Post Keynesian Macroeconomic Policy Regime

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Abstract
As we know, investment, which is the economic system's driving force, irrevocably depends on subjective factors, such as expectations, conventions, and confident animal spirits. Therefore, if only market forces drive the economy, they might often produce instability and crises. In this scenario, economic policy is the main source of solidity that private enterprise has to support their expectations and investment. In this sense, economic policies – by which we mean fiscal, monetary and exchange rate policies, that is to say, macroeconomic policies – in a context of coordination, are capable of facing insufficient effective demand and building a good institutional environment, which is essential to keep the entrepreneurs' expectations confident and excite their animal spirits. Given that, this paper aims to develop a Post Keynesian macroeconomic policy regime, i.e. it intends to model the Post Keynesian fiscal, monetary and exchange rate policies and the coordination among them. The contribution of the paper relies on the supply of an economic policy regime model that, on the one hand, establishes the role, tools, and logic of operation of each policy and, on the other hand, explores the proper coordination among them, adding to the Post Keynesian efforts to offer alternative economic policy prescriptions in relation to those proposed by mainstream economics.

Keywords: Keynes; Economic Policy; Fiscal Policy; Monetary Policy; Exchange Rate Policy.

JEL: E12; E6; E60.

Introduction

As we know, investment, which is the economic system's driving force, irrevocably depends on subjective factors, such as expectations, conventions, and confident animal spirit. Therefore, if only market forces drive the economy, they might often produce instability and crises. This explains why Minsky (1986) argued that, "if the market mechanism 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" (p. 6). In this uncertain world, in which businessmen 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, economic policy – by which we mean fiscal, monetary and exchange rate policies, that is to say, macroeconomic policies – in a context of coordination, is capable of facing insufficient effective demand as well as building a good institutional environment, which is essential to keep the entrepreneurs' expectations confident and stimulate their animal spirits. Thus, they are powerful instruments to promote

economic growth with full employment and low levels of income inequality, which Keynes (1973) understood as "the outstanding faults of the economic society in which we live" (p. 379).

Given that, this paper aims to develop a Post Keynesian macroeconomic policy regime, i.e. it intends to model the Post Keynesian fiscal, monetary and exchange rate policies and the coordination among them. The contribution of this paper relies on the proposition in terms of an economic policy regime that, on the one hand, establishes the role, tools, and logic of operation of each of these three policies and, on the other hand, explores the proper coordination among them, adding to the Post Keynesian efforts to offer alternative economic policy prescriptions in relation to those proposed by mainstream economics. By the way, the latter is based on the Inflation Targeting Regime 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 intratemporally income adjustment in terms of fiscal policy, and purely floating exchange rates. As we will show, Post Keynesian economic policy does not follow these lines.

This paper has six more sections. The next one briefly presents why economic policies are needed. The third section shows the Post Keynesian fiscal policy. The fourth section describes the Post Keynesian monetary policy whereas the fifth section does the same with the exchange rate policy. The sixth section presents, in general lines, examples of how these macroeconomic policies can be coordinated. The last section summarizes and concludes the paper.

2. Why are economic policies needed?

Within Keynes's (1973) monetary theory of production, money is the starting point of the production process as well as it is the desired ending point of this process. Businessmen invest their money willing to obtain more of it at some future point. When businessmen 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; that is, investment increases the social stock of capital, enriching society. 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 it supplied, and so justifying the level of labour employed.

However, this future time at which businessmen expect the sale-proceeds of their current investment is unpredictable, so that by no means they are able to know, in the present, whether or not they will profit. Uncertainty prevails and, as long as the future cannot be foretold, businessmen 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 businessmen's 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) states that, "the central controls necessary to ensure full employment will, of course, involve a large extension of the traditional functions of the government" (p. 379). The main component of these central controls is macroeconomic policies, because of three reasons. Firstly, they serve as an anchor to the businessmen'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.[1]

So, macroeconomic policy is the true 'market signals' in the Post Keynesian economics, serving as the basis upon which businessmen form good expectations in their investment decision-making process. As we will 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 New Macroeconomic Consensus. Still, as Keynes (1971a) 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" (p. 35).

To sum up, Keynes (1973) argued that, "a somewhat comprehensive *socialization of investment* will prove the only means of securing an approximation to full employment" (p. 378, emphasis added). For us, the 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. Davidson (1994), for instance, corroborates this idea: "in a world of uncertainty, the existence of a State organization (…) is essential in providing the public

[1] These reasons show why austerity in times of crisis tends to intensify it. When austere macroeconomic policies are in place, based on reason (1), entrepreneurs know that the government is attempting to push the economy into a slack path, which is opposite to what they want for economic activity. Moreover, reason (2) implies that pursuing budget surplus in times of cooled demand signifies a stronger insufficiency of effective demand. Last but not least, reason (3) means that, although the institutional environment may be politically and juridically stable, it also is economically discouraging.

with assurances of the continuity of contractual arrangements between the present and the future" (p. 102). Moreover, as Carvalho (1992) argues, State intervention has three goals:

> "(1) to issue (…) signals to private agents in order to stimulate them to act (…) (2) to create safety nets to contain damages when market failures take place; and (3) to transform the environment to increase the transparency of the structural constraints acting on the economy and the relationships among agents" (p. 208).

3. 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 intervention.[2] 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 distribution.[3] For instance, to moderate the gains of the rentiers in the financial and exchange rate markets, Keynes (1971a) argued that, "capital levy must surely be preferred on grounds both of expediency and of justice" (p. 55). Moreover, in his *The General Theory of Employment, Interest and Money*, it was proposed, among others, inheritance tax, because "a fiscal policy of heavy death duties has the effect of increasing the community's propensity to consume" (1973, p. 373).

Meanwhile, in Keynes's (1980a) original perspective, the public spending management is split in two budgets: the ordinary, or, current, and the capital. The 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 to 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's (1980a) words, "for the ordinary Budget should be balanced at all times. It is the capital Budget which should fluctuate with the demand for employment" (p. 225), so that, "I should not aim at attempting to compensate cyclical fluctuations by means of the ordinary Budget. I should

[2] 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.

[3] Income inequality, as Arestis (2015) argues, can be an economic policy objective, as it is "suggested that inequality has become the most important challenge of the current century" (p. 243). For an example of income policy, see Arestis and Sawyer (2013b).

leave this duty to the capital Budget" (p. 278). Hence, how would Keynesian counter-cyclic 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: (1) 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).[4] (2) Based on Keynes (1972, 1973), capital budget public investments must not compete with private investments; they should be complementary to them, as Keynes (1972) 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" (p. 291, italics in original). (3) These investments should be made by public or semi-public bodies[5] 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); and (4) 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) 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" (p. 322). 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 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 raise.[6]

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4 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.

5 According to Keynes (1972) 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" (p. 288). In addition, "it is easy to give examples - the universities, the Bank of England, the Port of London Authority, even perhaps the railway companies" (p. 289).

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

Furthermore, Keynes's (1980a) proposal of capital budget 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) stated, "capital expenditure would, at least partially, if not wholly, pay for itself" (pp. 319-320). This possibility of a balanced capital budget in the long term makes the Keynesian public budget much more rational and viable,[7] 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), if "the volume of planned investment fails to produce equilibrium" (p. 352). Only in such conditions, "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" (p. 352). Nonetheless, Keynes (1980a) 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" (pp. 353-354). As Marcuzzo (2010) 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" (p. 190, emphasis in original) So, Keynes's "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's 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, "Big Government must be big enough to ensure that swings in private investment lead to sufficient offsetting swings in the government's

[7] 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.

deficit so that profits are stabilized" (Minsky, 1986, p. 297).[8] 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, lead to further increases in income and wealth. According to Keynes (1972), "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." (p. 340). Lastly, as Keynes (1980a) 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. It would be in the interest of the standard of life in the long run if we increased our capital quite materially (p. 350).

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 moment, 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, fiscal policy is the most powerful macroeconomic policy to pursue economic growth. 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 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.

[8] For this reason, Minsky (1986) proposed that Big Government should has the size equal to, or greater than, the rate of gross capital formation to GDP, i.e. the country's investment rate.

4. Monetary policy

For monetary policy, Keynes (1982) suggested that, "as a rule, I should expect that its chief problem would be to maintain the level of investment at a high enough rate to ensure the optimum level of employment" (p. 137). In light of that, the ultimate goal of monetary policy 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" (Keynes, 1982*,* p. 137). The straightforward embodiment of Keynes's concerns and wishes within a monetary policy strategy is setting economic growth as its ultimate goal, instantaneously bringing investment and employment levels under central bank's surveillance.

Besides its ultimate objective – and in the way to accomplish it – monetary policy also has five immediate goals: (1) 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 demand;[9] (2) Another immediate goal is "to bring to the forefront a form of monetary and financial policy, which is focused on financial stability" (Arestis and Sawyer, 2013a, p. 163); financial stability is understood as Buiter (2008) defined it: 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) 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" (p. 24);[10] (3) 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 be maintaining expectations stable. If misguided prospects dominate, they result in volatile speculative and precautionary money demand, turning monetary policy ineffective; (4) 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 (5) 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

[9] Sicsú (2003) summarizes the contributions of Minsky (1986), Lavoie (1992) and Davidson (1994), summarizing 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. Moreover, one can add two further causes of inflation: Inertia and Expectations.

[10] Financial stability is such a paramount objective of monetary policy, even more because it was forgotten prior to the 'Great Recession', helping to cause it. Arestis (2012, 2015) and Arestis and Sawyer (2013a) propose it as the chief goal of monetary policy in order to promote economic growth with full employment, along with reducing inequalities.

movements have a vast influence not only on expectations, but also on the firm's financial and operational stances, as next section explores.

To reach these multiple goals, Keynes's (1971b) analysis that monetary policy has interest rate and regulation as its chief instruments is still the core of monetary management. Nevertheless, given the broad set of monetary policy objectives, Arestis and Sawyer (2010) suggest as a general rule, "in terms of the general multiple instruments-multiple objectives framework it may not be possible to uniquely assign each instrument to a specific objective (…) recognising that coordination in the use of instruments can be advantageous" (p. 510). Thus, what are these two 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) deemed it as "the governor of the whole system" (p. 189). 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 bank provides 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 window.[11] 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) 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" (p. 225). 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

[11] In this sense, besides the Big Government and acting in coordination with it, 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. The Big Bank's monetary policy should maintain a sound and credible financial system, so that in the event of a lack of confidence among entrepreneurs' leading to unemployment and income stagnation, no spate of bankruptcies will ensue and lead the economic system into a depression.

expectations.[12]

The portfolio channel is the most important one for interest rate transmission, due to its direct impact on the investment opportunity cost. Following Keynes's (1973, chapter 17) asset pricing theory, 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: (1) Interest rates translate themselves into costs of investing; whenever they are shifted by the central bank, they modify investment costs and, consequently, its level; and (2) 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: (1) Households borrow to consume and, as Keynes (1973) 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" (p. 196). Then, higher credit price reduces this sort of borrowing, pressing effective demand down; and (2) 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) 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" (p. 94). 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

[12] The efficacy of these channels depends on three factors: (1) How well central bank manages expectations, mainly by avoiding sudden and huge movements in its interest rates; (2) The agents and banks' reaction to the shifting conditions; and (3) The financial system degree of development, given that it is through it that the central bank interest rate channels its effects on effective demand.

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. About it, Keynes (1973) pointed out that

> "It is, however, important to distinguish between the changes in the rate of interest which are due to changes in the supply of money available to satisfy the speculative-motive, without there having been any change in the liquidity function, and those which are primarily due to changes in expectation affecting the liquidity function itself; Open-market Operations may, indeed, influence the rate of interest through both channels; since they may not only change the volume of money, but may also give rise to changed expectations concerning the future policy of the central bank or of the government." (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 whole.[13] Otherwise, if the central bank fails in this attempt, conventions in the financial system would be disorganised, driving

[13] 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.

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 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 may assume an immense number of forms, regulation, in practice, also bears a vast scope of types.[14] 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, as Arestis and Sawyer (2010) asserted. 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, specially 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 a yield-curve that does not create capital goods opportunity cost. Also, it is

[14] For example, regulation provides the amount of compulsory reserves commercial banks send to central banks when they create a deposit; it sets the conditions a bank must fulfil to receive a last resort loan. It stipulates the maximum maturity of each type of borrowing that households require, such as consumer credit or mortgages as well as the minimum time period an external financial investment should remain in the economy after flowing into it; it defines, amongst other considerations, the division line between commercial and investment banks.

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.

5. Exchange Rate Policy

As we know, a stable exchange rate is important to keep the balance of payments in equilibrium, 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's 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's words:

> "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)" (1980b, pp.168, 170, italics in original).

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's words (1980b), 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" (p. 270).

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. As Keynes (1980b) asks,

> "are we winning one freedom at the cost of another? Shall we have to submit to exchange controls on individual transactions which would be unnecessary otherwise? (…) It is not merely a question of curbing exchange speculations and movements of hot money, or even of avoiding flights of capital due to political motives (…) The need, in my judgment, is more fundamental. Unless the aggregate of the new investments which individuals are free to make overseas is kept within the amount which our favourable trade balance is capable of looking after, we lose control over the domestic rate of interest" (p. 275).

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, which can inhibit productive investments. For this reason, Keynes (1980b) argued that, "we cannot hope to control rates of interest at home if movements of capital moneys out of the country are unrestricted" (p. 276).

In short, from a brief examination of Keynes's 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.

6. Coordination of the Post Keynesian macroeconomic policies

The reconciliation between short- and long-run policy goals could be achieved to deal with two majors issues: (i) in the short run, macroeconomic policies should stabilize demand levels in order to guarantee full employment; and (ii) in the long run, development policies must create a social and economic environment, where private wealth creation is compatible with a reasonable pattern of income distribution. Therefore, Post Keynesian policies go far beyond short-term stabilization policies, encompassing a developmental perspective with a strong moral reasoning:

economic growth must be considered as a mean to an ultimate end, which is to promote a full-employment and less unequal economy.

It is important to mention that the Post Keynesian policies are adapted to the original insights of Keynes (1964, 1979) related to a monetary/capitalist economy, that is a economy where aggregate demand plays a crucial role in determining the levels of output and employment. Such an economy is characterized, *inter alia*, by the fact that the decision-making behaviour of individuals occurs in an uncertain environment. Therefore, decisions are affected by psychological factors. Unemployment is not necessarily a temporary phenomenon and employment is determined in production markets rather than in labour markets. Individuals can increase their demand for money or for highly liquid assets and, as a consequence, private demand for both consumer and investment goods might not be sufficient to guarantee full employment. In an uncertain environment money is not neutral and macroeconomic policies can affect the level of income and employment, both in the short and in the long term.

Keynesian economic policy, in both conception and practice, is intended to maintain levels of effective demand for the purpose of mitigating involuntary unemployment by stabilizing business peoples' state of confidence. The focus of Keynes (1964) proposal was the power that the State should hold to steer the economic system, given that, if left to the free workings of market, the economic system and economic policies themselves, unless there was coordination among them, would contribute not to solving, but to deteriorate the main problems of monetary production economies.

On this particular issue, Keynesian economic policies are structured so as to make it possible to manage endogenous features in monetary, fiscal and exchange rate policies (Arestis and Sawyer, 2010; Davidson, 2011). Nowadays, the globalization process tends to disrupt not only domestic markets but also whole countries, especially the emerging ones, by establishing a kind of extended financial casino; the current international financial crisis is a good example of the nature and problems of the globalization process.

In a Keynesian perspective, the achievement of full employment must be considered a major goal for economic policy. For this purpose, Keynes (1964: 372), after identifying the main faults of the entrepreneur economies, that are "its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes", suggests fiscal policy to be used, which through the multiplier effect, and the community' propensity to consume, as well as low interest rates, to stimulate investment and to promote "the euthanasia of the rentier" (*op. cit.*: 376); also "a (…) comprehensive socialisation of investment" (*op.* cit.: 378) should all assure full employment. Going in this direction, Carvalho (1992: 212) argues that, in a Keynesian perspective,

> "[f]ull employment policies should be implemented by the combination of (…) fiscal policies, income policies and monetary policies (...) Fiscal policy should be designed to obtain global long-term employment stability; income policies should obtain price stability; Monetary policy would then have the role (…) of preventing changes in the state of liquidity preference (…)".

Thus, the macroeconomic policy of national economies should be coordinated in such a way as to (i) implement fiscal policies designed to expand effective demand and reduce social inequalities; (ii) make it more flexible to monetary policy to galvanize levels of consumption and investment; and (iii) coordinate and regulate financial and foreign exchange markets in order to stabilize capital flows and exchange rates. In short, taking up the idea of Minsky (1986), there is a need for State intervention and regulation through *Big Government* and *Big Bank*.

The State is the social entity capable of gathering together the greatest amount of the information available in society and, at the same time, it is the social legislator with legal competence to safeguard institutions' ongoing existence and to alter them as required by the evolution of the different social systems. It is, thus, up to the State, for the collective good and not for private interest, to coordinate economic activity. In an uncertain world, where agents risk their power of command over social wealth in order to gain more such power in the future, economic policy should be the greatest source of solidity for private enterprise. It should guarantee the dynamics of increasing wealth which, consequently, maintains and expands the society's inclination to consume, thus enhancing investors' prospects.[15]

There is a number of ways amongst which one macroeconomic policy interacts, 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 into another, in order to make them consistent "so that their impact on aggregate demand is cumulative, and not offsetting" (Arestis, 2012, p. 101). Based on the previous three sections and in the light of the Post Keynesian framework, we describe below some lines of coordination that the government and policymakers can adopt to promote stability and economic growth keeping in mind that, according to the (Post) Keynesian theory, investment is the main determinant of income expansion (King, 2008; Harcourt, 2008; Davidson, 2011). It is important to mention that 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.

6.1 Coordination effects from fiscal policy to monetary and exchange rate policies

[15] On this point, Minsky (1986: 6) argues that "[i]f the market mechanism 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".

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.
(6) As Arestis (2012) argues, cost-push inflation cannot be properly tackled by monetary policy. In this situation, fiscal policy can help to solve inflation, using its impact on effective demand to change relative prices, with respect to oil, energy and other commodities. This would reduce central bank interest rate sensitivity in relation to the shifts in the price level, helping to keep stable the speculative money demand.

6.2 Coordination effects from monetary policy to fiscal and exchange rate policies

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

(1) 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.
(2) 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.

(3) 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.
(4) 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.
(5) 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.
(7) Following Arestis (2012, 2015), 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.

6.3 Coordination effects from exchange rate policy to fiscal and monetary policies

Lastly, exchange rate policy aids fiscal and monetary policies through, at least, five channels.

(1) Strictly speaking, exchange rate policy directly helps monetary policy to reach its goal of maintaining a stable exchange rate over time. This is a joined task.
(2) 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.
(3) Once again, controls on external capital also back monetary policy to preserve a sound financial system, because they limit the types of linkages that domestic financial 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.
(4) 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.
(5) 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.

7. Concluding remarks

Keynes, within his monetary theory of production, required economic 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, this is not an easy task. However, economic policy practice should not be like the mainstream economics proposes it for otherwise it would mess the market signals up. 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 paper presents the reasons why active economic policy is needed. Thereafter, it shows what Keynes and Post Keynesians propose for fiscal, monetary and exchange rate policies, emphasizing their role, tools, logic of operation, and their proper coordination. To point out how powerful is the coordination between these policies, the last section gave a number of examples of their interaction, illustrating the vast range of problems that coordinated economic policy is able to deal with.

To conclude, we should address one last issue. As their ultimate goal, Post Keynesian economic policies intend to achieve the best possible degree of development. Yet, one question abides: which is the notion of development that we might apprehend from Keynes and towards which the Post Keynesian economic policy regime should adhere to? In short, Keynes (1972) understood development as the stage of the capitalism where economic problems, such as unemployment, unequal income shares, waste of available productive factors, "the love of money as a possession – as distinguished from the love of money as a means to the enjoyments and realities of life" (p. 329), struggle for surviving, amid other issues, would not exist anymore.

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) stated, "this means that the economic problem is not – if we look into the *future – the permanent problem of human race*" (p. 326, italics in original), "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" (p. 328). 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 it be effective.

References

Arestis, P., (2012) Fiscal Policy: a strong macroeconomic role*, Review of Keynesian Economics*, Inaugural Issue, pp. 93-108.

Arestis, P., (2015) Coordination of Fiscal with Monetary and Financial Policies can better cure unemployment, *Review of Keynesian Economics*, 3(1), pp. 233-247.
Arestis, P. and Sawyer, M. (eds.), (2006), *A Handbook of Alternative Monetary Economics*, Aldershot: Edward Elgar.
Arestis, P. and Sawyer, M., (eds.) (2010), *21st Keynesian Economics*, Basingstoke: Palgrave Macmillan.
Arestis, P. and Sawyer, M., (2013a), Policies for Full Employment and Low Inflation. *In*: Arestis, P. and Sawyer, M. (eds.), (2013a), *Economic and Monetary Union Macroeconomic Policies: Current Practices and Alternatives*, Basingstoke: Palgrave Macmillan, pp. 144-167.
Arestis, P. and Sawyer, M., (2013b), Moving from Inflation Targeting to Prices and Incomes Policy. *Panoeconomicus*, 1 (1), 1-17.
Buiter, W., (2008), Central banks and financial crises. *Discussion paper of Financial Markets Group*, London School of Economics and Political Science, n. 619.
Carvalho, F. J. C. de, (1992), *Mr.Keynes and the Post Keynesians: principles of macroeconomics for a monetary production economy*. Aldershot: Edward Elgar.
Davidson, P., (1994), *Post Keynesian Macroeconomic Theory*, Aldershot: Edward Elgar.
Davidson, P. (2011), *Post Keynesian Macroeconomic Theory: a foundation for successful economic policies for the Twenty-Fisrt Century*, Cheltenham: Edward Elgar.
Ferrari Filho, F., (2006), *Política Comercial, Taxa de Câmbio e Moeda Internacional: uma análise a partir de Keynes*. Porto Alegre: UFRGS.
Harcourt, G. (2008), *The Structure of Post Keynesian Economics: the core of contributions of the pioneers*, Cambridge: Cambridge University Press.
Keynes, J. M. (1937), Alternatives theories of the interest rate, *Economic Journal,* 47 (186), pp. 241-252.
Keynes, J. M. (1971a), *Tract on Monetary Reform*. *The Collected Writings of John Maynard Keynes,* IV. London: Macmillan.
Keynes, J. M., (1971b), *A Treatise on Money – the applied theory of money*. *The Collected Writings of John Maynard Keynes*, VI, London: Macmillan.
Keynes, J. M., (1972), *Essays in Persuasion*. *The Collected Writings of John Maynard Keynes*, IX, London: Macmillan.
Keynes, J. M., (1973), *The General Theory of Employment, Interest and Money*. *The Collected Writings of John Maynard Keynes*, VII, London: Macmillan.
Keynes, J.M., (1979). *The General Theory and After: a supplement*. *The Collected Writings of John Maynard Keynes*, XXIXV, London: Macmillan.
Keynes, J. M., (1980a), *Activities 1940-1946: Shaping the Post-War world – employment and commodities*. *The Collected Writings of John Maynard Keynes,* XXVII, London: Macmillan.
Keynes, J.M. (1980b). *Activities 1940-1944: Shaping the Post-War world – The Clearing Union*. *The Collected Writings of John Maynard Keynes*, XXV, London: Macmillan.
Keynes, J. M., (1982), *The monetary policy of the Labour Party. The Collected Writings of John Maynard Keynes,* XXI, London: Macmillan.
King, J.E., (2008), *Post Keynesian Economics*. *In:* Durlauf, S.N. and Blume, L.E. (eds.), *The New Palgrave Dictionary of Economics*, Basingstoke: Palgrave Macmillan.
Lavoie, M., (1992), *Foundations of Post-Keynesian economic Analysis*, Aldershot: Edward Elgar.
Marcuzzo, M. C., (2010), Whose Welfare State? Beveridge versus Keynes. *In:* Backhouse, Roger and Nishizawa, Tamotsu (eds.) *No Wealth but Life – Wealfare Economics and the Welfare State in Britain, 1880-1945,* Cambridge: Cambridge University Press, pp. 189-206.
Minsky, H. (1986), *Stabilizing an Unstable Economy*. New Heaven: Twentieth Century Fund Report.
Sicsú, J., (2003), Políticas não monetárias de controle da inflação: uma proposta keynesiana, *Revista Análise Econômica,* 21 (39), pp. 115-136.