



**Savings Glut, Secular Stagnation,  
Demographic Reversal, and Inequality:  
Beyond Conventional Explanations of Lower  
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**Savings glut, secular stagnation, demographic reversal, and inequality:  
Beyond conventional explanations of lower interest rates**

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**Abstract:** Interest rates have declined over the last forty years, a period of increasing inequality. The steady decline in interest rates has been interpreted by and large as resulting from a decline of the natural rate of interest. This paper surveys the main explanations associated with the notion of a decline in the natural rate of interest, including the savings glut and the secular stagnation hypothesis. It analyzes the views according to which demographic forces were behind the decline, and might perhaps be associated to a future rise of the same natural rate. It also discusses the view according to which the role of inequality has been also to affect the natural rate of interest. Finally, views that discuss the role of monetary and financial factors, including the so-called global financial cycle literature, are discussed. It is argued that the conventional view suffers from logical and empirical problems that are ultimately unsurmountable. A brief critique of the notion of a natural rate of interest, and alternative monetary theory of the decline of interest rates, as determined exogenously by the monetary authority of the hegemonic country, the United States, is proposed.

Key Words: Inequality, Savings Glut, Secular Stagnation, Natural Rate of Interest

JEL Codes: D33, E21, E22, E43,

## Introduction

Interest rates in the United States declined over the last forty years, a period of increasing inequality. The steady decline in interest rates has been interpreted within the mainstream of the economics profession as resulting from a decline of the natural rate of interest, a concept largely abandoned with the Keynesian Revolution in the 1930s, and that was revived slowly, starting in the late 1960s with Friedman's reintroduction of the notion of a natural rate of unemployment. The dominant explanations for the decline in the natural rate of interest, following the conventional wisdom on the topic, tend to emphasize real variables, including an increase in the savings rate and a decline of investment (Summers, 2014; Goodhart and Pradhan, 2020). The basis of the argument is fully based on the old marginalist approach, suggesting monetary factors have only temporary effects on the economy. An alternative explanation has been provided by Mian et al. (2021) which suggests that inequality is at the heart of the decline of the natural rate of interest. However, their argument also builds on the mainstream real theory of interest, which faces significant logical problems.

This paper provides a brief overview of the conventional arguments for a lower rate of interest, and for the predictions about a coming reversal. It suggests that low interest rates are not the result of demographical changes, or real changes associated with the prospects of the current stage of industrialization, neither with the effects of inequality on savings. It is suggested that financial fragility, associated to the process of financial liberalization, that started globally with the collapse of Bretton Woods fifty years ago, is to blame. The reasons for increasing inequality, which took place initially as interest rates went up in the 1980s, and continued during the subsequent period, as interest rates on average declined, are discussed briefly, and its relation to monetary policy clarified, within the context of an alternative theory of interest based on a revival of classical political economy, in particular the Sraffian tradition that emphasizes the monetary roots of long-term normal interest rates (Pivetti, 1991). Note that the mainstream has also provided extensions of the conventional model to deal with what they refer to as the global financial cycle, that still maintain the prominence of the natural rate of interest (Borio, 2012).

The rest of the paper is divided in three sections. Next section analyzes the main explanations within the mainstream for the lower interest rate, associated to a lower natural rate of interest, with an emphasis on the debate between Ben Bernanke and Lawrence Summers, and the more recent contributions of Charles Goodhart and Atif Mian and their co-authors. The following section discusses the financial explanations, based on the notion of a global financial cycle, in particular in the work of Claudio Borio and Hélène Rey, and the continuity with the conventional notion of a natural rate of interest. In both sections, the limits of the conventional view are analyzed and the importance of the notion of an exogenous monetary rate is emphasized. A brief conclusion follows.

## From Savings Glut to Great Demographical Reversal

Paul Krugman's rediscovery of the Liquidity Trap in Japan in the late 1990s (Krugman, 1998) and his insistence that something similar could be adduced for the United States in the aftermath of the Global Financial Crisis (GFC) of 2008 (Eggerston and Krugman, 2012), has been, perhaps, the most visible outcome of the policy debate about the decline of interest rates over the last few decades. But Krugman did not provide any clear underlying story of the reasons for the low rates *per se*. Krugman's arguments were normally about the domestic economy, and the problem of the zero lower bound interest rate, or what he somewhat idiosyncratically calls the liquidity trap, and the possibility of a negative natural rate of interest.<sup>1</sup> Bernanke (2005) put forward the idea that interest rates are low as a result of a global savings glut. The reasons for the global savings glut were associated to the accumulation of dollar reserves in the period that followed the financial crises in developing countries, starting with the Tequila crisis in Mexico in 1995, and ending with the Argentine crisis in 2002, including the Asian, Russian, and Brazilian crises too. In this view, the accumulation of reserves, and the depreciation of the exchange rates of foreign countries with respect to the United States, and subsequent current account deficits, led to an accumulation of foreign savings, not matched by investment in these countries, pushing the international interest rate down. The argument was fundamentally based on the traditional marginalist Loanable Funds Theory (LFT) of interest — with no consideration of the limitations associated with the capital debates — and the notion that the supply of funds, mostly associated to surplus countries like China, Japan, Germany and oil exporters, pushed interest rates down.

In Bernanke's (2015b) view, the solution for the savings glut would require: “to reverse the various policies that generate the savings glut—for example, working to free up international capital flows and to reduce interventions in foreign exchange markets for the purpose of gaining trade advantage.” This would, presumably, move up the investment schedule and lead to a recovery. Bernanke used the global savings glut idea to criticize Larry Summers' secular stagnation argument. For Bernanke (Ibid.): “unless the whole world is in the grip of secular stagnation, at some point attractive investment opportunities abroad will reappear. If that's so, then any tendency to secular stagnation in the US alone should be mitigated or eliminated by foreign investment and trade. Profitable foreign investments generate capital income (and thus spending) at home; and the associated capital outflows should weaken the dollar, promoting

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<sup>1</sup> Sumner (2021: 5) suggests that Krugman's paper should be compared to the famous presidential address by Milton Friedman (Friedman, 1968) and should be seen as “the most important macro article of the past 40 years.” He calls the New Keynesian contributions by Krugman and some other key authors in the literature on the zero lower bound, including Bernanke and Krugman, but also Gaudi Eggerston, Lars Svensson and Michael Woodford, the Princeton School, and sees as distinctive from the Chicago School. It will be contended here that, while there are policy differences, the main arguments within the discussion of the decline of the rate of interest are essentially Wicksellian, and that the theoretical framework is essentially the same. On the limitations of a negative natural rate of interest see Di Bucchianico (2020) and Serrano, Summa and Garrido Moreira (2020).

exports. At least in principle, foreign investment and strong export performance can compensate for weak demand at home.”

Summers (2014), in contrast, argued that the reasons for the declining interest rates were to be found on the notion of secular stagnation, a concept that was originally discussed by Alvin Hansen, the dean of the old Neoclassical Synthesis Keynesians (e.g. Hansen, 1939). According to Summers (2014: 69): “it is a well known fact, going back to Alvin Hansen and way before, that a declining rate of population growth... means a declining natural rate of interest. The US labor force will grow at a substantially lower rate over the next two decades than it has over the last two decades, a point that is reinforced if one uses the quality-adjusted labor force for education as one’s measure.” In this view, as in Hansen’s work, the effects of population growth on the natural rate of interest are positive. In this context, population growth would positively impact the need for investment, and it would lead to an increase in the marginal productivity of capital and to higher interest rates, and conversely in the case of lower population growth.<sup>2</sup>

The main disagreement between Bernanke and Summers, was on the relative forces behind the lower natural rate of interest, with an emphasis on excess savings in a global context for Bernanke, and lack of investment, primarily in the United States for Summers.<sup>3</sup> Also, both authors disagreed on the solution for the savings glut or secular stagnation problems. Bernanke would prefer to promote, as noted above, capital account liberalization, and an increase in international investment. At the domestic level, depreciation would also lead to higher exports. Furthermore, capital mobility should lead to more efficient allocation of resources on a global basis, with savings increasing in the advanced economies in the Western world, in the United States more specifically, and savings falling in the developing nations in the East, in particular China, but also in other surplus countries.

The logic of Bernanke’s position can be represented with a modified version of the so-called Metzler diagram (Metzler, 1960). Following the conventional LTF of the rate of interest, it assumes that the natural rate of interest is determined by productivity and thrift, and it also shows a situation in which the advanced western nations have a lower savings rate and a higher

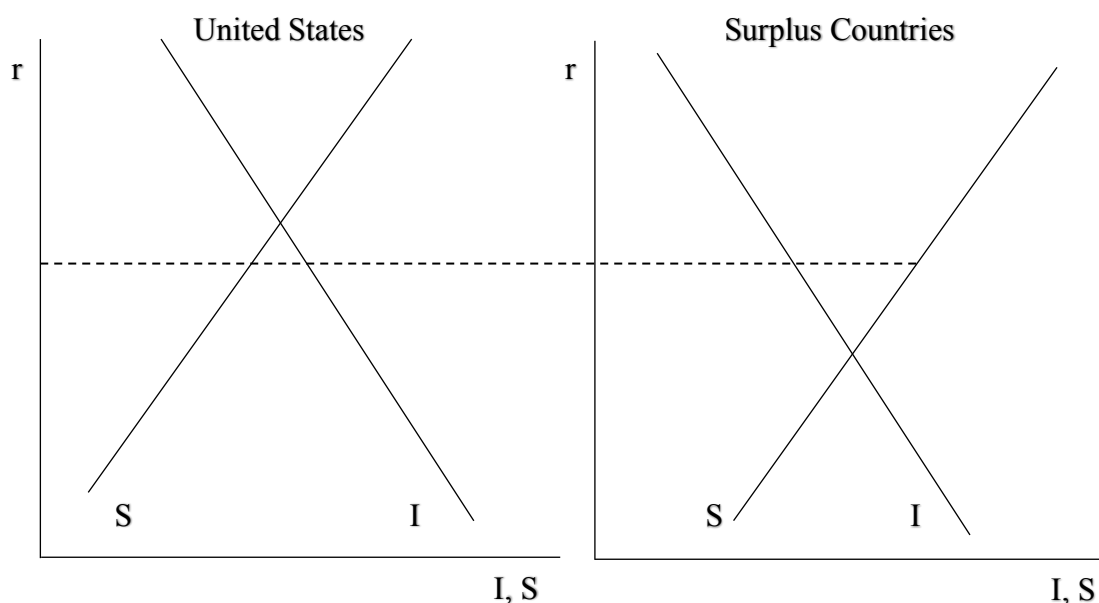
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<sup>2</sup> For Hansen (1939: 8) investment, and, hence, the natural rate of interest, “could be attributed “(a) to population growth, (b) to the opening of new territory and the discovery of new resources, and (c) to technical innovations.” The closing of the frontier, the slower population growth – a preoccupation in which Hansen was influenced by Keynes’ work in the *Eugenics Review* (see Backhouse and Boianovsky, 2016: 951) – and the reduced outlets for investment were ultimately the cause of stagnation, particularly the last two. In his words, “it is my growing conviction that the combined effect of the decline in population growth, together with the failure of any really important innovations of a magnitude sufficient to absorb large capital outlays, weighs very heavily as an explanation for the failure of the recent recovery to reach full employment” (Hansen, 1939: 11). Note that in this view is the collapse of the marginal productivity or efficiency, in more Keynesian terms, of capital that explains both stagnation and a lower interest rate.

<sup>3</sup> Summers argument seems to be more in line with Robert Gordon’s view that the third industrial revolution requires less investment and is associated with lower rates of growth than the previous two major changes in the structure of production (Gordon, 2016).

interest rate. This corresponds to excess savings in the developing surplus countries, and once capital mobility is established, flows to the advanced economies would increase the funds available there, and reduce, and eventually eliminate, the interest rate differential. In this sense, the allocation of capital is more efficient, and a uniform natural rate of interest would be achieved, corresponding to a long-standing tradition in economic theory.<sup>4</sup> The monetary variables, in particular the policy rate determined by the central bank, would adjust to the real variable. In other words, the problem of the zero lower bound would be caused by a an ever lower natural rate, and the real forces would impose limitations on the ability of the monetary authority to conduct policy.

Figure 1: Global Savings Glut



The fundamental role of capital mobility, in this context, is to allow for intertemporal smoothing of savings and investment decisions, and allowing for international lending to reduce the frictions in the functioning of the system.<sup>5</sup> In addition, the existence of international financial

<sup>4</sup> In spite of significant differences that can be ascribed to both classical political economy authors of the surplus approach, like David Ricardo, and marginalist authors, like Knut Wicksell, in both cases competition would impose an equilibrium interest rate determined by real forces. In classical economics, one must note, the profit rate that was the center of gravitation for the monetary rate, was a residual rate, and was not related to abstinence, thriftiness or the savings rate. There are many problems from a logical point of view with the notion of a natural rate of interest, and the notion of a well-behaved investment schedule that are well-established in the literature. For a recent description of the main critiques of conventional marginalist theory see Petri (2015) and Dvoskin and Petri (2016).

<sup>5</sup> The theoretical foundations of capital account liberalization are well-established and not difficult to understand. According to Eichengreen (2001: 341) “[t]he case for free capital mobility is thus the same case for free trade but for the subscripts of the model. To put the point another way, the case for international financial liberalization is the same as the case for domestic financial liberalization.” In this view, financial markets provide intermediation for intertemporal decisions to consume, and guarantee that investment adjust to full employment savings. The free

mobility would allow for risk sharing, in particular if countries with different patterns of productive and trade specialization are hit by idiosyncratic shocks (Obstfeld and Rogoff, 1996; Gourinchas and Rey, 2014).<sup>6</sup> Bernanke's defense of free capital mobility was, in this sense, more in line with conventional economic theory than Summers argument for more expansionary fiscal policy or higher public investment, a position that he seems to have retracted in the aftermath of the expansionary programs related to the Covid-19 pandemic recession.

Both the secular stagnation, as discussed by Summers, and the savings glut, as presented by Bernanke, theories rest on the idea of an excess supply of savings. Summers (2015) was clearly skeptical about exchange rate depreciation as a solution to the US stagnation, and the empirical evidence for an external recovery on the basis of a more depreciated dollar is certainly not convincing, since the US has maintained a persistent current account deficit, in spite of fluctuations in the value of the dollar, with a clear and mild tendency to depreciation, since the end of Bretton Woods. But there was no clear difference on a theoretical level. Summers (2015) said that the: "essence of secular stagnation is a chronic excess of saving over investment" and that "secular stagnation and excess foreign saving are best seen alternative ways of describing the same phenomenon. " Further, he argued that: "[s]uccessful policy approaches to a global tendency towards excess saving and stagnation will involve not only stimulating public and private investment but will also involve encouraging countries with excess saving to reduce their saving or increase their investment. Policies that seek to stimulate demand through exchange rate changes are a zero-sum game, as demand gained in one place will be lost in another."

Summers suggested that one of the problems with Bernanke's argument would be that competitive depreciations would make that a dead end in policy terms. His argument was not on whether depreciation, the relative price substitution effect, would be enough to boost exports or reduce imports, a proposition which might be questionable in the same way that the notion that a lower interest rate would stimulate investment.<sup>7</sup> Summers was essentially arguing that China and other surplus countries should boost the world economy. The so-called global imbalances should be reduced in order to solve the problem of a lower natural rate of interest.

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mobility of capital leads to the adjustment of the domestic interest rate to the international rate, as much as free entry in any industry at home would equalize the domestic profit rate.

<sup>6</sup> In the more traditional Mundell-Fleming (MF) model, a model that included some Keynesian features, capital mobility implied that monetary policy was inefficient in a context of fixed or stable exchange rates, the so-called Impossible Trinity or the Trilemma. Some fundamental problems with the MF model are discussed in Summa and Serrano (2015).

<sup>7</sup> There is a literature on the contractionary effects of depreciation, that harks back to the work of Albert Hirschman, Carlos Díaz-Alejandro, formalized by Krugman and Taylor (1978). In this literature depreciations do solve external problems by causing a recession and reducing imports, rather than by boosting competitiveness and exports. In this view, the effect is mediated by income distribution effects. A depreciation by redistributing income to exporters, that are seen as wealthy capitalists, and reducing real wages, by increasing the costs of basic goods consumed by workers, leads to a lower effect of spending on income and a recession. A classical view in which the foreign exchange rate should be seen as a key distributive variable is developed in Vernengo (2001).

The position seems to suggest that the United States did not hold a privileged position, associated with the international role of the dollar as the key global currency, and that in these circumstances, as famously noted by Charles Kindleberger, it would befall to the hegemon to promote the global recovery (Kindleberger, 1973).

More recent work by Goodhart and Pradhan (2020) tends to emphasize the role of population growth and the effects of the entry of the Chinese economy into global markets, but some of their conclusions differ from the savings glut and secular stagnation hypotheses. In their view, and in contrast with the Bernanke-Summers argument, the fundamental effect of demographic factors in the last decades was to cause a significant increase in savings, and reduce the rate of interest.<sup>8</sup> For them, higher population growth associated to the entry of China and Eastern European economies into the world economy, increased population growth, reduced dependency ratios, leading to higher economic growth, in a Solowian growth effect, and also to higher savings ratios. In this view, it is the higher savings associated with a younger labor force that explains the lower natural interest rate, and that forced the lower policy rates, which in turn have led to what the authors refer to as a debt trap. In their words, “[t]he deflationary bias over recent decades, reinforced by the Global Financial Crisis (GFC), has led to massively expansionary monetary policies, with interest rates, both nominal and real, coming down to historically exceptionally low levels. This has, as was intended, led to a dramatic increase in debt ratios, both in the public and private sectors” (Ibid.). But the reversal of the demographic tendencies of the last few decades should lead not only to the rise of inflation and lower growth, but also to a higher natural rate of interest. They suggest that “real, inflation-adjusted interest rates, particularly at the longer end of the yield curve, may rise... because of the behaviour of ex-ante (expected) savings and investment. That the elderly will dissave is not controversial. Those who believe real interest rates are likely to fall or stay low clearly believe that investment will fall even further below savings – we disagree” (ibid.).

The authors also suggest that inequality was also a byproduct of the increase in the labor force, reducing bargaining power, and that the reversal would not lead to lower inequality and higher risks of inflation (Ibid.). In other words, the same forces that led to a lower natural interest rate, caused the increase in inequality. But in their view, inequality was not instrumental in bringing about the lower natural rate of interest. That is the argument developed by Mian *et al.* (2021), who indicate that rising income inequality is more important than the aging and demographic forces in explaining the decline in the natural interest rate. Like Bernanke and

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<sup>8</sup> For them, “[m]any of those who argue that personal sector savings will remain high enough to keep real interest rates and aggregate demand low (the secular stagnation camp) do so on the assumption that (i) the age of retirement will rise relative to the expected age of death, and/or (ii) that state benefits to the old will fall relative to the average income of workers. If either were to happen, the rate of increase of expenditure on the elderly would be less than the output generated by workers. Both are possible, but neither are likely, for social and political reasons” (Ibid.).



Goodhart and Pradhan, the emphasis is on savings behavior, rather than investment.<sup>9</sup> They note that savings rates are higher in higher income groups, and that higher inequality since the 1980s is the main driving force in the decline of the natural rate. This has important policy implications, since if inequality has other sources than the demographical reversal, and inequality is the main driving force behind the lower natural rate, then there is little reason to expect the great demographic reversal would lead to higher rates.<sup>10</sup>

In other words, Mian *et al.* (2021) also rely fundamentally on the marginalist LFT in order to explain the decline in interest rates over the last three decades. There are too many well-known logical problems with the marginalist theory of value and distribution (Dvoskin and Petri, 2016). The investment schedule and the very existence of a natural rate of interest, negative or otherwise, is plagued by logical problems and by the complete lack of empirical evidence, since investment really reacts to changes in the level of activity, in line with the acceleration principle. Also, the notion that intertemporal decisions govern consumption behavior is not without its problems, an issue raised by Keynes in the *General Theory* (GT). That is why Keynes abandoned the LFT and tried to do the same with the notion of a natural rate of interest. The capital debates show that with factor price reversals, when one good can be said to be capital-intensive at one level of the wage-profit ratio, and labor intensive at another level of the same ratio, there is no monotonic inverse relation between investment and the rate of interest. The investment schedule might misbehave, with portions that have a negative slope and some in reverse, and there might be no interest rate that equilibrates investment with full employment savings.<sup>11</sup> That

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<sup>9</sup> In this respect, Summers is closer to heterodox traditions, as he himself recognized. He said: “This formulation of the secular stagnation view is closely related to the economist Thomas Palley’s recent critique of ‘zero lower bound economics’: negative interest rates may not remedy Keynesian unemployment. More generally, in moving toward the secular stagnation view, we have come to agree with the point long stressed by writers in the post-Keynesian (or, perhaps more accurately, original Keynesian) tradition: the role of particular frictions and rigidities in underpinning economic fluctuations should be de-emphasized relative to a more fundamental lack of aggregate demand” (Summers and Stanbury, 2019).

<sup>10</sup> Mian *et al* (2021: 34) argue that “[t]he traditional demographics view argues that measures of  $r^*$  should be expected to rise as the baby boom generation retires, a process that is already underway. More recently, there has emerged disagreement on whether shifting demographics should be expected to raise or lower  $r^*$  going forward. In contrast, the rising income inequality view explains the current situation with considerable ease. Income inequality today remains extremely high relative to its pre-1980 level, and there does not appear to be any reversion in inequality in the near future.”

<sup>11</sup> Some Austrian authors claim that they have purely subjective, or a pure time preference, theory of interest, that is not open to the capital debate critique. They base their argument on Böhm-Bawerk’s notion that there is a need for time waiting as an independent factor in the determination of interest. Kirzner (1993: 171) argues that “[i]f time and waiting are not themselves to be considered productive agents, no interest could emerge as a result of the productivity of time-consuming processes of productions.” Note, however, this is a confusion between necessary and sufficient causes. Obviously in the marginalist theory a supply of savings curve based on time preferences is necessary, but it is certainly not sufficient to determine the rate of interest without saying something about the ability to produce more goods in the future. One would still need to adjust the time preferences to the ability to obtain more consumption in the future, and that would be the role of the marginal productivity of capital. One cannot escape the need for a measure of capital.

means that the monetary authority can set the rate of interest, what Keynes referred to as the normal rate in the GT, that was conventional not psychological, as he suggested, and that the level of employment would be determined by autonomous spending. All of this is well-known, or should be.

The logical problems associated with the notion of a natural interest rate are compounded by the empirical limitations for the determination of an unobservable variable. The twin notion of the natural rate of unemployment, which is achieved when the economy is at full employment in the labor market, and when investment equals savings, and, hence, a natural interest rate prevails, is a good example of the limitations of conventional measures. While initially the natural rate of unemployment was often portrayed as relatively fixed, eventually a discussion of its variability over time became central, in particular after the evidence in Nelson and Plosser (1982) that showed that output as measured by Gross Domestic Product (GDP) follows a random walk and exhibits strong hysteresis.<sup>12</sup> Note that in the conventional measures of the natural rate of unemployment or the time-varying Non Accelerating Inflation Rate of Unemployment (NAIRU) it is the actual rate that is used to calculate the normal long run variable, in a reversion of the theoretical notion according to which the short run variable gravitates around its equilibrium position. The same is true of measures of the natural rate of interest that for the most part follow the methodology introduced by Laubach and Williams (2003). The authors use a Kalman filter measure based on the actual and optimal or natural output levels, but as in measures of the NAIRU these imply that the actual variables determine the estimated natural rate and not the other way around. In other words, there is no solid empirical basis for any measure of the natural rate.<sup>13</sup>

Keynes suggested famously in the GT that he was “no longer of the opinion that the concept of a ‘natural’ rate of interest... has anything very useful or significant to contribute to our analysis” (1936: 243). Beyond the exegetical issues about his ability to do so in his own analytical framework, it is clear that the notion of a conventional monetary rate of interest, independent of real forces, implies an abandonment of the real rate dependent on productivity and thrift

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<sup>12</sup> The common interpretation, at least among Real Business Cycles (RBC) authors, is that supply shocks cause the change of the natural output level, which when faced with a disturbance does not mean revert to its trend. The trend and the shocks that cause the cycle have a common nature, and that would explain the strong hysteresis in the data. Of course, there is a simpler explanation that is not open to the logical problems of showing that the system tends to be at the optimal output level at all times, or the empirical difficulty of suggesting that cycles are caused by supply side shocks. That would be to accept the notion that the long run trend is determined by autonomous, non-capacity generating spending, as in the Sraffian supermultiplier. See Bortis (1997) and Serrano (1995).

<sup>13</sup> For all practical purposes the evidence adduced in Holston *et al.* (2017) that suggests that in the United States and other advanced economies the natural rate of interest has fallen to zero, is simply a reflection that actual rates have fallen. The empirical measure of the natural rate cannot be used to explain the fall of the actual rates without falling into logically circular arguments, since the data on the latter is part of the explanation of the natural rate itself.

analyzed by all modern authors, which remain pre-Keynesian in that sense.<sup>14</sup> Keynes was building on a tradition that harked back to classical political economists on the anti-Bullionist and Banking School side of the nineteenth century debates, that emphasized the monetary nature of the interest rate. In this view, the monetary rate is not an allocative variable, but a key distributive variable, determined by the monetary authority and acting as the gravitation center for the rate of profit.<sup>15</sup> The reasons for the fall in the rate of interest then should be searched in the policy decisions of the monetary authorities.

The interest rate can be seen as noted by Aspromourgos (2007: x) as the result of “‘history’ plus the beliefs of the monetary authorities, where those beliefs may be illusory but nevertheless validated by actual outcomes.” To understand the falling trend in the interest rates one needs to delve in the history of the interaction between monetary authorities and financial markets, in particular the period after the financial liberalization and deregulation processes that started globally in the 1970s, increasing the importance of what the mainstream has come to refer to as the global financial cycles.

### **Free Capital Mobility and Central Bank Policy Rates in the Center and the Periphery**

The monetary and financial order built in the aftermath of the Second World War, during the Bretton Woods era, tried to reduce exchange rate volatility. However, the main characteristic of the Bretton Woods system was not the fixed, but adjustable, exchange rates, but the introduction of capital controls. These were seen by Keynes as central for the functioning of the system as a permanent feature of economic policy, and not a mere solution to reduce instability during crises (Pivetti, 1993). In an institutional framework in which the interest rate is determined exogenously by the monetary authority, and it affects the dynamics of public debt accumulation, the ability to maintain relatively low interest rates on public debt in order to expand the scope of the welfare state, was seen as a key precondition for the functioning of the system (Vernengo and Rochon, 2000).

The abandonment of Bretton Woods is often portrayed in conventional wisdom as resulting from the inability or incapacity of the United States in maintaining the fixed parity, in face of external imbalances, and discontent among key players with the inflationary policies that were exported to the rest of the world (e.g. Eichengreen, 2021). But this view has little support in practice. Not only the decision to abandon Bretton Woods was clearly pursued by groups

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<sup>14</sup> The fact that modern macroeconomics is Wicksellian, and remains pre-Keynesian, is probably the only good reason to refer to authors that try to advance the Keynesian principle of effective demand as Post Keynesian, in the sense that the theories are a development on the notions that came after Keynes, and Kalecki. On the history of the term see Lavoie (2009).

<sup>15</sup> The key author in that tradition is Thomas Tooke, and the modern notion derives from the work of Piero Sraffa, and has been developed by Pivetti (1991).

within the United States and other advanced economies that had an interest in a more open financial order (Helleiner, 1994), but also the dollar hegemonic position was enhanced by the demise of Bretton Woods, since the restrictions that tied the dollar to gold were eventually eliminated (Vernengo, 2021).<sup>16</sup> The end of Bretton Woods should not be seen as the result of the inevitable collapse of the Keynesian consensus of the so-called Golden Age. In fact, the collapse of the system by the neoliberal groups seeking free capital mobility, in part to force on average higher interest rates, and higher remuneration to capital, were preconditions for the demise of Keynesian policies.

Over the last five decades since the collapse of Bretton Woods, a process of financial deregulation and liberalization has led to a large increase of flows of capital and to an increase in the relative size of the financial sector, often referred to as financialization (Epstein, 2006; Palley, 2007).<sup>17</sup> Although, there are many characterizations of the phenomenon, not all mutually compatible, it is clear that there is an underlying fear that this process of financial liberalization, and the increasing role of finance in the functioning of the global economy may be seen as an unproductive and speculative activity that does not contribute to economic development (Barba and DeVivo, 2012) and it may be central to understand the global increase in inequality during this same period (Galbraith, 2016). Further, this financialization process has become clear in mainstream circles, where the idea of a global financial cycle has become widely accepted (Borio, 2012).

Borio and Disyatat (2011) was one of the seminal papers in the literature on the global financial cycle. Borio (2012) suggested that capital flows were pro-cyclical and more regulation was in general needed to preclude the financial crises. The definition of the financial cycle was based on individual perceptions. In his view, financial cycles result from “self-reinforcing interactions between perceptions of value and risk, attitudes towards risk and financing constraints, which translate into booms followed by busts” (Ibid.: x). There were three analytical variables that are essential to understand the global financial cycle. First, that financial cycles

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<sup>16</sup> On the role of the dollar as the key hegemonic currency see Fields and Vernengo (2013).

<sup>17</sup> Some of these ideas were discussed in Latin American circles even before the literature on financialization developed, and associated to the notion of financial dependency (Vernengo, 2006). A literature on the existence long-term debt-default cycles was relatively well-established by the 1980s, after the debt crisis of the early 1980s, that hit Latin America particularly harshly, leading to stagnation, as the rest of the periphery recovered and growth even accelerated in other parts of the periphery, in particular Asia. Debt-default cycles could be seen as driven by the current account problems, and the problems of technological dependency which were emphasized by Structuralist authors. Medeiros (2008) argues that financial dependency was at the center of an external cycle, that was forged since the nineteenth century in the case of Latin America, and associated with the policies to promote globalization and integration into world markets. In other words, orthodox macroeconomic policies – in general associated with fiscal austerity and adherence to some form of monetary restriction that emphasized inflation as the central concern (e.g. Gold Standard, quantitative monetary controls, inflation targeting) and the independence of the central bank from the fiscal authority – were pursued in order to maintain open the capital and current accounts of the balance of payments, often with some desire of relative stability of the nominal exchange rate, which was undermined by events in the center, and reversion of capital flows.

have endogenous causes, second, that debt must be present, and last, but not least, a different measure of the output gap that includes financial variables. Borio correctly noted that output gap measures take into consideration only inflation, when ascertaining whether the economy is above the potential or not, and that “it is quite possible for inflation to remain stable while output is on an unsustainable path,” and one could add that inflation might accelerate even if the economy is not at full employment. Borio’s measure of the output gap included information about asset price inflation too, e.g. property prices and measures of credit booms.

Note that his new output gap measure would indicate, for economies where there were asset bubbles like the United States before the 2008 crisis, that they were over the potential or natural level, or at least by more than in the conventional measures that did not take into consideration financial assets. Borio (Ibid.: x) concluded that: “potential output and growth tend to be overestimated.” In other words, what the measure suggests is that the supply constraint of the economy is often much harsher than assumed by conventional methods. Further, Borio’s point when arguing that the cycle is endogenous is that excessive booms are the cause of the collapse, so what is needed is to smooth out the boom. The prescription is to slowdown growth and avoid to surpass the potential level, which is supply determined and exogenous as in conventional views about the functioning of the economy. The reasons for the excess in the boom are associated to excessive finance, which he called excess elasticity of the system, as in Shin's (2012) global banking glut, and not excessive savings, since he correctly points out that “expenditures require financing, not saving” (Ibid.: x). In this sense, Shin seems to have, to some extent, a better picture than Bernanke about the reasons for lower interest rates, but his views are still underpinned by the notion of a natural rate of interest.<sup>18</sup>

It is worth noticing, that Borio *et al.* (2014) also noted that in the process of trying to integrate financial flows into conventional open macroeconomic models too much attention has been paid to the current account and not enough on the capital account. For them, the important policy implication was that: “[t]his analysis has major implications for central banks. Given their primary responsibility for monetary and financial stability, central banks inevitably end up under the spotlight once the focus shifts to asset prices, balance sheets and financial crises. As long as the focus is on current accounts, central banks’ role is necessarily more peripheral” (Ibid.:).<sup>19</sup> The

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<sup>18</sup> This literature resembles in some sense the post-GT literature on the so-called finance motive. It is worth noticing that the finance motive literature, that remains relevant in some Post Keynesian circles, is very much about the demand for money, and to conventional marginalist assumptions about it. On an early skeptical view of Keynes’ Liquidity Preference Theory (LPT) of interest rates by Piero Sraffa see Kurz (2014). According to Kurz (Ibid.: x) “Sraffa observes that the inverse relationship between holding cash and the rate of interest, i.e. the liquidity preference curve, is reminiscent of the usual *marginal utility curve*.”

<sup>19</sup> This is certainly not new, and Kindleberger (1987: 18) argued, citing Henry Wallich, that “capital flows dominate the balance of payments and exchange-rate changes,” and that they are the proverbial “tail that wags the dog.” This is not to say that the current account is irrelevant. In fact, export performance is central for the ability to repay debt in foreign currency. For the sustainability of debt in foreign currency see Cline and Vernengo (2016).

emphasis on the current account is what is traditionally associated to the focus on net flows, while a focus on the capital account would lead to an emphasis on the gross flows, and the accumulated stocks.

It is exactly on the basis of the importance of gross flows within the global financial cycle that Rey (2013; 2015) built the notion that countries were not faced by a trilemma, but simply by a dilemma or tradeoff between free capital mobility and independent monetary policy, irrespective of the exchange rate regime. According to her: “there is a potent global financial cycle in gross capital flows, credit creation and asset prices, which has tight connections with fluctuations in uncertainty and risk aversion” (Ibid.: 286). Gross flows were larger and the correlation was tighter between advanced economies in North America and Western Europe, but they were in sync globally, with the exception of Africa, and Asia in the case of Foreign Direct Investment (FDI) flows. Rey (2013: 294) argued that the global financial cycle vindicates the view of Calvo et. al. (1996), according to which the main factors behind the cyclicity of flows was related to global factors, normally referred to as push factors, that included the interest rate in the hegemonic or dominant country, meaning the United States, the rate of growth in advanced economies, and global risk aversion factors.<sup>20</sup>

By contrast, domestic factors or pull factors, which include the domestic interest rate and rate of growth, and the domestic risk factors, counting, for example, the level of domestic reserves, would be considered less relevant.<sup>21</sup> In this view, the flows to developing countries were to a great extent the result of the lower rates of interest in the United States and other advanced economies, in particular starting in the 1990s. However, as the Fed policy rate went up, after the 1992 recession, and flows continued. Similarly, after the collapse of the dot-com bubble in the early 2000s, the higher interest rate in the United States, did not seem to tame financial flows, and this gave more credence to those that emphasized pull factors. It is worth noticing that push and pull factors are interrelated, to some extent, and that it would be reasonable to assume that the influence of decisions in the center has a larger impact on domestic factors in the periphery, rather than vice-versa. For example, monetary policy decisions in the United States and Europe influence the decisions in developing countries, and that can be seen by looking at the policy rates of central banks (Figure 2).<sup>22</sup>

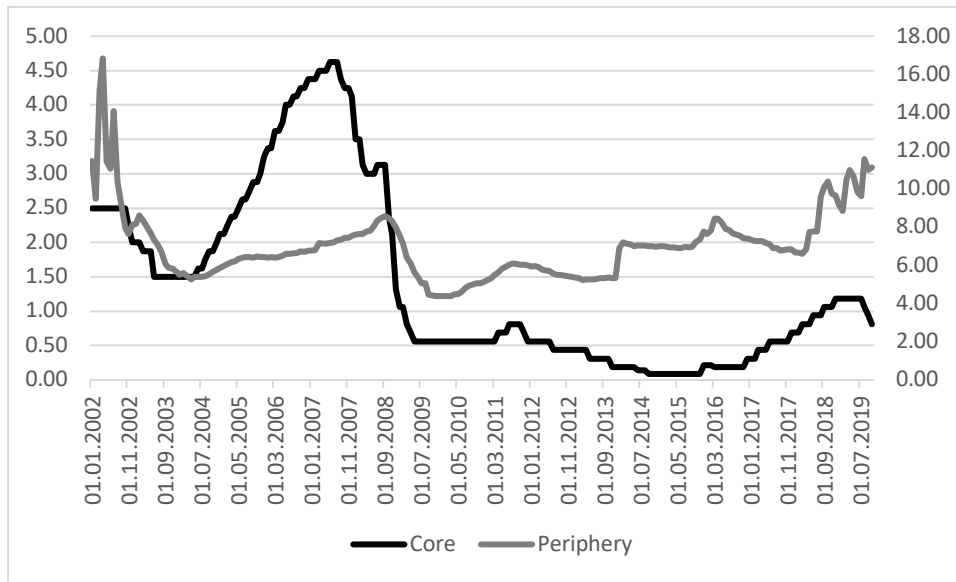
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<sup>20</sup> Rey (2013: 310) argues that: “one important determinant of the global financial cycle is monetary policy in the center country, which affects leverage of global banks, credit flows and credit growth in the international financial system.”

<sup>21</sup> Domestic factors very often include country's macroeconomic fundamentals, including the size of reserves, current account position, fiscal position, and economic growth, and its institutional environment, i.e. sovereign risk, institutional quality measures. See Fratzscher (2012), who suggests that during the global financial crisis push factors were more relevant.

<sup>22</sup> The policy rate is a simple average of the Fed and European Central Bank (ECB) for the core and the rates of the central banks of Argentina, Brazil, Chile, China, Colombia, India, Malaysia, Mexico, Peru, Thailand and South Africa for the periphery. The correlation is relatively weak for the period as a whole, but much stronger in the 2002-2014

Figure 2: Policy Rates



Source: BIS

In that sense, although the predominance of global push factors is often accepted, and increasing consensus that “global factors do not affect capital flows to all countries equally (Cerruti et al, 2019: 134). Some countries are very sensitive to global push factors, while others are considerably less vulnerable, even if the direction of the flows remains highly correlated, and macroeconomic fundamentals do not seem to be central in explaining these differences (Ibid.: 145). The same authors suggested that: “countries with deep and liquid equity and bond markets, and with a high reliance on global mutual funds, are the most exposed to changes in global conditions” (Ibid.). All of these results reinforced the idea that macroprudential policies and capital account management restrictions might have a role in taming excess volatility, even for mainstream authors, which has led to the erroneous assumption that they have abandoned conventional views about the determination of economic fundamentals.

As it should be clear, the mainstream literature on global financial cycles, in general, suggests that capital controls are second best tools, since they do not address the fundamental causes of excess elasticity of financial markets, and that microprudential regulation should be utilized to constrain booms. They might be necessary only before the domestic financial market becomes more developed. Rey (2013: 311) argued that: “capital flows are beneficial only after a country has reached a certain amount of institutional or financial sector development” and before that presumably capital controls would be an acceptable tool. Macroprudential policies,

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period. In part, this might be explained by the increasing issuance of instruments in the domestic currency in the periphery, which accelerated in the last few years (Hale *et al.*, 2020).

including capital controls, should be used for that aim fundamentally in crises situations.<sup>23</sup> Further, while noting that in balance sheet recessions, following the seminal contribution by Koo (2008), it is important to deal with agents' losses head on, Borio (2012: x) suggested that "fiscal policy is less effective than in normal recessions" and that as a result of excessive monetary expansion after the bust "the central bank's autonomy and, eventually, credibility may come under threat." In other words, the true objective of policy makers is to smooth out the booms to preclude the collapses, and there is an implicit notion that some degree of austerity in the boom might be instrumental, since nothing much beyond re-writing debt down and acting as lender of last resort can be done afterwards.

There are some significant limitations with the global financial cycle view, even if there are some good things, not the least the recognition of its relevance and the role of the hegemonic country in shaping the global cycle. But to suggest that the problem with the cycles is excessive financial elasticity and the excesses of the boom associated with a global economy beyond its capacity limit, seems as an inadequate explanation for the problems both in the core and the periphery. In fact, there is abundant evidence for the notion that potential output varies with demand expansion, according Kaldor-Verdoorn Law, and it seems that a revision of conventional methods of measuring capacity utilization would lead to the opposite conclusion (Fontanari et al. 2019). In advanced economies, the problem was not so much that the economies were beyond its capacity limit, and that they were overborrowing, even though private agents certainly did, as much as the fact that the accumulation of debt was less sustainable because it relied on unregulated private instruments (Barba and Pivetti, 2009), and that it was exacerbated by income inequality (Galbraith, 2012). But in advanced economies, with debt in domestic currency the ability of their respective central bank to rescue their insolvent agents is limitless, as noted in the literature now referred to as Modern Money Theory (Wray, 2012).

More importantly, the literature on the global financial cycle does not emphasize enough the problems associated with accruing debt in foreign currency, and the qualitative differences of the problems in peripheral countries. In particular, decisions about interest rates in the core countries, which affect asset prices and exchange rates, have a significant impact on the balance sheets of national governments and private agents in the periphery. Akyüz (2021) notes that in the last decades it has led to large international financial markets and wealth transfers from developing to advanced economies. This occur, in part, because: "changes in interest rates, asset prices and exchange rates in major reserve-currency countries affect economic and financial conditions in EMEs [Emerging Market Economies] not only through their impact on international

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<sup>23</sup> Rey (2013: 315) is explicit about it, suggesting that: "it is really excessive credit growth that is the main issue of concerns, capital controls should be viewed more as partial substitutes with macroprudential tools." Her argument is in the context of the use of capital controls as temporary instruments, rather than permanent tools for managing capital flows. The logic of the temporary use of capital controls is well explained by Eichengreen (2003: 279) who suggests that emergency situations call for emergency solutions.



capital flows, but also by altering the value of their outstanding stocks gross international assets and liabilities” (Ibid.: x). In particular, a large proportion of external liabilities of developing countries are assets denominated in the currencies of advanced economies. As a result, valuation changes generated by changes in asset prices and exchange rates entail transfers of wealth from the former to the latter.<sup>24</sup>

Furthermore, as it should be clear from the review of the literature on the mainstream on the global financial cycle, it is clear that the notion of a natural rate of interest based on the LFT prevails, and that the idea that capital mobility is essentially positive, even if sometimes in the presence of imperfections controls might be temporarily needed is dominant in policy circles.<sup>25</sup> The reason to introduce macroprudential policies is to eliminate the excessive speculation or the global banking glut, the financial version of Bernanke’s explanation for the lower natural rate of interest. In this view, central banks were forced to reduce interest rates down in the last thirty years, because of the financial crises and the need to rescue the financial sector, but unable to use the traditional instruments of monetary policy, the blunt effect of raising rates, because of the lower natural rate. As Bernanke (2015a) argued, “[t]he bottom line is that the state of the economy, not the Fed, ultimately determines the real rate of return attainable by savers and investors.”

Many authors within the mainstream associate the increase of credit necessary to maintain the expansion of aggregate demand to the increase in inequality since the 1970s, and emphasize the fact that this expansion occurred hand in hand with the reduction of interest rates. Mian (2018) emphasizes what he refers to as the credit-driven household demand model, and while Mian’s recognition of the role of inequality and the importance of spillover effects, beyond asymmetric information, and the importance that investors “neglect tail risks” (Ibid.: 49) played a role in the Global Financial crisis, it is still true that his model remains grounded in the conventional New Keynesian analysis. As he suggests, in his model: “the downturn is driven initially by a decline in aggregate demand which is further amplified by nominal rigidities, constraints on monetary policy, banking sector disruptions, and legacy distortions from the boom. The credit-driven household demand channel is distinct from traditional financial accelerator models... primarily due to the centrality of households as opposed to firms in explaining the real effects of credit supply expansions” (Ibid.: 52).<sup>26</sup>

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<sup>24</sup> Since the problems associated with not issuing instruments in its own domestic sovereign currency, the so-called ‘original sin’ problem (Eichengreen and Hausmann, 1999), and the existence of a financial external restriction, are not temporary, then the question to that the literature raises is, ultimately, whether capital controls should be used as a permanent tool of capital account management by peripheral economies, as Keynes defended during the Bretton Woods negotiations.

<sup>25</sup> Krustev (2021) provides a model that adds the global financial cycle, as discussed by Borio and co-authors, to the Laubach and Williams methodology for measuring the natural rate of interest.

<sup>26</sup> The conventional view on the mechanism relating household debt and the demand boom has been compellingly challenged by Mason and Jayadev (2014) and Mason (2018) who suggest that the bulk of the increase in household

More importantly Mian (2018) remains tied to a view of the cycle as somewhat independent of growth, the latter being dependent on supply-side conditions presumably, and, hence, the role of monetary policy and macroprudential policy is essentially one that should be seen as smoothing out the cycle, by reducing the expansion of credit and the excessive risk taking during the boom. His policy conclusion, even if cautious, is that regulators should impose macroprudential limits on household debt and that monetary policymakers should “lean against the wind” during credit supply expansions (Ibid.: 52-53). These would contrast with alternative views, that emphasize the importance of credit for demand expansion, and of the latter for growth.

The work by Hyman Minsky, cited by Mian, is certainly relevant, but in ways that scape his analysis. Minsky argued that the conventional theory that suggested that the financial sector could only be disrupt the functioning of an otherwise stable economy and that was equivalent to a barter economy, while the capitalist economies discussed by Keynes and his followers corresponded to what he referred to as the Wall Street paradigm. In other words, the relevant framework was that of a capitalist economy in which the objective is the accumulation of capital in monetary form. The central idea in Minsky’s Financial Instability Hypothesis (FIH) was that the normal functioning of the capitalist economy would lead to a financial crisis, not as a result of imperfections, but because the process of competition would compel firms to adopt increasingly fragile financial structures. In other words, in his famous dictum, stability was destabilizing. This view, is in accordance with the so-called critical macro-finance (CMF) approach that argues that global finance is organized on interconnected, hierarchical balance sheets, increasingly subject to time-critical liquidity (e.g. Bonizzi and Kaltenbrunner, 2020; Gabor, 2020). That of course, needs to be grounded on a monetary theory of the rate of interest, in which the central bank of the hegemonic country sets the globally relevant interest rate.

In this context, central banks have been forced to reduce interest rates, as the Federal Reserve did, as a result of the increasing financial volatility that followed the process of deregulation of domestic financial markets and liberalization of capital flows, that started in the 1970s, and culminated with the victory of the neoliberal paradigm in the 1990s. Nominal rates only remained high in the 1970s because of high inflation. Once inflation fell, as the cost pressures and the distributive conflict eased, the monetary rates went down. It is the financial instability that caused the monetary rates to come down, and that forced the average long-term rate to decline too. More importantly, financial instability is also at the root of the inequality that increased over the last forty years, as the two processes are intertwined (Galbraith, 2020).

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debt was not associated to demand expansion, but simply resulting from on average higher interest rates, in particular in the period before the 2000s. Note that other the fundamental channel through which debt affects household consumption would be through the mortgage market.

## Concluding Remarks

This chapter provides a survey of alternative interpretations of the decline in interest rates over the last forty years. While most explanations are based on the conventional marginalist Loanable Funds Theory, which suggests that the real forces behind productivity and thrift are the main cause for lower monetary rates. In this view, the monetary rates determined by central banks have been constrained by these developments. It is argued here that only the alternative view, which suggests that the exogenous interest rate as determined by the monetary authority of the hegemonic country is the ultimate cause. Paul Krugman's notion of a Liquidity Trap was the seminal contribution in a revival of the notion of the natural rate of interest notion that has its origins with Milton Friedman's famous presidential address to the American Economic Association. The debate between Ben Bernanke and Larry Summers, between the global savings glut and the secular stagnation hypotheses, emphasized alternative views about the reasons for a lower natural rate of interest. Atif Mian and Charles Goodhart's contributions, with co-authors, have added new wrinkles to the traditional story.

The conventional view suffers from logical and empirical problems that are ultimately unsurmountable. Only with the Keynesian critique of the notion of a natural rate of interest, which requires the abandonment of the marginalist theory of value and distribution behind the LFT, and with the explicit understanding of the alternative monetary theory of interest rates, as determined exogenously by the monetary authority of the hegemonic country, a coherent explanation of the low interest rates in the last four decades is possible. That requires the recovery of the ideas of old classical political economy authors, as reinterpreted by modern heterodox authors.

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