Monetary and Fiscal Policies as Public Goods: Rethinking Individual Policies as Well as their Coordination for Economic Growth and Employment[1]

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Abstract: This article redefines monetary and fiscal policies through the lens of public goods, arguing that their non-rival and economy-wide benefits require coordinated management to foster inclusive economic growth and employment. Drawing on post-Keynesian theory, it shows how money, as a social technology, and fiscal policy, through infrastructure and investment programmes, shape expectations, stimulate private investment, and enhance welfare. Integrating theoretical insights with historical and contemporary evidence, including the COVID-19 policy response, the article underscores the importance of strategic coordination to overcome uncertainty, stabilize long-term investment, and strengthen macroeconomic resilience. It challenges conventional approaches that treat policies in isolation, advocating instead their design as complementary instruments for sustainable development and shared prosperity.

Keywords: Fiscal policy; Infrastructure investment; Monetary policy; Policy coordination; Post-Keynesian economics; Public goods.

1. Introduction

During the COVID-19 pandemic, some of us underscored the much neglected necessity of wise and responsible economists and/or policymakers to emphasize the relevance of the public goods' properties of economic policies. For example, public expenditures can serve both as a means of increasing national income and as a way to augment the quantity of money and/or of public debt (Minsky, 1982). Certainly, this monetary base – even more in modern times, since it is entirely deposited in banks or in other financial institutions – is also a public good (besides its private role), for it remains only for a short time in private 'hands' – in reality, chiefly in our epoch, in a bank/financial account – of these agents. That is to say, in a modern society, with mainly digital payment devices, the dual stance of money in banks, in fractional reserve systems, receives a more important role, since money is even more 'in the banks' currently than ever – most of the money nowadays consists in mere digital numbers registered in computers, in a still increasing trend.[5]

This article contributes to the literature by addressing a specific gap: while monetary and fiscal policies have been widely studied, their characterization and treatment as public goods remain underexplored in mainstream as well as in post-Keynesian frameworks. Our contribution is

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[5] Thus, it becomes progressively impossible to hoard money outside the financial system, that is, 'at home' or wherever, because of the impossibility of hoarding digital money outside the financial system.

primarily conceptual, redefining these policies within the public goods approach and exploring their implications for economic growth, full employment, and welfare. We also integrate international evidence and post-Keynesian insights to propose a coordinated policy agenda.

In this sense, fiscal policies have to be considered as public goods for their repercussions over the whole economy and society. That is to say, even if a fiscal policy is more directed or favourable to an/some agent(s), it has positive consequences for other agents, whether in terms of the improvement of the physical or social (such as health, education, and so on) infrastructure, or considering the outcomes of that policy over economic growth, employment, profits, technological development, social wellbeing, among other items (see Haavelmo, 1945; Kalecki, 1954; Kregel, 1985; Dosi et al., 1990).

We emphasize that the public goods stance of this article must be comprehended together with a common good position, since we stress the general benefits of many public policies throughout the article, beginning with monetary policies and ending in many examples of fiscal policies increasing the common good.

This article intends to clarify many of these issues, focusing mainly on the two most conspicuous economic policies, namely, monetary and fiscal policies. To achieve our goal, the next section defines public goods and discusses their relevance for economic policies, showing some of their principal characteristics and the consequences that those characteristics should imply for economic policy decisions. The third section examines monetary policies, also as public goods, highlighting key characteristics of money and currency issuance and their implications for economic growth, full employment, price stability, and financial stability. The fourth section explores fiscal policies and their consequences for economic development, including the effects on infrastructure investment, crowding-in, and the importance of a permanent investment budget. The final section concludes with a summary of the main findings and policy implications.

2. The essence and relevance of public goods

Let us begin with a clear definition of public goods, which are goods

> whose consumer benefits are directly related to the total availability of the good in question, and the consumption benefits of any one individual do not depend on the benefits enjoyed by others. This property of public goods is usually referred to as non-rivalry in consumption; given the supply of the good in question, the consumption possibilities of one individual do not depend on the quantities consumed by others as they do in the case of private goods. (Sandmo, 2008, p. 740).

However, this definition

> does not assume that the *benefits* derived from the supply of the public good are the same for all, even though *availabilities* are the same. Neither does it assume that the benefits from public goods are independent of the quantities consumed of private goods. And the elements of rivalry […] may be captured by introducing externalities in the consumption of a private good […] whose benefits depend on the supply of a public good. (Sandmo, 2008, p. 740; italics in the original).

One of our challenges is to apply this definition to economic policies, such as monetary and fiscal policies, since, for us, both policies have private and public characteristics. For instance, monetary policies can bring about private outcomes, in terms of changes in the quantity of money available to some agents and in the interest rates they receive, besides their public repercussions, since they change the overall quantity of money in an economy and, thus, at least potentially, some general interest rates (see Keynes, 1936; Stiglitz and Weiss, 1992). Another possibility is that these modifications in the rate of interest have impacts on private expenditure and financial application decisions, and over how much the public budget disburses with regard to the public debt (Sylla, 1988), the income and wealth distribution (Barboza, 2015; Strachman, 2022), among other public concerns.

By the same token, fiscal policies affect many private results, such as private earnings – over both profits and wages (Kalecki, 1954) – private employment, private decisions of investment, production, financial applications, and so on. They also affect public issues, such as the public budget, the national investment rate (public and private), economic growth, profit rates, public employment, the general rate of unemployment, and so on. It is therefore important to consider both public and private repercussions when designing economic policies (Wray, 1998; Mazzucato, 2013). Below, we elaborate on what these policies should aim at achieving.

Following Minsky (1982; 1986), monetary and fiscal policies can be more effective when coordinated. Post-Keynesian authors (Keynes, 1936; Wray, 1998) argue that fiscal policy should play a central role in achieving (quasi) full employment, while monetary policy should maintain stable and low interest rates. This perspective suggests rebalancing – or almost reversing – the current emphasis on monetary activism, towards a more coordinated approach, but with an emphasis on the fiscal side. Furthermore, the literature suggests that monetary policies could be more expansive and inclusive, reaching all sectors of society and reducing the need for precarious local social currencies (Souza, 2018).

Similarly, the post-Keynesian perspective (Wray, 1998) stresses that active fiscal policies, combined with stable and low interest rates, can support full employment through mechanisms

such as job guarantees. Thus, rather than using unemployment variation as a primary tool to control inflation, this perspective advocates policies that maintain full employment while ensuring price stability – also through wage stability (Davidson, 1994; Wray, 1998) – particularly when the economy is below full employment.

Quite interestingly, here we can add another characteristic of public goods, the non-rivalry of some of them, among the rivalry of other public goods. Following the direction of the two paragraphs above, and the definitions presented at the beginning, fiscal and monetary policies are non-rival public goods, but these definitions do not assume that the benefits one derives from the supply of one or both of these policies are the same for all persons or groups.

Possibly, that is one significant reason for the opposition to such policies being taken to its full potential and also for the (main) opposers to the logic and, often, the empirical outcomes of these policies (Kalecki, 1943; Wray, 1998). For, if followed in such a path, they could benefit more the workers and poorer strata, in spite of increasing the profits and earnings of all society (Kalecki, 1954).

However, if we do discuss how 'to pay' for these policies, we can complement our logic. Following Keynes (1939), we can resort to: (a) taxation, the most preferable method for a better income and wealth distribution, if this taxation falls mainly on the income and/or wealth of the rich; (b) public borrowing, which would possibly worsen income and wealth distribution, because of the interest paid to the creditors, this problem accentuates because of the higher interest paid and the greater percentage 'financed' through such borrowing; or (c) simple expenditure, understood that this last option can result, afterwards, in an increase in public borrowing (and debt) and/or in an increase of the public revenue, despite no rise in tax rates; that is, simply as an outcome for the intensification of economic growth.

An often-overlooked consequence of public goods concerns their international dimension, including their effects on migration. Undoubtedly, access to improved public goods can influence migration patterns, and many public goods have local as well as global characteristics (Sandmo, 2008).

Therefore, public goods should not be supposed to be produced in a full employment economy, as the world is never at its production possibility frontier (Keynes, 1936; 1939), even more so when one considers the global economy. Moreover, public goods – together with private goods, which they can foster, of course, in a crowding-in effect, since, again, the economies are almost never in full employment – can beget (im)migration, which would, in this way, try to have access to the improved conditions brought about by these very public policies and goods.

An increase in economic growth, consequently, shall be welcome both nationally and internationally, provided that there is major attention as well as improvements in what is produced, given its impacts on employment, innovation, and also on the environment. That is to say, and contrary to conventional wisdom, academic or not, nowadays we could grow economically simultaneously with environmental improvements, for instance, substituting more polluting products and services and/or changing production processes and inputs, including energy, for more environmentally friendly ones. We stress that it is impossible to calculate more accurately whether such a huge and general environmentally progressive substitution will bring about an increase or decrease in economic growth, although we think that economic growth can possibly be brought about, together with important technological innovations and an improvement of the environment.

We should observe, therefore, that these public goods results also come to the benefit of the common good. Indeed, although these concepts are certainly not the same, they are interconnected. In this direction, we can assert a general proposition: whenever a public good is promoted, the common good is also supported, for the generation of public goods is a relevant part of the pursuit of the common good, since, as seen above, in the case of public goods, (1) "consumer benefits are directly related to the total availability of the good" (Sandmo, 2008, p. 740). Moreover, (2) "the consumption benefits of any one individual do not depend on the benefits enjoyed by others" (Sandmo, 2008, p. 740), which represents the non-rivalry property (in consumption). As a result of (1) and (2), we could, hence, clearly beget something as 'the more (public goods), the better'.

Considering the temporal opportunity for public goods, we underline that public policies should attend to public necessities at all times, chiefly in the bad ones, such as during the recent COVID-19 pandemic. This is a clear instance of how public policies should be perceived as public goods, and as promoting the common good. As boldly and correctly proposed by Nersisyan and Wray (2020, p. 1), for the United States, at the peak of that pandemic,

> [w]hat is more important is a set of policies that tackles the health crisis head-on while also mitigating the economic uncertainties faced by households and their communities. These include: (1) full coverage of medical costs associated with testing and treatment of COVID-19; (2) mandated paid sick leave and full coverage of associated costs; (3) debt relief for families; and (4) swift deployment of testing and treatment facilities to underserved communities. We will probably still need some demand stimulus, but these four steps require immediate attention. […] Additionally, Medicare cover age (now limited to those age 65 or older) should be extended to all ages for testing and treatment for COVID-19. […] The President has suggested tax postponement for affected families. Some Democrats are also suggesting that payments on student loans and federally guaranteed mortgages could be postponed. There also is a proposal for an additional $50 billion

> allocated to the Small Business Administration to provide loans in affected areas. All of these ideas are a good start. But because the economic effects will linger far beyond the viral epidemic, we need to make progress on permanent relief for families overburdened with student loan debt and mortgage debt. […] Finally, we hope that after enjoying a payroll tax holiday, plus a taste of what Medicare-for-All and universal sick leave look like, Americans would exert political pressure to keep those as permanent policies after this crisis passes.

Finally, and somehow linked to these public goods issues, the notion of fully independent central banks has been questioned in the literature (Dow, 2025), given evidence that joint fiscal-monetary coordination may produce more consistent macroeconomic outcomes, for if and when central banks raise the interest rate, they simply leave the Treasury with the fiscal bill. Most national Treasuries certainly do not want to receive such a bill and to spend public resources without a return in terms of capital or social investment (Sylla, 1988), causing income and wealth concentration. However, this is not the only reason to require the return of coordinated monetary and fiscal policies. We must add that joint decisions of both these policies are a way to leverage their results (Carvalho, 2005) and, as stated above, diminish their costs, since we would cease to adopt contradictory policies (Dow, 2025).

3. Money and economic policies as public goods: a Post-Keynesian Approach to Money and Monetary Policy

Money enjoys a prominent position in post-Keynesian economics. Despite being the basis of socioeconomic organizations for thousands of years, in modern times, under the capitalist economic system characterized by monetary economies of production, money has become one of the main cornerstones of societal organization, serving as one tool that orchestrates nearly all social relations.

The primary concept of the post-Keynesian approach to money is that of money-of-account. Money originated as a unit of account within early public institutions (such as Sumerian temples), and was also used to record debts and obligations. Standardization of measures and the emergence of circulating media later enabled broader markets and economic organization, laying the foundations for the emergence, centuries later, of modern monetary economies. Sumerian temples and palaces stand out as great innovators of these accounting practices.

Early public institutions developed money-of-account and standardized measures, laying the foundations for modern monetary systems and enabling broader markets. Alongside standardization of measurement, mass literacy represented another important social advance that benefited the following development of the monetary system: the emergence of circulating media, namely coins and paper credit instruments. The institution of circulating forms of money – which

bore inscriptions, numeracy, and writing – demanded mass literacy (Graeber, 2011). Moreover, the ease with which these credit instruments could be transferred was a key factor for the development and growth of large-scale organized markets, representing therefore an important rupture in ancient socioeconomic organizations, as market principles took over such ancient forms of social life based only on customary, hierarchical, and/or command principles. Thus, standardization of different measurement systems – including money – and literacy were important social advances in ancient societies, which created the foundation of modern economic activity, allowing the economic growth of nations and raising the welfare of societies. Money, consequently, represents a social technology that permeates all sorts of social relations, even those which are not market related.

Money is, by its nature, a credit, or an acknowledgement of debt (IOU), which, by delivery, releases people from debts. Indeed, money is a means of payment; it is also a store of purchasing power, that is, an asset which allows the storage of purchasing power over time. Monetary instruments can only exist in relation to a money-of-account, which, as aforementioned, is the cornerstone of the theory of money postulated by Keynes and the post-Keynesians.

As a creation of public institutions, money represents a social technology that emerged as a means of promoting economic order, social welfare, and economic growth. The latter was benefited by and stimulated with the institution of money markets and financial institutions. Among the latter, commercial banks have played a pivotal role in modern economic organizations, since they serve as social accountings, following the term coined by Schumpeter (1956). The centralization of monetary transactions over the banking system represented a great social advance regarding the management of money. Among its advantages, one is particularly important: it allowed the supply of money to respond to and accommodate the demand of money by the public – highlighting, thereby, the endogeneity of money, its supply and demand increasing or decreasing together.

As a key element of socioeconomic life, money is created, circulates, and is destroyed – following a circuitist approach – as entrepreneurs engage in economic activities, such as the production of goods, investments in capital goods, among others. The creation of money consists of a 'money today–money tomorrow' contract, that is, it is based on a forward contract, namely, a debt. Firms in need of credit for financing investment projects and/or productive activities seek financial institutions (usually banks) to finance their activities. As the great merchants of debts, banks create deposits as loans are made (Werner, 2014a; 2014b). This newly created credit is employed by the firms in starting the production of goods, covering the costs of production, of buying capital goods, among others.

Money circulates as firms pay factors of production and is extinguished when loans are repaid. Therefore, money and business activities are interrelated and, as such, in monetary economies of production, investment plays an important role in determining the levels of employment and output, as long as credit is available to finance investment projects.

Provided that loans are granted to boost investments, entrepreneurs can buy capital goods, hire more workers, demand more productive factors and, as the production process and output increase, a new level of aggregate demand is reached. Higher levels of employment may also have important effects on social variables, such as education and health, for an increase in the employment rate shall also lead to an increase in household income and part of this may be spent on education, health, leisure, social security, and other social needs. So, in the management of money, monetary authorities ought to respond to that part of the demand for money which will be employed in productive means, for it may lead to higher levels of employment and output, thus stimulating economic growth. As long as the gains from economic growth are not only concentrated in certain sectors of society – and an adequate income policy can help to avoid this – economic growth leads to an increase in the welfare of society as a whole.

The management of money as a tool for promoting full-employment economic growth, as seen above, lies within the scope of monetary policy. For post-Keynesian economics, full employment ought to be the main goal of economic policy and, hence, different types of active economic policies ought to be articulated to achieve it. Full employment is in the common interest of society, for it implies high rates of employment, output, wages, and macroeconomic profits. It is consequently beneficial to entrepreneurs and foments the undertaking of new investment projects; for workers, high rates of employment and an augmentation in the mass of wages allow an increase in consumption, broadening the access to education, health, leisure, and so on. For the State, although public spending is not conditioned to or constrained by prior tax income, an increase in tax income is an important factor regarding fiscal deficits and public debt. Since nations have more often operated under the normative of sound finance, more tax income provides a greater degree of freedom for raising public spending in several areas, such as education, infrastructure, health, and so on.

Market forces alone are not sufficient to provide society with all the resources needed for its wellbeing, and they cannot guarantee job and wealth creation at a socially adequate level either. The State, therefore, must intervene in several ways: by acting directly as a producer of public goods or by making public investments, and indirectly through active economic policies, which stimulate the private sector to boost the levels of investment and employment.

Following Keynes and post-Keynesians, an active monetary policy, namely a variation in the supply of money, may indeed affect real variables and, therefore, is an important instrument to reduce unemployment and promote economic growth. In fact, economic policies, despite their several types, should all pursue the same objective, that is, should support each other by employing many instruments available at their discretion.

Nevertheless, placing economic growth, or full employment, as the primary goal of monetary policy does not rule out the inclusion of multiple, simultaneous goals. Post-Keynesians argue that price stability, exchange rate stability, financial stability, stable expectations, and the control of liquidity are also important goals of monetary policy to be pursued simultaneously. Stability is, in fact, essential, for it helps to reduce uncertainty and, eventually, the likelihood of a crisis. Combined with enough liquidity, stability stimulates private investment, job creation, and economic growth.

The challenge behind the effectiveness of monetary policy lies in channelling liquidity to productive ends, and not to mere financial ones, what Keynes called, respectively, industrial and financial circulation. Hence, money ought to flow mainly into Keynes's industrial circulation. However, in a world of increasing financialization, investment in capital goods has often taken the back seat, as financial investments and financial markets have become powerful forces in economic organization. In this context, monetary policy is an important force, for it may stimulate the entrepreneurs' actions towards a more productive portfolio recomposition, namely, the substitution of liquid assets that yield money returns for illiquid assets, whose return takes the form of profits, begot through production and investment. As a consequence, the challenge consists in making illiquid assets more profitable, notably, in replacing unproductive return for profits, following Keynes's famous defence of the euthanasia of the rentier. In Keynes's terms, the marginal efficiency of capital must be higher than the interest rate, in order to stimulate productive investment, which boosts economic growth.

In order to have full-employment economic growth as the ultimate economic policy goal, or staying near to it (Keynes, 1936), monetary authorities must have at their disposal some tools to accomplish such a goal. Since monetary policy does not act directly on output and investment decisions, one must pay attention not only to the management of monetary policy, but also to its transmission mechanisms. In fact, these transmission mechanisms are very instructive of how monetary policy enhances society's welfare, for they explain how the use of a certain monetary policy tool affects investment and other economic variables (see Strachman, 2022).

Among the tools available for central banks to conduct monetary policy, interest rates and regulation are worth special attention. The former is set through the determination of the policy

interest rate, the discount window, and open market operations. The latter sets the ratio of compulsory reserves, in relation to bank deposits, kept by commercial banks with the central bank, and several other customary and/or legal acts. By operating with these tools, the monetary authority can adjust the supply of money, affecting the volume of credit (including consumer credit) and business investment decisions. These instruments also signal the stance of monetary policy.

Considering the lag between the policy implementation and its effects, monetary policy requires discretion, constant monitoring, coordination between tools, and activism to react to eventual shocks that might divert economic activity from reaching (quasi) full employment. It also needs to be credible and transparent in order to align the state of expectations with its objective: full employment and the common good of society.

Central banks may, therefore, affect effective demand by altering the policy interest rate, for instance. Following the interest rate transmission channel, the lowering of interest rates affects businesses' decisions regarding investment spending. At lower interest rates, entrepreneurs demand more bank loans to finance investment.[6] As their demand for bank credit is met, they purchase capital goods to increase their output, which subsequently increases the employment rate and aggregate demand. Consumer credit also benefits from lower interest rates. Consumers get loans to finance their spending on housing or (non)durable goods, for instance, which also has impacts on aggregate demand. The lowering of interest rates makes bank credit more abundant, thus fomenting investment, creating jobs, and bringing about socioeconomic growth.

Regulation also affects bank reserves and the availability of credit. Central banks may reduce the ratio of compulsory reserves,[7] thus freeing reserves to be used by commercial banks in more profitable ways, as in expanding loans to their clients.[8] As more credit becomes available, considering the existence of a potential and unattended demand for credit, investment projects which had been so far constrained may now be undertaken. By boosting productive investment, the same effects explained earlier follow: investment increases employment, output, and aggregate demand (see Minsky, 1982).

In summary, money is a social technology instituted to help spending (exchanges) and create economic order, but additionally to arrange and organize social relations of many sorts within

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[6] Credit supply by the banking system, in its turn, depends on the banks' liquidity preferences and their willingness to lend.

[7] Open-market and discount operations have a similar effect. They may increase the amount of reserves and, consequently, the availability of credit and, thus, facilitate the undertaking of bank loans – which, however, still depends, and will always depend, on credit decisions by lenders as well as borrowers. Nevertheless, if new credit is granted, the newly created amount of money can be employed for productive ends, therefore generating jobs, increasing output and consumption, and leading to a general rise in effective demand.

[8] It is essential to stress that, from this assertion, it does not follow that banks must have enough reserves when they grant new credit lines, because, as is well known, if needed, they can get enough reserves after the lending has occurred, for instance, through the interbank money market and/or through the discount window of the central bank.

a society. As the foundations of the monetary system were laid, namely, the creation of a money-of-account, different circulating monetary instruments emerged in response to the socioeconomic needs of different periods. Monetary systems have been developed throughout thousands of years and, in modern monetary economies of production, the management of the monetary system and its power to influence investment and employment have been a pivotal subject regarding monetary policy. In this regard, Post-Keynesianism, more than any other school of economic thought, highlights the importance of monetary policy coordinated with other economic policies as an important tool to achieve (quasi) full-employment, economic growth, and raising the welfare of society.

3.1. Challenges, Criticisms and Practical and Future Implications

Different from other approaches to monetary policy, post-Keynesians follow Keynes and affirm that monetary policy may affect real variables and impact economic growth. However, monetary authorities have currently leaned towards monetary conservatism, and price stability has been set as the only goal to be pursued by their policies.[9] In fact, focusing solely on price stability limits monetary policy, which must pursue multiple goals to foster economic growth and stability. Moreover, as long as monetary policy is credible and transparent, it can have impacts on expectations and stability, and, with an adequate provision of liquidity from the banking system, foment new investment projects, job creation, and socioeconomic welfare.

4. Fiscal policy: theoretical foundations

In light of the contributions of the post-Keynesian school of thought, we argue that, in monetary economies, the determination of national income is fundamentally driven by aggregate demand. The degree of confidence prevailing in the economy at any given time influences expectations of future demand and, simultaneously, shapes both the preference for liquidity and the level of investment. In contexts marked by pessimistic expectations or diminished confidence in future outcomes, investment is typically discouraged, leading to insufficient demand, a contraction in economic activity, and rising unemployment. In this regard, the State assumes a crucial role in designing and implementing policies that coordinate the expectations of economic agents, notably through the construction of conventions that foster a collective perception of a favourable economic outlook. Such a process serves to reduce uncertainty and stimulates private

[9] The debate over central bank independence falls under this current view.

investment, thereby contributing to the stability as well as dynamism of economic activity (Resende and Terra, 2017; Fraga and Resende, 2022a).[10]

The presence of uncertainty gives rise to a paradox between individual rationality and social rationality, thereby underscoring the necessity of State intervention in the economy. Since uncertainty is an inherent and irreducible feature of economic life – one that is (or should be) internalized by individuals – it becomes evident that solutions to coordination failures do not arise spontaneously within the private sector. In this context, the central challenge lies in identifying effective mechanisms to sustain the prices of capital assets, in face of contractionary pressures, stemming, for instance, from heightened uncertainty among private agents.

In contexts characterized by uncertainty, asset pricing tends to penalize capital goods, leading to a decline in their demand prices to levels below their supply prices. This dynamic results in a contraction of investment, implying that effective demand falls short of the level required to sustain full employment. Importantly, it is not uncertainty per se that generates these adverse effects, but rather the manner in which it manifests within privately owned monetary economies and the institutional mechanisms available to mitigate it. In this regard, uncertainty is typically managed through an increase in the accumulation of wealth in a liquid form, particularly in the form of money. Against this backdrop, the central issue becomes how to uphold capital asset prices amid contractionary pressures triggered, for example, by rising uncertainty among private agents.

The Keynesian framework, therefore, underscores the inherent tension between individual rationality and social rationality, a contradiction that provides a fundamental rationale for State interventions in the economy. From this perspective, addressing uncertainty necessitates the formulation of a coherent and coordinated set of public policies aimed at sustaining aggregate demand and mitigating the risks perceived by economic agents. The effectiveness of such measures would be reflected in an increase in the demand prices of capital goods, thereby stimulating higher levels of aggregate investment. More broadly, the objective is for the State to operate as a complement to private initiative, rather than as its replacement.

In this regard, the government is not merely another economic agent attempting to anticipate future developments; rather, it assumes the role of the principal architect of the future, because of its capacity to mobilize resources and influence aggregate demand. Its actions are indispensable to the construction of a stable and secure economic environment in which private agents can place their trust (Carvalho, 1992, Ch. 12). Consequently, the formation of expectations

[10] According to Arestis et al. (2019, p. 189), "a convention can be 'a tool to coordinate expectations, to inform each one about what others expect as an outcome of a given stimulus' (Carvalho, 2014, p. 257). The greater the adherence of economic agents to a given convention, the more effective it becomes. In this context, the creation and enforcement of public policies play a key role in shaping conventions and, consequently, in forming expectations."

can be based on a more conventional character, and it becomes the responsibility of the State to actively engage in the development of many of those conventions that orient the growth of demand and the anticipation of future profits. To this end, effective coordination across various areas of economic policy is essential, as is a sustained dialogue between the government and key societal actors – particularly business leaders and workers – in order to enhance the efficacy of the measures adopted (Resende and Terra, 2017).

Within the realm of fiscal policy, public expenditure exerts a direct influence on the demand for real capital assets. It does so by: (i) raising the demand price of such assets, as the expansion of aggregate demand contributes to reducing the level of risk perceived by investors; and (ii) generally improving the liquidity positions of indebted agents (Minsky, 1982). Moreover, the role of the State should not be construed as that of a competitor to the private sector, but rather as a cooperative and complementary actor, whose interventions serve to reinforce economic dynamism and stimulate investment (Keynes, 1936, Ch. 24).

According to Keynes (2010, p. 291), the State should concentrate its efforts on functions and decisions that "would not be undertaken by anyone else if the State did not undertake them". This principle is particularly pertinent to the infrastructure sector, where investments typically require substantial capital outlays and involve long gestation periods – which are characteristics that tend to deter private initiative.

Further, infrastructure investment (II) plays a pivotal role in reinforcing entrepreneurial optimism and confidence, thereby encouraging private investment through at least two key channels. First, II contributes to diminishing production and distribution costs, while simultaneously enhancing productivity across various sectors of the economy, thus raising expected profitability for the private sector (Aschauer, 1989a; 1989b; Calderón and Servén, 2004a; 2004b; Fraga and Resende, 2022a; 2022b; 2023). Second, II stimulates aggregate income and activates the expenditure multiplier, leading to an expansion of effective demand (Belloc and Vertova, 2004; Resende and Terra, 2017).[11]

In both channels, the role of expectations – a central point of the post-Keynesian tradition – becomes particularly salient. On the supply side, the reduction in production and distribution costs enhances profit expectations, improving the investment climate. On the demand side, infrastructure investment not only expands aggregate demand, but also contributes to sustaining demand. The latter, as defined by Keynes (1936), corresponds to the value of output determined at the intersection of the supply curve (which is known) and the demand curve (which is expected).

[11] Keynes's proposal for separating current and capital budgets, with the latter operating counter-cyclically, is further detailed later.

In this regard, infrastructure investment serves as a reference point for future aggregate demand, thereby reducing uncertainty and stimulating private investment (Fraga and Resende, 2022a; 2022b; 2023).

Simultaneously, public investment in infrastructure would be incorporated within this capital budget, assuming a strategic role in the formation of optimistic conventions and expectations among private agents – which are factors that, in turn, influence investment decisions. As such, infrastructure investment shall constitute a critical instrument of fiscal policy, functioning to reduce uncertainty and coordinate the expectations of private sector actors.

4.1. Fiscal Policy as a Public Good: Implications

Keynes (1936) advocated a central role for the State in addressing demand insufficiencies, in a context where conventions and the state of confidence are pivotal, as explained above. In a complementary vein, Minsky's (1986) concepts of "Big Government" and "Big Central Bank" refer to institutional arrangements capable of shaping conventions and ensuring macroeconomic stability. In this regard, Carvalho (1992, p. 205) contends that "the State has the power to influence or even determine future paths […] pointing out the directions of development that the community may desire". Similarly, Arestis et al. (2019, p. 189) argue that "governments, which are the largest social entit[ies] and have the power to create and implement public policies, play a fundamental role in the formation of conventions and, consequently, in the establishment of expectations".

Kregel (1985; 1995) underscores the importance of Keynesian policies aimed at long-term stabilization as a means of stimulating investment. Along these lines, Marcuzzo (2010) maintains that Keynes's proposals for fiscal policies are instrumental in stabilizing confidence and in sustaining conventions. It is also important to recognize that conventions are shaped by broader forces, such as economic and social stability/instability, technological change, wars, pandemics, and so on, which alter the landscape in which expectations are formed and decisions are made.

A variety of factors contribute to the formation of conventions, and we argue that the level of a country's infrastructure stock plays a critical role in shaping the conventions and expectations of economic agents, given its pervasive effects across the economy (Fraga and Resende, 2022a; 2022b; 2023). On the supply side, infrastructure investment reduces production and transaction costs, while enhancing total factor productivity (Belloc and Vertova, 2004). For, in the absence of adequate infrastructure, both internal and external economies of scale are compromised (Hirschman, 1958; Rozas and Sanchez, 2004), undermining the competitiveness and profitability of domestic firms (Calderón and Servén, 2004a; 2004b; Rozas, 2008). Such conditions tend to reinforce pessimistic conventions. On the demand side, infrastructure investment contributes to

an increased profitability not only through its direct impact on aggregate demand but also, via indirect channels, including the operation of the expenditure multiplier and its effects on income distribution and poverty reduction (Rozas and Sánchez, 2004). As Resende and Terra (2017) emphasize, infrastructure investment provides several key conditions for the enhancement of firm-level profitability, thereby encouraging the formation of optimistic conventions. These conventions, in turn, play a central role in shaping entrepreneurs' investment decisions.

As Kregel (1995, p. 261) observes, "there is very little specific policy recommendation in the *General Theory*". Nevertheless, two key policy prescriptions can be identified: the management of the interest rate and the socialization of investment. The latter is central to a strategy of long-term stabilization, while the former should be calibrated to support this broader objective. As Keynes (1980, p. 350) notes, "I should regard state intervention to encourage investment as probably a more important factor than low interest rates taken alone."

In the post-war period, Keynes articulated a 'defensive' policy aimed at preserving conditions of full employment. To this end, his primary concern centred on the role of fiscal policy. He proposed, as explained before, a division of the government budget into two components: a current account, covering routine expenditures, and a capital account, dedicated to long-term investment planning. The capital account was intended to offset exogenous cyclical fluctuations in private investment, thereby functioning as an instrument for smoothing economic cycles.

> Looked at over time, both the ordinary and capital account should be roughly in balance; when demand declined, capital expenditures would increase and create a temporary deficit that would be eliminated as the capital projects paid off in terms of higher tax receipts and surpluses on the ordinary budget. (Kregel, 1995, pp. 265–266).[12]

These principles remain relevant today, particularly as governments balance fiscal sustainability with the need for counter-cyclical investment in a post-pandemic world. In order to stabilize investment as a proportion of the national output, Keynes (1936) proposed the socialization of investment, arguing that a substantial degree of government control over investment is required to achieve this objective. As Kregel (1985, p. 38) notes, "government-

[12] "Keynes himself did not ever directly recommend government deficits as a tool of stabilisation policy […]. Keynes warned against 'confusing the fundamental idea of the capital budget with the particular, rather desperate expedient, of deficit financing'" (Kregel, 1985, pp. 32–33).

influenced spending should be 1/3 to 3/4 of total investment spending", underscoring the scale of public sector involvement envisaged in Keynes's approach to long-term economic stabilization.[13]

The stabilization of investment was one of Keynes's central policy objectives. A stable long-term investment programme, he argued, should be designed to "compensate for small fluctuations by accelerating or retarding some items in this long-term program" (Keynes, 1980, p. 322). Accordingly, following the cyclical recovery of the economy, it is expected that certain categories of public capital expenditure would decline, offset by a corresponding rise in private investment (PI). The latter, however, is contingent upon the formation of optimistic expectations by private agents (Keynes, 1936, Ch. 12).

From this observation, it follows that the role of a stable long-term investment programme is twofold: first, to mitigate large fluctuations in aggregate demand directly, through public capital expenditures; and second, to influence private expectations and conventions indirectly, by establishing a credible commitment to sustained economic activity. As Resende and Terra (2017, p. 252) affirm, "[t]he State's long-term plan coordinates the agents' conventions, as it is a long-term commitment to achieve and sustain an adequate level of aggregate demand". In a similar vein, Carvalho (1992, p. 213) observes that Keynes's framework assigns to fiscal policy the task of "smoothing the economic cycle and, thus, signaling to private agents the safe level of income that they should include in their expectations about the future".

Keynes also underscores the strategic role of the State in fostering optimistic conventions, not by supplanting private initiative, but by complementing it. In this way, public investment can generate a crowding-in effect, strengthening, rather than displacing, private sector activity.

> I conceive, therefore, that a somewhat comprehensive socialization of investment will prove the only means of securing an approximation to full employment; though this need not exclude all manner of compromises and of devices by which public authority will co-operate with private initiative. (Keynes, 1936, p. 238).

In this context, infrastructure investment (II) appears particularly well-suited to inclusion within capital budgeting frameworks, insofar as its capacity to stimulate conventions and nurture optimistic expectations – or what Keynes termed the "animal spirits" of entrepreneurs – can reinforce the broader objectives of a long-term investment strategy. Infrastructure investment thus contributes to a range of essential conditions for enhancing corporate profitability, supporting private investment decisions. Nevertheless, the long-term horizon for returns and the substantial

[13] "[A]lthough Keynes' recommendations for the share of state-controlled investment […] were high, this did not mean direct state operation; rather a combination of state, semi-autonomous and socialised joint stock forms" (Kregel, 1985, p. 37).

financial outlays required often deter private sector engagement in such activities. As Keynes (2010, p. 291) argued, the State should complement private initiative by undertaking "those decisions that are not taken by anyone if the State does not take them".

Moreover, the task of mitigating large fluctuations in investment through a stable long-term programme must be complemented by short-term macroeconomic policies. Within a framework of coordination and discretionary action, such policies should aim to promote PI by influencing its key determinants. The success of these policies, however, is contingent upon the extent to which they generate, reinforce, and disseminate effective optimistic expectations and the resulting conventions attached to them. As Carvalho (2014, p. 257) notes, "a convention is a tool deployed to coordinate expectations that inform each agent what others expect from a given stimulus". The effectiveness of economic policy thus depends not only on individual confidence in the policy itself but also on the belief that others share that same confidence – a shared understanding that reinforces coordinated behavioural responses.

In this regard, Carvalho (2014) argues that agents are more responsive to policy stimuli when a shared belief prevails, leading a significant number of actors to respond similarly to government action. Consequently, II, by influencing expectations and shaping conventions, can enhance the responsiveness (or elasticity) of PI to its determinants. This, in turn, strengthens the effectiveness of macroeconomic policies aimed at stimulating PI.

Building on the work of Fraga and Resende (2022a; 2022b; 2023), we further argue that if a country's infrastructure stock influences conventions – and, by extension, PI – it also affects the elasticities of PI with respect to various determinants, including public investment, credit conditions, the real exchange rate, the real interest rate, and the infrastructure stock itself. The authors have demonstrated that when infrastructure deficiencies augment to a critical threshold, the responsiveness of PI to these determinants diminishes. In turn, this decline in PI elasticities weakens the effectiveness of economic policies aimed at stimulating PI, via the conventional transmission channels.

Public investment in infrastructure thus assumes a strategic role, not only in shaping expectations and conventions, but also in enhancing productivity and fostering inclusive growth. Empirical evidence suggests that investments in key sectors, such as transport and electrification, contribute to improving business competitiveness and promoting more equitable patterns of economic development (see Aschauer, 1989a; 1989b; Calderón and Servén, 2004b).

Moreover, labour-intensive infrastructure projects – such as the construction of roads and sanitation systems – generate both direct and indirect employment, particularly benefiting lower-skilled workers and contributing to the reduction of wage inequality (International Monetary Fund,

2014). The expansion of access to essential public services, including water supply, electricity, and transport, also yields significant socioeconomic benefits. It enhances school attendance and labour productivity, while helping to reduce regional and social disparities (Estache et al., 2002; Gennaioli et al., 2014).

In this same direction, improvements in transport infrastructure – through investments in highways, railways, and related systems – lower logistics costs, facilitate market integration, and improve access to employment opportunities in urban centres. These effects are especially pronounced in economically lagging regions, where they contribute to wage growth and regional convergence (Donaldson and Hornbeck, 2016). Additionally, efforts to promote financial and digital inclusion – enabled by increased access to the internet and mobile telephony – support the development of small enterprises and enhance income distribution (Klapper et al., 2016).

Finally, expansionary fiscal policies directed towards infrastructure investment tend to exhibit high fiscal multipliers, yielding significant positive effects on employment and income, particularly for lower-income groups, while also contributing meaningfully to macroeconomic stabilization (see International Monetary Fund, 2014; Resende and Terra, 2017). International evidence also supports these findings (see Blanchard and Leigh, 2013, on fiscal multipliers in advanced and emerging economies).

Therefore, in light of Keynes's emphasis on the socialization of investment as a central mechanism for long-term stabilization, it becomes evident that public policies aimed at fostering investment play a crucial role in reducing uncertainty and sustaining economic growth. While interest rate reductions remain relevant, they are, in themselves, insufficient to ensure an adequate and stable level of aggregate investment.

5. Conclusion

As pointed out at the beginning of this article, during the COVID-19 pandemic some of us discussed the need for wise and responsible economists and policymakers to underline the public goods properties of economic policies. This article has tried not only to be rigorous in the treatment of these themes, through strict definitions of the chief concepts, but also to present a theoretical and empirical base for the policies advocated.

We have defined public goods and displayed some of the implications of this definition and of the characteristics of those goods over public (in our case, monetary and fiscal) policies. We also emphasized that whenever public goods are created, the common good is increased, since the origination of public goods is a key aspect of the pursuit for the common good, because consumer benefits are directly associated with the total availability of public goods. Further, in this case, the

consumption benefits of any individual do not rely on those enjoyed by others – the so-called non-rivalry property (in consumption).

Then, we showed some of the chief characteristics of historical monies and currencies, and what they can bring about concerning economic growth, employment, and development (Keynes, 1936), however not disregarding issues such as price, exchange rate and financial stabilities, expectations, liquidity, and so on.

Coordinated policies also face contemporary challenges, including green transitions and fiscal responsibility, underscoring the need to align investment programmes with environmental goals and intergenerational equity. In sum, by redefining monetary and fiscal policies as public goods, this article highlights their potential to foster economic growth, employment, and welfare, when coordinated effectively – filling an important gap in the literature.

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