of “channel before other channels” since it is the diversity of opinions about the future interest rates that would make it possible for monetary policy to alter interest rates; so that the other channels can transmit their effects on effective demand.

a yield-curve that does not create capital goods opportunity cost. Also, it is capable of boosting cheaper investment finance, working capital and consumer credit and fostering the wealth effect and “borrow to lend” loans that agents make to buy debt that finance firms. Likewise, monetary policy is the policy responsible for guaranteeing a stable financial system as well as a liquid economy; it should also be involved in policies that aim to maintain the exchange rate stable. Given these summarized ideas, according to Keynes, if the monetary authorities wish to expand the volume of capital, they should lower the interest rate to stimulate productive investments, thus, as a result, keeping the interest rate at levels compatible with eliminating capital scarcity, which would result in “euthanasia of the rentier”, a class that is not remunerated for its “risk and exercise of skill and judgment”, but by “exploiting the scarcity value of capital” (Keynes 1973, pp. 375-376).

2.3 Exchange Rate Policy

A stable exchange rate is important to keep the balance of payments in equilibrium. This is so as a result of expanding the foreign effective demand and assuring international competitiveness, to limit deflationary tendencies that cause a lack of effective demand; and to avoid price instability due to the pass-through mechanism.

In this way, throughout his work, Keynes’ exchange rate policy thoughts and proposals pointed towards arranging a managed exchange rate regime in order to enable external balance and, particularly, price stability (Ferrari Filho 2006). In his *International Clearing Union* (ICU) proposal, Keynes (1980b) made this idea clear by signaling that one of the aims of having a fixed exchange rate, that is nonetheless alterable to suit circumstances, should be to reduce uncertainties about future prices of assets and tradable goods, when economic agents take decisions to close contracts that involve any kind of foreign transaction. In Keynes’ words (1980b, pp. 168-170):

“we need an orderly and agreed method of determining the relative exchange values of national currency units, so that unilateral action and competitive exchange depreciations are prevented [...] The proposal is to establish a Currency Union, here designated an *International Clearing Union*, based on international bank money, called (let us say) *bancor*, fixed (but not unalterably)”.

Moreover, Keynes was concerned to point out that the external dynamics of monetary economies could not do without an instrument to permit balanced symmetries in trade relations between countries. Thus, Keynes (1980b) proposed the creation of a multilateral coordinating body that would work to ensure that trade imbalances were cleared automatically, so that deficit countries would not be hostage to the need of attracting external capital in order to finance their balance of payments.

This multilateral clearance was to be implemented through a universally-accepted currency, issued supra-nationally and generated for the sole purpose of operating these multilateral settlements, offering no advantage for use as a store of value. In Keynes’ words (1980b, p. 270), the usefulness of this currency and the trade equilibrium it is designed:

“to provide that money earned by selling goods to one country can be spent on purchasing the products of any other country [...] we cannot hope to balance our trading account if the surpluses we earn in one country cannot be applied to meet our requirements in another country”.

Automatic clearance of trade imbalances would make it possible to mitigate deficit countries' need to attract external capital in order to finance their balances of payments with deficit current trade transactions. For that purpose, controls could be imposed on international capital flows to enable monetary policy to exert more autonomous control over the interest rate and the yield-curve. To Keynes, automatic clearance would be a restriction on countries' freedom of economic action, but would also enable them to retain greater autonomy over significant domestic economic policy decisions.

Managed exchange rate, automatic clearance of trade imbalances and permission for capital controls fulfill two fundamental purposes: on the one hand, they make entrepreneurial expectations less uncertain; on the other hand, they afford greater freedom to central banks to pursue monetary policy. Both by hindering exchange rate pass-through effects on domestic prices, as well as by making it possible for the interest rate not to be used the whole time to attract external speculative capital, can inhibit productive investments. For this reason, Keynes (1980b, p. 276) argued that, “we cannot hope to control rates of interest at home if movements of capital moneys out of the country are unrestricted”.

In short, from a brief examination of Keynes' ICU proposal related to an exchange rate regime and capital controls, two points stand out clearly: Keynes felt that exchange rate stability was fundamental to assuring price stability; and he recommended the adoption of a fixed, but adjustable exchange rate regime to reduce the private agents' uncertainties.

Corroborating these ideas, a Post Keynesian view on exchange rate in a context of global financial markets suggests that the flexible exchange rate and capital mobility increase the likelihood of financial/currency crises and at the same time bring difficulties to manage fiscal and, mainly, monetary policies. Moreover, according to Post Keynesians, the empirical relation between exchange rate and capital flows shows that currency prices are driven by short-term capital flows. Thus, the main argument of the Post Keynesian analysis to exchange rate is the recognition that financial capital flows play a strong role in the economy.

Going in this direction, the most common recommendation of Post Keynesians with respect to the organization of the international economy is that, on the one hand, exchange rate has to be managed and the flow of capital should be controlled, and, on the other hand, the international monetary system has to be reformed.

In order to enhance the possibility of successful management of an exchange rate regime it is necessary for an intervention in the foreign exchange market, which may exert direct influence on the nominal exchange rate. In this way, reserve accumulation, capital controls or prudential domestic financial regulations are required (Thomas I. Palley 1998; Gerald Epstein, Ilene Gabel, and Kwame S. Jomo 2003; Louis-Philippe Rochon and Sergio Rossi 2006). In recognition of the relevance of

reforming the international monetary system, Paul Davidson (1994) develops a Post Keynesian proposal that addresses both macroeconomic and microeconomic issues.

3. Coordination of Post Keynesian Macroeconomic Policies

There is a number of ways amongst which macroeconomic policies interact; either positively or negatively, with each other, in their conjoint task of reaching the economic growth level necessary to accomplish full employment. In this sense coordination of policies means the government trying to enhance the positive, or to diminish the negative, impacts that one policy may exert on another, in order to make them, as Arestis (2012, p. 101) argues, consistent “so that their impact on aggregate demand is cumulative, and not offsetting”. Based on the previous sections, we describe some lines of coordination that the government can initiate. Aware that reciprocal interaction between two or more policies exists, we present the coordination considering this feedback as constant. Moreover, these examples do not completely report all the possibilities of coordination; however, they show how powerful macroeconomic policy can be when carried out in a coordinated manner.

3.1 Coordination Effects amongst Fiscal Policy, Monetary and Exchange Rate Policies

The main routes of coordination the fiscal policy offers to the other two macroeconomic policies in order to foster effective demand and, as a consequence, economic growth, are:

(1) Following Keynes (1980a), fiscal policy should not create dead-weight debt, because it increases money demand in the financial market and pushes the financial system yield-curve up, what would make monetary policy job more difficult;

(2) In the same sense, given that the difference between domestic and international interest rates determines international capital flows, fiscal pressures into the yield-curve would make foreign capital volatile, and the exchange rate alike;

(3) As the public debt with which fiscal policy obtains resources in the financial markets serves as the benchmark of maturity and return for private long-term financial assets, fiscal policy can help monetary policy in its objective of influencing the yield-curve. So, these two policies must coordinate their use of public debt, gaining power to manage the yield-curve all over its extension;

(4) In the rare occasions of generalized excessive aggregate demand in relation to aggregate supply, the reduction of public expenses diminishes inflation-sensitive interest rate movements, aiding monetary policy to maintain stable the price level;

(5) If fiscal policy does not need external debt to finance its spending, or when it has a trifling external debt, it does not add itself as one more element of pressure over the economy’s foreign reserves, facilitating the exchange rate management undertaken by the exchange rate policy.

3.2 Coordination Effects from Monetary Policy to Fiscal and Exchange Rate Policies

By its turn, monetary policy has at least six tributary effects to both fiscal and exchange rate policies:

(a) The financial costs of monetary policy are afforded by the current budget of the fiscal policy. By avoiding a high central bank interest rate, monetary policy does not burden the current budget and leaves a wider room to fiscal policy for financing investment projects of the capital budget;

(b) When the monetary policy does not set a high interest rate, it also prevents a costly interest rate to be paid by the fiscal policy when obtaining resources in the financial market. This would not increase the financial costs that current budget affords, making fiscal policy management easier;

(c) Monetary policy has to evade from both keeping a high interest level (what would push the yield-curve up) and changing its interest rate continuously. Otherwise, it would upset fiscal policy efforts to foster private investment;

(d) Likewise, if monetary policy keeps a stable interest rate, it also helps the exchange rate policy, by avoiding the external capital volatility that usually arises from changing interest rates;

(e) In cases of crisis, monetary policy of issuing money to furnish liquidity to the economy should aim to finance the capital budget of the fiscal policy; not only permitting tax reduction, but also keeping the public issued money away from becoming repressed liquidity in private hands;

(f) When the economy starts demonstrating signals of cooling its trend down, monetary policy can enhance the counter-cyclical measures of fiscal policy if it does not accommodate inflation. In such circumstances, keeping the nominal rate unchanged reduces the real interest rate and stimulates effective demand by means of both consumption and investment.

3.3 Coordination Effects from Exchange Rate Policy to Fiscal and Monetary Policies

Lastly, exchange rate policy aids fiscal and monetary policies through as follows:

(i) Strictly speaking, exchange rate policy directly helps monetary policy to reach its goal of maintaining a stable exchange rate over time;

(ii) Whenever regulation in the form of macro-prudential measures over external capital is in practice, the central bank interest rate has more autonomy to deal with domestic problems, such as setting a prone-to-investment yield-curve, since it does not have to be shifted to attract foreign savings. Nevertheless, regulation over external capital flows can also reduce central bank interest rate volatility, which would establish a soft yield-curve, as well helping both monetary policy and fiscal policy to boost investment;

(iii) Controls on external capital also support monetary policy to preserve a sound financial system, because they limit the types of linkages that domestic finan-

cial institutions are able to settle with foreign ones. Thereby reducing the exposure of leverages, asset price bubbles, exchange rate risk, and balance-sheet mismatching, among other problems;

(iv) In case an economy has external debt, if the exchange rate policy is capable of retaining the exchange rate without large fluctuations, it grants to fiscal policy a more foreseeable current budget management, due to the reduction of exchange rate risks that follow exchange rate stability;

(v) A managed exchange rate minimizes the pass through effect from exchange rate devaluations to domestic prices, aiding monetary policy by lowering the need of interest rate use in response to price level movements.

4. Relevant Empirical Evidence of the Keynesian Macroeconomic Policy

As we know, the GFC had a dramatic effect on economic activity, both in the developed countries and in the emerging economies, casting doubt on the very notion of the decoupling of emerging economies from developed countries. The developments from the crisis were observed not just in the financial system, but most importantly in the real world of the economy. After a period of prosperity in the world economy running from 2003 to 2008, the United States, the countries of the Euro Area, Japan and some of the leading emerging countries, including some of the South American countries, went into recession in 2009. The scenario of economic downturn, shrinking trade flows and asset deflation that unfolded from September 2008 onwards caused the world economy to go into recession.

It should be stressed that the world recession in 2009 might have been much worse had it not been for the actions of the EA of both the G-7 countries and the emerging countries that were taking an active part in mitigating the impact of the GFC on the productive sphere of the economy. In this way, they implemented countercyclical fiscal policies and expansionist monetary policies, mainly through the activities of their central banks as lenders of last resort, in order to reverse the steadily deteriorating state of expectations among economic agents. In that regard, injections of liquidity and substantial interest rate reductions by central banks, along with fiscal incentives of the “Keynesian” type, were important in reducing the impact of the crisis on the “real economy” and seeking to restore agents’ confidence in the workings of the markets.

To analyze the impact of the GFC and GR on the Brazilian economy, it is important to mention that at the beginning of the Lula da Silva’s second government the EA expanded the social protection and income transfer programs, the minimum wage increased in real terms, and public investment was expanded, specifically the Programa de Aceleração do Crescimento (Growth Acceleration Programme – PAC), which was implemented. In addition, Brazil benefited from higher commodity prices, basically as a result of a positive external environment created by the Chinese economy, which contributed both to its achieving significant current account surplus and accumulating international reserves – at the end of 2008 the Brazilian international

reserves were approximately US\$ 193.8 billion. In this way, before the GFC, Brazil was much better protected than during other times of external turbulence.

The Lula da Silva government's response to the GFC represented an important shift from the previous occurrences of crises, such as Mexican crisis, in 1994-1995, Asian crisis, in 1997, and Russia crisis in 1998, where the governments pursued procyclical policies, usually within the framework of the International Monetary Fund (IMF) stabilization programmes. We can highlight, among others, the following:

- The Brazilian Central Bank (BCB) eased monetary policy by lowering the basic interest rate, from 13.75% in January 2009 to 8.75% in September 2009, and by increasing liquidity in the interbank market. Moreover, on the one hand, state-owned banks were oriented toward irrigating the economy, in a context where private banks (national and foreign) decided not to expand credit facilities to consumers and corporations, and, on the other hand, to stimulate purchases of credit portfolios from small and medium size banks by the major banks. BCB allowed banks to deduct 40.0% of the reserve requirements on time deposits to purchase credit portfolios from financial institutions;

- Fiscal policy was expansionary, with a combination of tax reductions – both for consumers and corporations, such as income tax and tax on industrial products were reduced – and spending increased. The rise in government spending covered: (1) an expansion of the PAC; (2) the startup of a programme of government incentives and subsidies for housing construction, called *Minha Casa, Minha Vida* (My House, My Life), targeted at low-and-middle-income households; (3) budget transfer to municipalities; (4) extension of unemployment insurance benefits; (5) real increase in minimum wage; and (6) increased benefits for the *Bolsa Família*¹⁶;

- The BCB, to avoid an overshooting exchange rate due the contagious of the GFC, decided to manage the exchange rate and implemented capital controls.

As a result of these macroeconomic countercyclical policies, despite the 2009 recession (-0.2%), the GDP growth rate was 7.6% in 2010, the unemployment rate dropped from 8.1%, in 2009, to 6.7% in 2010, income distribution improved – the Gini Index dropped to 0.52 in 2010, – exchange rate was stabilized and the flows of international capital were restored and international reserves increased to US\$ 288.6 billion. Regarding the inflation rate, it increased from 4.31%, in 2009, to 5.91%, in 2010 (Instituto de Pesquisa Econômica Aplicada Dados Macroeconômicos e Regionais 2018). Thus, the Brazilian EA response to the GFC and GR followed Keynesian macroeconomic policies; more specifically, those related to Big Government and Big Bank (Keynes 1973, Chapter 24; Minsky 1986, Chapter 13).

5. Concluding Remarks

Keynes, within his monetary theory of production, required macroeconomic policies to convey the economic system into a stable trend of economic growth towards full employment with low levels of income inequality. Furthermore, this is to be achieved along with price, financial, liquidity, exchange rate and external stabilities. Clearly,

¹⁶ *Bolsa Família* is a government programme that transfers income to poor families with young children.

this is not an easy task. To the Post Keynesian theory, properly market signals are economic policy actions, and the way to organize the economic system is by means of active and coordinated macroeconomic policies. In this sense, this contribution presents the reasons why active economic policy is needed. Thereafter, it shows Keynes (and Post Keynesians) proposals for fiscal, monetary and exchange rate policies, emphasizing their role, tools, logic of operation, and their proper coordination. To point out how powerful the coordination between these policies is, the contribution elaborates on a number of examples of their interaction, illustrating the vast range of problems that coordinated economic policies are able to deal with. Moreover, the paper describes, based on the Brazilian economy after the GFC and during the GR, empirical evidence of the Keynesian macroeconomic policies.

We should address one last issue. As their ultimate goal, Keynesian macroeconomic policies intend to achieve the best possible degree of development. Yet, one question arises: which is the notion of development that we might apprehend from Keynes and towards which the Post Keynesian macroeconomic policy should adhere to? In short, Keynes (1972, p. 329) understood development as the stage of the capitalism where economic problems, such as unemployment, unequal income shares, waste of available productive factors, and “the love of money as a possession”, struggle for surviving, amid other issues, would not exist anymore if proper economic policies are implemented.

In this sense, economics, defined as the production and distribution of wealth, is the midway to this stage, though once inside of it, economics is no more an objective. As Keynes (1972, pp. 326-328) stated, “this means that the economic problem is not – if we look into the *future* – *the permanent problem of human race*”, and “thus, for the first time since his creation man will be faced with his real problem, his permanent problem – how to use his freedom from pressing economic cares, how to occupy leisure [...] to live wisely and agreeably and well”. As history has been showing during the last two centuries, free markets are not as efficient as necessary to accomplish this stage of development; so, economic policies need to be performed actively and in a coordinated manner to be effective.

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