# A Brief Survey on Secular Stagnation: Mainstream and Post-Keynesian Contributions

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#### 1. Introduction

Against standard macroeconomic intuition, despite major efforts on the part of the American government to heat the economy through bailouts and quantitative easing, the years following the 2007-2008 Financial Crisis were marked by languorous dynamics. As pushing the economy away from inertia turned out to be a greater challenge than it might have been appeared after one or two years into the slump, the eyes and minds of experts started to question whether there was something different going on, something that was changing the rules of the game.

Indeed, as the expectations for economic growth were consistently revised to the worse over the years, theories investigating a "new normal" of the advanced economies prior to house-market crash, such as Paul Krugman's revival of the liquidity trap, met peer hypothesis on protracted sluggishness, like Gordon's faltering technology coupled with supply-side headwinds. Against that background, there is no surprise in the buzz ensuing Lawrence Summers's speech at the 2013 IMF Annual Conference.

At the event, Summers came up with a tentative hypothesis of a "new secular stagnation," taking Alvin Hansen's original theory of the American secular stagnation as a reference.

In Hansen (1939), the end of the conquering of the west of the United States along with diminishing population growth, suggested a tendency for prolonged lower rates of growth. As we know, though, in the following years, the second world war, the baby boom, the reconstruction of Europe guided by the US, a plethora of inventions and changes in the lifestyle of the American family which include higher consumption levels by firms and families and later women going to the labor market. Such factors lead to the heating of the economy and the discredit of Hansen's theory.

Back to the present, while the alarm for some sort of "new secular stagnation" was rung by iconic names in mainstream economics and reverberated within and beyond the walls of the universities and think tanks, little attention was given to theories out of the conventional scope despite their potential as contributors to the matter in hand. Indeed, as one can easily see by reading throughout

mainstream elaborations, hardly any serious reference to the heterodox camp models or critiques can be found.

This paper aims to develop a critical survey on the secular stagnation literature. It attempts to do so in line with accruing works, both on the orthodox and heterodox versions of the story, which seem to orbit the question of whether the *causa causans* of such hypothetical reluctance relies on the supply-side or the demand side of the economy.

Three previous notes should be asserted; first, in the effort to try and separate the mainstream from the post Keynesian literature, we follow Dequech, according to whom "[m]ainstream economics is a set of ideas, but, unlike the orthodoxy, it does not need to correspond to any particular school of thought. More broadly, it does not have to be internally consistent." (Dequeche, 2012, p. 354.) Therefore, as the dominant ideas revolving the secular stagnation debate comprise approaches as distinct as Gordon's supply-side explanation and Summers's flirt with an inverse Say's Law, it seems sensible to adopt the term mainstream rather than orthodox. Accordingly, we take heterodox to be non-mainstream, i.e., schools and ideas "that which does not have as much prestige and influence." (Dequech, 2012, p. 355.) Inside heterodoxy, this paper focuses on the post-Keynesian tradition. Nevertheless, this work is part of a broader project that involves the later inclusion of Marxist and neo-Marxist elaborations.

Second, the power of the brand "secular stagnation" to lure uneasy economists came along with a widespread carelessness towards the meaning of the term. For instance, while Eichengreen (2014) calls secular stagnation "an economist's Rorchach Test" as "[i]t means different things for different people." Cynamon and Fazzary (2017, p. 2) remind us that "The term 'secular stagnation' often carries a rather specific economic meaning that extends beyond the two words themselves."

For instance, as the debate unfolds, it appears that "secular" has a deeper, almost structural and irreversible content in Gordon's works<sup>1</sup> whereas Summers's understanding of the phenomenon, though also embedded in technological and demographic changes to some extent, seems, as he admits (see Summers 2013), a rather "optimistic" version since it gives way the possibility of successful government response.

Third, owing to time and space restrictions, emphasis was given to some traditions and authors at the cost of other equally important elaborations<sup>2</sup>. With respect to the post-Keynesian contributions, three schools were chosen as they seem to reflect plurality to a good extent. Namely, structuralist

<sup>2</sup> For instance, see Moreira and Serrano (2018) and Serrano et. al. (2019) for interesting contributions from a Sraffian perspective.

<sup>&</sup>lt;sup>1</sup> As the 100-year trend line is depicted in Gordon (2012), one might even think of it as teleological view of economic history

Keynesianism, the Kaleckian/Steindlian, and the Harrodian approaches. In each, despite the multiplicity of authors, emphasizes was given to a representative author that focused on the Secular Stagnation debate.

Section 2 concentrates on the various theories and queries inside the mainstream approach. Section 3 is oriented towards the post-Keynesian critique of the mainstream shortcomings and their alternative elaborations. In Section 4, closing remarks are presented.

#### 2. Controversies within the mainstream

Despite Summers (2013) being the first to allude to a "new secular stagnation hypothesis" in a clear and categorical fashion, divergent perspectives dispute the dominant position in explaining the recent trend of slower economic growth in the developed economies. The debate is rich and each interpretation faces a plethora of issues posed by confronting mainstream perspectives.

Among conventional studies on secular stagnation, the spectrum of disputes includes questions like the causes of the phenomenon, whether it is rooted mainly on the supply-side or the demand side of the economy, the specific character of secular stagnation in each region (USA, Europe, or Japan) and even whether current trends point to any sort of secular tendency like those of the secular stagnation hypotheses. Understanding what is secular stagnation, what are its causes and ensuing policy guidelines, therefore, demands first of all open and comprehensive reading and thorough work to discern the nuances of such views.

### 2.1 The three main approaches

In line with this, an interesting attempt to present an overview of the mainstream contributions was the book organized by Teulings and Baldwing (2014). In it, three main strands with particular emphases are identified, namely i. diminished long-run growth potential, mainly associated with Robert Gordon's supply-side explanation of the secular stagnation theory that couples hesitant technology with downward pressures owing to secular trends; ii. persistent GDP gaps, also known as demand side Secular Stagnation (dsSS) related to Summer's attempt to explain slow growth by lower natural interest rates along with low inflation; and iii. one-off supply-side damage hypotheses, like that of Edward Glaeser's "Secular Joblessness."

Several arguments can be held against this scheme. For instance, as we will see, post-Keyneisan authors question to what extent the dsSS variant relies on protracted lack of aggregate demand to define the "new secular stagnation hypothesis" and to point to solutions as they build their theory

using neoclassical notions like money neutrality and the "natural" rate of interest pushing the economy towards full employment. Nevertheless, parting from this division can be enlightening as is reveals how disputes appear within the mainstream approaches. Thereby, in this section we will follow Teulings and Baldwing (2014).

#### 2.1.1 Diminished long-run growth potential

The first strand is usually associated with Gordon's view of faltering technology meeting some headwinds. In Gordon (2012, 2014, 2015, 2018) the argument is twofold: on the one hand, the most fundamental improvements in life quality and productivity in the United States due to technological implements resulted primarily from the second industrial revolution; therefore, subsequent developments, such as the third (read off information) industrial revolution, are likely going to be less potent in those matters. Here Gordon has in mind accomplishes such as running water, electric heaters, and air-conditioning, the internal combustion engine, to name a few, which have made more extended and more comfortable lives a reality. They have also made distances shorter, once faster means of transportation became massive. Moreover, the inventions of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries had a significant impact on productivity and, therefore, growth. As a result, American families saw their wealth increase and their lives change to the better at an astonishing pace.

In contrast to technology enthusiasts like Erik Brynjolfsson and Andrew McAfee (see, for instance, Brynjolfsson and McAfee, 2012, 2014), Gordon (2016) argues for the limits thereon of technology pushing living standards and productivity steeply. In terms of the evolution of processing, for example, Gordon (ibidem, ch. 13) highlights shreds of evidence that might support the decease of Moore's Law in the coming years<sup>3</sup>. In his works, other related concerns are brought up, like the distraction related to the close-to-hand entertainment technology (ibidem ch. 13), or the fact that "The main treatments for cardiovascular disease and cancer were mostly developed by the 1970s." (ibidem, p. 936). The bottom line is, Gordon sees technology development following the trend line of the last four or five decades, which, as impressive as they might be, were not enough to reestablish the mid twentieth-century levels of either the growth levels in productivity or GDP.

Along with the current shaky technology development, the economy will have to face dire headwinds. In Gordon (2012) there are six headwinds<sup>4</sup>: i. the inversion of the "demographic

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<sup>&</sup>lt;sup>3</sup> Moore's law states that "The number of transistors incorporated in a chip will approximately double every 24 months." (Gordon, 2016, p. 838). It is interesting to note that, somehow concurring with Robert Gordon, Gordon Moore, co-founder of Intel and the one to predict Moore's law, himself foreshadowed that in a few years his law would not be valid anymore (Moore, 2015).

<sup>&</sup>lt;sup>4</sup> Gordon's way to present the headwinds somehow changes from one paper to another. Whereas in his 2012 work there are six headwinds, energy and environment and effects of ICT and globalization included, in Gordon (2014) there are

dividend," by which he means that the baby boom of the post-World War II period (a "one-time-only event") is now in reverse motion; ii. the educational plateau attained in the 1980s; iii. rising inequality; iv. the interaction between globalization and ICT with its adverse impact in production and jobs in developed countries; v. energy and the environment; and vi. the twin household and government deficits.

A few words on some of the headwinds might be helpful. The demographic dividend also considers that the second half of the 20<sup>th</sup> century saw a significant number of women entering the labor market, that also counts as a one-off event. Second, not only education seems to have reached its plateau, but as prices of higher education have skyrocketed the future of American education seems grim. Third, Gordon's view on the inequality push towards slow growth is a rather simple one. As his argument goes, as for the majority of the population real income has been improving even slower than the official numbers of aggregate GDP growth, stagnation is a reality, not a prediction. Finally, regarding the twin deficits, Gordon is saying that the twenty years or so before his writings were marked by 1. household consumption growing at the cost of rising indebtedness rather than on higher real wages, and 2. the public sector accruing debts. Consequently, at some point, this will have to be compensated by consumption and spending lagging behind real growth.

The two aspects together (mediocre technological development and severe and well-established headwinds) are bound to push the economy back to its historical normal. In Gordon (2012) this means dropping from a 2,5% per-capita GDP growth in the mid 20th century to about 0,2% in a couple of decades.

This supply-side explanation of the sluggish dynamics of the American economy has a relevant appeal among policymakers. See, for instance, Fernald (2014, 2016, 2017) who understands that "The reason for the slow pace is not primarily productivity, in that we've previously seen long periods (such as 1973-95) with modest productivity growth. Rather, it's the combination of modest productivity growth with demographics." (Fernald 2016, p. 19) or Furman (2015, p. 16) "The combination of productivity's importance and its murkiness ensures that it will remain a focus of macroeconomic research for decades to come."

Interesting questions to Gordon's theory can be found in the mainstream literature. In Eichengreen (2014, pp. 41-42), for instance, there is a warning that previous attempts to foresee a gloomy future for technological development in the last two centuries have failed. As he puts it

only four (education, demography, household and public debt, and inequality). Moreover, in Gordon (2015) and Gordon (2018), the headwinds are blended in the text. Nevertheless, the heart of the argument stands still; the past one or two centuries were exceptional and reached the summit in the mid 20th century, but for several decades already long-term supply-side changes have been pushing the economy back to its historical normal of lower growth.

"For economic historians, this argument flies in the face of 200 years of experience. Pessimists have now been predicting slowing rates of invention and innovation for centuries, and they have been consistently wrong. Looking ahead, it seems clear that the productive potential of robotics and the human genome, for example, have only begun to be realised. Evidence that we are learning how to use intelligent machines to replace first unskilled and eventually skilled labour suggests that we have a distribution problem, not a growth problem." (ibdem, p. 42 - our highlight)

Therefore, the problem is not a supposed fumble technology, but rather the challenges technological developments imply to society as they might not be work friendly and, as a consequence, deepen inequality.

Additionally, Eichengreen (2014) highlights that even in "Gordon's golden age of technical progress" there were periods of sluggish economic growth. As he exposes different views on secular stagnation, a hint of were he stands comes out:

"A third version of the argument suggests that output and total factor productivity growth are stagnant because of the failure of countries like the US to invest in infrastructure, education and training. I have considerable sympathy for this view, given how nondefence, non-entitlement federal government spending, which is devoted heavily to infrastructure, education and training, has been cut to the bone. The empirical literatures on infrastructure, education and economic growth are less than fully conclusive." (ibidem, p. 44)

In Eichengreen (2015) two concepts are presented for a better understanding of the process of technological changes to affect the economy; the "range of applicability" and the "range of adaption." In Eichengreen's words "range of applicability refers to the number of different sectors or activities to which the key innovations can be productively applied." (Ibidem, p. 69), while

"Range of adaptation refers to how comprehensively economic activity must be reorganized before positive impacts on output and productivity growth materialize. In addition, the greater the required range of adaptation, the higher the likelihood that growth may slow in the short run as existing technological complementarities are disrupted." (Ibidem, p. 69)

With these concepts in mind, one can argue, as does Eichengreen, that the American economy is still adapting, thus preparing to incorporate the intricate technological enhancements of the third Industrial Revolution. Present upsets should later give way for the positive effects of the process to be realized. Therefore, it might be too early for Gordon's argument that the third Industrial Revolution is bound not to be as significant in the terms above mentioned as the previous one.

Moreover, "the current slow rate of productivity growth is, in this view, a harbinger of better things to come." (Ibidem, p. 69).

## 2.1.2 Persistent GDP gaps

A second influential stream, often called the Keynesian version of the secular stagnation hypothesis inside the mainstream, focuses on the depressive consequences to demand owing to underlying changes, such as those related to TICs, demographics, and inequality. These changes have pushed the natural interest rates of the advanced economies to the zero lower bound (ZLB). This is where names like Lawrence Summers, Paul Krugman, and Gauti Eggertsson stand. As we have mentioned, Summers (2013) raised the issue of the "new secular stagnation," but, as Palley (2016a) underscores, his reading of the phenomenon is embedded with Krugman (1998) and Eggertsson and Krugman (2010) where liquidity trap is at the spotlight.

However, despite important alignment, whereas Krugman (1998) ultimately attributes the state of liquidity trap and the consequent ineffectiveness of the monetary policy to the lack of credibility, and Eggertson and Krugman (2010) point to liquidity trap as a consequence of a deleveraging shock, the novelty in Summers's argument is the introduction of secular changes on the "real" side of the economy. I.e., there is something beyond the lack of credibility and aside from a deleveraging shock impeding the advanced economies to reach potential growth.

In his view, such "real-side secular changes" are ought to be pushing the natural real interest rates down and, along with them, the nominal interest rates. However, at the ZLB, bonds and cash become perfect substitutes<sup>5</sup>, thereby monetary policy is helpless in equilibrating supply of money and real interest rate for the following reasons: 1. the power to buy and sell public bonds to control the quantity of money, thus inflation, is limited; and 2. an assumed zero lower bound (ZLB) for the nominal interest rate makes it very difficult for the economy to meet its negative natural real interest rate, thereby impeding the loanable funds market to reach equilibrium<sup>6</sup>. As the economy cannot reach full employment, there will be consistent gaps between actual and potential GDP. Popovic (2017, p. 77) words are useful here

"Of course, the prerequisite for the above described process of macroeconomic adjustment is a full flexibility of interest rate. It may happen, however, that the saving

<sup>5</sup> Note this is the standard explanation for the very existence of the boundary; nominal interest rates cannot go negative for money will be favored to other forms of wealth recipient. Interestingly, under this logical thread, if there were no money the ZLB should be softened, hence some mainstream authors like Fischer (2016, p. 41), and Rogoff (2017, part II) investigate strategies to a cashless economy.

<sup>&</sup>lt;sup>6</sup> As we will discuss in the next section, the new Keynesian theory admits pre-Keynesian notions of interests equilibrating supply (saving) and demand (Investment) of loanable funds.

surplus over investment is so high that the only way to attain macroeconomic equilibrium is by adjusting the natural interest rate to be negative. However, according to many researchers, this management is very difficult and, even when possible, very problematic. The problem we have here is that in the modern economy, due to currency substitution, short term safe interest rates cannot fall below zero or, more precisely, below the level of risk premium."

As a matter of logic, the following question is "what might have caused interest rates to plunge?" Although in the first years Summers's (2013, 2014, 2015) approach was somewhat tentative, the later Rachel and Summers (2019), where a thorough econometric study is developed, seems to reaffirm his previous main ideas of the causes for lower interest rates.\*\*\*footnote here\*\*\*

In Summers (2015) lowering interest rates are attributed both to less investment and more saving. Among events that contribute to the reduction of investments, one can mention i. slower population growth in the developed countries; ii. declining relative prices of capital goods; and iii. cutting edge companies, such as Apple and Google, demand less capital. When it comes to the savings glut, i. the increasing accumulation of savings by developing countries<sup>7</sup>; ii. stringent capital and collateral requirements pushing up the demand for safe assets; iii. rising inequality, which implies higher propensity to save; iv. after-tax real interest rates moving faster than pre-tax real interest rates; and v. the increased wedge between the returns to savers and the cost to borrowers due to higher costs of financial intermediation and the legacy of the crisis are pointed by Summers (2015, p.62) as significant contributing factors.

A primary aspect of the debate is whether sluggishness derives from a lack of supply (as in Gordon's view) or a lack of demand. To Summers (2015, 2018), though supply-side causes do exist, the fact that inflation had been low despite aggressive fiscal policy is suggestive of a lack of demand as the main hurdle to the dynamics of the central economies. The argument is also addressed to those who oppose the secular stagnation hypothesis on the bases of acceptable growth in some of the modern economies in the last couple of years. For instance, Summers (2018) stresses such results demanded enormous fiscal expansion, which in turn masked the low level of the natural interest rate. Indeed, his understanding of secular stagnation is of underlying circumstances persistently defying the power of monetary policy to ensure at least modest growth. Thereby, the need for massive fiscal efforts is itself evidence of the "new normal."

<sup>&</sup>lt;sup>7</sup> Ben Bernanke (2005) and Greenspan (2010) preceded Summers in pointing to a global savings glut (Eichengreen, 2015). They called the attention for the post-Asian crisis and -dot com bubble preventive behavior of the "emerging markets" to hold reserves in the form of dollars.

The controversy here is to show that the set of notions and ensuing policies of the New Consensus cannot be successful under the current status. In such a perspective, the state is like a wild horse that must be tamed for the economy to reach and maintain potential growth. Accordingly, the state cannot and should not push dynamics to full employment to avoid creating economic imbalances, and should instead play the role of a "great moderator." Tools like the Taylor rule (Taylor, 1993) are prime to prevent inflation from getting out of control and hitting the, supposedly equilibrating, target.

The point of Summers is, because of the changes mentioned above in the economy, the theory and the policies focused on controlling the inflation from soaring are misguided. The real problem being how to ensure full employment. It is as if the horse was sick and needed be feed and taken care rather than tamed for the time being.

A parallel, yet intertwined, topic which arises from the last decade's crisis but also from a general failure of the dominant approach in reading and answering the vagaries of the economy, is the need for breakthroughs in economic theory (see, for instance, Yellen, 2016). At least to some extent, it seems fair to assert that Summers confronts well-stablished notions. For instance, in Summers (2015), demand-side sluggishness suggests an inverse Say's Law where "lack of demand creates lack of supply potential." It might be argued that at this point Summers is closest to surmounting some of the dominant (both New Consensus and New Keynesian) tenets like the capacity of the free market to reach potential growth in the long run independently (and preferably without) a fiscal push.

Nevertheless, in Summers (2015) there is no further explanation of what he means by the inverse Say's Law. The investigation points to De Long and Summers (2012) as the genesis of the argument. In that paper "three aspects of situations typified by the current situation in the United States alter the normal calculus of costs and benefits with respect to fiscal policy." (De Long and Summers, 2012, p.3), namely 1. "the absence of supply constraints and interest behavior associated with economy being constrained by a zero lower bound mean that the likely multiplier associated with fiscal expansion is likely to be substantially greater and longer lasting than in normal times." (ibidem, p.3); 2. "even very modest hysteresis effects through which output shortfalls affect the economy's future potential have a substantial effect on estimates of the impact of expansionary fiscal policies on future debt burdens." (ibidem, p.4); and 3. "extraordinarily low levels of real interest rates raise questions about the efficacy of monetary policy as a source of stimulus, and reduce the cost of fiscal stimulus." (ibidem, p. 4).

In other words, the current state of things is marked by extraordinary circumstances, under which the "normal" functioning of the economy (read off automatic attainment of full employment by the markets) is denied by a combination of low natural interest rates, and the zero lower bound. Additionally, the fiscal multiplier is inflated by a hysteresis effect. As a consequence, 1. one cannot expect demand to automatically adjust supply for rigidities are on the way, and 2. risks involved in expansionary fiscal policy are bested by its so much needed heating effect, making it a primary tool for policymakers. Finally, because of the length and deepness of the causes of this unusual situation, one should expect it to be protracted, rather than brief.

Though not explicitly against the view of the particular state of the current affairs, Eichengreen (2015) questions the secular aspect of the theory. Considering the increased savings side of Summers's argument, he asks whether Bernanke's (2005) and Greenspan's (2010) savings glut was a "temporary bulge" instead of a secular trend. His argument is based on Fig. 1, where one can hardly see any significant change in the global savings rate from the 1980s onwards and the trend of the 2000s seems ephemeral.

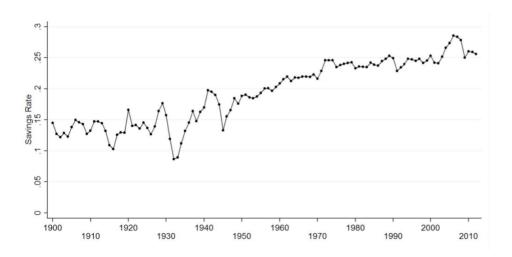


Figure 1: Secular trend in global savings rate

Source: Eichengreen, 2015.

Moreover, Eichengreen (2015) looks to the USA in the late 19<sup>th</sup> century to try and find analogies for the emerging markets. According to him, while developing countries are formalizing their economies, they tend to go through processes like the aging of the population and capital/labor ratios approaching equilibrium. During such transformations, there is an increase in the savings rate, just like the emerging markets in the 2000s, but only temporarily. Thereby, even if emerging markets are saving more now, they are not necessarily expected to sustain this trend in a secular fashion.

As for the well-evidenced drop in the investment rate<sup>8</sup>, Gordon (1990) emphasizes the role of research and development in turning investment goods cheaper and more efficient. With that in mind, Eichengreen (2015) points to a quality-adjusted trend for the relative price of investment to level off in the early 21st century. For him, the trend line towards stasis might be explained by "the presumption that consumption goods, and in particular that portion provided by the service sector, are difficult to mechanize and therefore become relatively more expensive over time may not hold as it has in the past." (Ibidem, p. 68) Hence, just as in the case of higher savings in emerging countries, relatively lower prices of investment goods may be temporary, which exposes another weakness in the explanation of the secular stagnation hypothesis.

## 2.1.3 One-off supply-side damage

Getting back to Teulings and Baldwin (2014), the third approach to the secular stagnation debate focusses on the effects of labor market hysteresis. In this strand, Edward Glaeser's (2014) secular joblessness is iconic. First of all, he attempts to debunk the notion of stagnant technological progress. He assumes technology to be advancing firmly as the number of patents is expanding in the United States, as well as the impact and dispersion of the recent innovations. Glaeser emphasizes the wide-spread benefits of recent technological progress, in stark contrast to the inventions of the Renaissance or the early years of the industrial revolution.

The problem thus is not the lack of potential of human creation today, but the incapacity of traditional methods in economics to measure such gains. In Glaeser's words,

"The essentially zero marginal cost of providing internet-related services means that they are often monetised through the advertising of goods with a positive marginal cost. It is free to use Google, but their search engine will nudge users towards their advertisers. The free nature of these services has meant a democratisation of access to information; a fact that is rarely considered in attempts to measure inequality." (Ibdem, p. 73)

Consequently, despite acknowledged ongoing difficulties, lethargy is his view, is probably not perennial.

Instead of blaming technology for disappointing dynamics, Glaeser takes the job markets to have been the weak link. On the one hand, the levels of unemployment have risen in the last decades, on the other, and in close relation to the former, inequality has soared.

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<sup>&</sup>lt;sup>8</sup> See IMF (2014), for instance.

In Glaeser (2014) there are two possible explanations for this trend. His first idea is that the impact of a series of adverse labor demand shocks since the 1960s coupled with "institutional changes that made joblessness less painful and increased the incentives to stay out of work." (ibidem, p. 75) As a strengthening mechanism, off-the-job depreciation of human capital suggests increasing long-term joblessness to be self-reinforcing. An alternative explanation is that the rise in joblessness is related to "a failure of entrepreneurial imagination" which in turn stems from technological trends that do not favor jobs.

Unfortunately, as far as this study goes, neither further refinements from the author nor direct critiques to this viewpoint were found. This suggests the "secular joblessness hypothesis" as elaborated by Glaeser to be left aside. As a matter of fact, despite the importance of joblessness in the current process, it seems it has become at best an element of the two stronger mainstream versions of the secular stagnation hypothesis.

## 3. Variants of the post-Keynesian critique

In the last section, a set of different mainstream views and divergences on the secular stagnation hypothesis was presented. This section is an attempt to retrieve a modest part of the post-Keynesian contribution and critique on the matter. As stated before, three strands will be analyzed, namely the structuralist Keynesianism, the Kaleckian/Steindlian tradition, and the Harrodian approach. Also, in order to grasp the nuances of the arguments, we focused on one representative author for each branch, though other important contributions do exist<sup>9</sup>.

## 3.1 Three PK approaches to the secular stagnation hypothesis

#### 3.1.1 Structuralist Keynesianism

Where do the advocates of the so-called demand-side Secular Stagnation (dsSS) stand and what is their theoretical background and novelty? In that regard, Thomas Palley has a compelling contribution in exposing the weaknesses of the secular stagnation hypothesis in its negative-interest-rate/ZLB version. Palley (2016a, 2016b, 2016c, 2018) depicts the negative interest rate policy (NIRP) as a subsequent strategy to quantitative easing (QE) once it proved incapable of

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<sup>&</sup>lt;sup>9</sup> For instance, Lance Taylor (2004) offers the big picture of the structuralist Keynesians view, while Blecker (2016) also debates secular stagnation. On the Kaleckian/Steindlian side, Lavoie (2015) comprises an updated set of elements fundamental to the approach. Finally, Ryoo and Skott (2015) is an analysis of fiscal and monetary tools based on the Harrodian instability.

propelling the advanced stagnant economies. While NIRP was sold as a revolutionary tool, Palley sees it as pseudo move forward in economics and policy recommendation, as a maneuver within, rather than facing, pre-Keynesian economic theory thus bearing all the limits of the approach:

"It [ZLB economics] promotes pre-Keynesian misunderstandings of the role and adjustment capabilities of interest rates, which keeps economics locked into a failed orthodoxy. Viewed in this light, ZLB economics is a classic example of gattopardo economics (Palley, 2013a). Gattopardo economics refers to change that keeps economics the same. The ZLB explanation of stagnation introduces a new nominal rigidity that keeps macroeconomics locked into old ways of understanding the economy." (Palley, 2016a, p. 3)

Therefore, according to Palley, the ZLB fits the new Keynesian framework only as novel "friction" that, along with price and wage rigidities, gives way for market imperfections especially those relative to the secular stagnation hypothesis. New Keynesian economics thus assumes the existence of a well-behaved loanable funds market, in which investment is a downward slope and saving an upward slope relative to the real interest rate. In this way, mechanics are simple and suggests the higher the real interest rate, the higher saving, and the lower investment will be. The equilibrating level of the real interest rate exists is singular at every point in time and raises the economy to its potential. No full employment can be attained out of the equilibrating level of the real interest rate.

In this view, new Keynesianism is akin to neoclassical economics rather than to post-Keynesianism. In fact, when it comes to the perspective of the dynamics of the economy, new Keynesianism has little to do with Keynes's view itself for their acceptance of money neutrality and the loanable funds market theory, to which they fine-tune that the government, rather than the free markets, push the interest rate to its equilibrium level by defining a short-term risk-free nominal interest rate<sup>10</sup>.

As Palley (2018) stresses, in Keynes's General Theory, as money and other non-produced assets (NRAS) compete with investment in real assets, the interest rate is not determined by the supply and demand of loanable funds. Instead, the liquidity preference of the agents, which is to say, how much they charge to go from more to less liquid assets, defines the real interest rate. Under such a framework, there is no mechanism to connect the interest rate with the saving/investment equilibrium. Moreover, contrary to the Neoclassical approach, saving does not determine investment, but it turns out to be its remnant.

that can account for protracted shortfalls in output—the zero bound on nominal interest rates."

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<sup>&</sup>lt;sup>10</sup> Needless to say, this perception is in contrast with Summers's view for whom, raising the possibility for extended periods of stagnation due to natural imperfections to the market itself is enough to position one's view at odds with the mainstream theory. See, for instance, Summers (2015, p. 61) "Consideration of such theories is outside the mainstream of current macro. Standard theories see recessions as temporary fluctuations. But there is a natural market imperfection

Consequently, according to Palley, the reason why NIRP is bound not to be successful is not the ZLB, but the existence of NRAS with a positive return.

"When framed in this way, it explains why negative nominal interest rates may not alleviate the problem of aggregate demand shortage. The reason is once the marginal efficiency of investment (MEI) hits zero, firms will prefer to use additional finance to acquire NRAS whose marginal return is still positive. Consequently, the ZLB floor is not the problem. Instead the problem is the existence of NRAS, including money." (Palley 2018, p. 21)

Additionally, Palley (2018) brings up three interesting theoretical/structural aspects preventing investment from mounting: 1. against neoclassical perfectly smooth substitutability between, Leontieff's conditions imply it is possible to have excess capital in times of demand shortage; 2. capital is long-lived and lumpy, i.e., it fluctuates over time and depends on expectations of future interest rates; and 3. for Keynes MEI depends on the animal spirits and the perception of the uncertainty of the future rather than on technical conditions.

At odds with a well-behaved saving curve, because of ambiguous forces prediction of the effect of NIRP on savings has to be an ad hoc analysis. His two reasons are 1. "lower real interest rate gives rise to both positive inter-temporal substitution and negative income effects. Consequently, the theoretical effect of lower real interest rates on consumption is ambiguous." (ibidem p. 26) And 2. the fact that negative nominal interest rates yield both a negative "Pigou effect" on consumption spending and AD and "a positive wealth effect on AD owing to the portfolio shift away from money to NRAS that increases the price of those assets." (ibidem, p. 26).

Finally, some warnings related to NIRP posed by Palley (see, for instance, Palley 2016c) and worth mentioning are a negative interest rates as game changers as they disrupt the credit system and increase the cost of credit; b. as negative does not imply more investment, but a deepening of firms in speculation, it renders financial fragility and instability<sup>11</sup>; c. financial disintermediation; d. a set of concerns related to political economy like the worsening of inequality due to NIRP increasing the price of financial assets, especially the risky ones, which tend to be held by wealthier households. As a consequence, considering the influence of money on politics, there is a tendency for

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<sup>&</sup>lt;sup>11</sup> Note this is in line with Summers (2013, 2018, for instance), who pointed secular stagnation as a kind of trade-off between growth and stability.

reinforcing the already strong plutocratic character of politics<sup>12</sup>, along with diminished pressures for boosting the economy as the wealthy will be in an even more comfortable situation.

## 3.1.2 The Kaleckian/Steindlian viewpoint

Whereas Palley's arguments are founded on a structuralist soil, another post-Keynesian reading of the secular stagnation hypothesis follows from the Kaleckian theory of the dynamics of capitalism and the Steindlian perspective where the mature capitalist economies tend to chronic stagnation.

Following this tradition, Eckhard Hein elaborates a critique and an alternative explanation of the ongoing phenomenon. His contribution can be boiled down to a threefold scheme; the first part is his critique of the mainstream approach, while the second consists of the main elements of his Kaleckian/Steindlian model, and the third parts from an international approach to stress the influence of financialization on stagnation.

Concerning an interpretation of the mainstream shortcomings, Hein focuses on three theoretical weaknesses. First, the assumption of a natural interest capable of equilibrating saving and investment at full employment output levels, which completely ignores i. the challenge posed by the "Cambridge controversies on the theory of capital" against the notion of the existence of a single interest elastic and downward-sloping capital demand curve. Put differently, the view that saving is a well-behaved upward slope and investment a continuous downward slope, both relative to the interest rate does not hold <sup>13</sup>. Also neglected is ii. the Post-Keynesian view that in a monetary production economy instead of investment resulting from saving, saving adjusts to investment through either the Kalecki/Steindl mechanism - via changes in output growth and capacity utilization - or the Kaldor/Robinson mechanism - changes in functional income distribution (Hein, 2015, pp. 8-9).

Second, Hein points to the almost total independence of the potential rate of growth to the dynamics of the aggregate demand found in mainstream theories. This disconnection is at odds with Kaldor's technical progression function or Kaldor-Verdoorn's law.

Third, the current mainstream contributions disregard "potential stagnation tendencies caused by changes in institutions and power relationships between social classes, such as those associated with the rise of finance-dominated capitalism over the last three decades or so" (Ibidem, p. 8).

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<sup>&</sup>lt;sup>12</sup> The plutocratic aspect of capitalism has been repeatedly underscored by Marxists. In an up-to-date analysis, Wolfgang Streeck (2014) places plutocracy among the five signs of the demise of capitalism-along with corruption, the plundering of the public domain, global anarchy, and stagnation itself.

<sup>&</sup>lt;sup>13</sup> See, for instance, Di Bucchiano (2019). References for further discussions on the matter include Cohen and Harcourt (2003), Petri (2004), and Lazzarini (2011).

As the first of the three frailties was worked out in the last section while commenting on Palley's elaboration, we might jump to the relation between production growth and productivity growth. Against the well-established view of productivity as the ultimate propeller of economic growth, the Kaldor-Verdoorn law suggests a twist in the causal relation. Since productivity enhancement is highly dependent on the day-by-day, "learn by doing" practical activities, there must be a causal arrow from the heat of the economy to productivity growth.

At this point, it is worth introducing Storm's (2017) attempts to debunk Gordon's supply-side secular stagnation hypothesis by alluding to an inter-influence between real wage growth and productivity growth. Again, this is in opposition to the neoclassical intuition of the long-run productivity enhancement to be the only way to gains in the real wage. As a consequence, the potential output cannot be detached from the actual output.

"This article argues, with a focus on the concept of TFP-growth, that this neat separation between actual and potential output growth is the Achilles' heel of supply-side explanations of secular stagnation (Storm and Naastepad 2012). My "modest doubt" stems from the mounting empirical evidence that potential output growth is not independent from actual—demand-determined—growth. Study after study show that the current (demand) recession is causing permanent damage to potential output growth in the OECD" (Storm, 2017, p. 173).

The last frailty in the dominant version of the secular stagnation hypothesis pointed out by Hein, evidences the existence of class interests behind the changes that lead to the current lethargic state of the economy. This in turn gives rise to a set research programs that crosses the redline of mainstream economics as it demands working together with other other sciences such as sociology and political sciences <sup>14</sup>. Among the main components of these programs are financialization, structural changes in labor and class struggle, neoliberalism, political economy, and international political economy.

To resolve these shortcomings Hein (2015, 2016) provides a Steindlian model of distribution, growth, and stagnation in which both the paradox of thrift and the "paradox of costs" "i.e., a higher wage share and thus higher real unit labor costs trigger a higher profit rate" (Ibidem, p. 18) hold.

<sup>&</sup>lt;sup>14</sup> I would like to ask a permission for a digression here and bring up Summers's (2013) lines on what is science and what is not science as this is an iconic expression of how mainstream economics regards rather social sciences as anything but sciences. For him there is a "basic principle, anything that calls itself science, isn't; political science, cognitive science, Christian science."

Additionally, in it, a rise in the profit share has negative impacts on the equilibrium rates of capacity utilization, capital accumulation, and profit while demand and growth are wage-led. In Hein's model, stagnation takes place under i. fall in autonomous investment growth and/or a fall in the "animal spirits" of firms; ii. a fall in the rate of productivity-enhancing innovations driving investment; iii. a rise in the target rate of capacity utilization of firms; iv. a rise in the rentiers' propensity to save; v. a rise in the profit share; and vi. a rise in the rentiers' rate of return. Finally, as well as demand mechanisms Hein's model assumes capital stock growth to be positively affected by labor productivity growth via Kaldor's (1957, 1961) technical progress function and/or on Kaldor's (1966) Verdoorn's Law (Ibidem, pp. 20-21).

The last aspect of Hein's view to be highlighted in this paper is his analysis of the impact of financialization on the world economy. As in Hein (2015, 2016, 2017), Pre-crisis macroeconomic regimes ensued commercial and financial global imbalances, which in turn "led to the severity of the financial crisis and the Great Recession." (Hein, 2017, p. 11) while after the crisis shifts in macroeconomic regimes promoted sluggish recovery and contributed to economic stagnation and fragility worldwide.

According to Hein (2017), the analysis of six representative countries (the US, the UK, Spain, Germany, Sweden and France) evidences the main three interdependent macroeconomic regimes between 1999 and 2007 in the world economy: i. In the US, UK, and Spain there was a debt-led private demand boom regime marked by private domestic deficit (both household and corporate) coupled with positive balances of the external sector; while ii. Germany and Sweden operated under an export-led mercantilist regime with positive financial balances of the domestic sectors and negative financial balances of the external sector. Finally iii. France, in the middle, was an example of a domestic demand-led regime with positive financial balances of the private household sector, deficits by the government and the corporate sector, and the external sector roughly balanced.

After the crisis there have been changes in the macroeconomic regimes in most of these countries;

"For the crisis and post-crisis period, 2008 until 2016, I have then found major changes in regimes: Whereas Germany and Sweden have stayed export-led mercantilist, with Sweden only weakly so, Spain and the core Eurozone as a whole, under the conditions of the euro crisis and applied austerity policies, have turned export-led mercantilist, too. And the US and the UK have joined France as domestic demand-led economies, but since the crisis mainly stabilised by government deficits." (Ibidem, p.22)

Even though these changes favored a reduction in global imbalances, in 2016 imbalances were still significantly higher than in 2000, and thus the global economy was still far from stable. As Hein (2017, p. 18) points out,

"The risks of such a global constellation are obvious. If ever more economies, like currently the whole Eurozone driven by austerity and deflationary stagnation policies, move towards an export-led mercantilist strategy, the world economy will face an aggregation problem. It will become increasingly difficult to generate the related current account deficits in other regions of the world. Dominating tendencies towards stagnation are then the inescapable consequences."

Just as in Palley's contribution, fine-tuned policy proposal is not the focus of Hein. Nevertheless, his Steindlian view and his analysis of global imbalances due to the macroeconomic regime shifts under financialization point to four general measures: i. Re-regulation and downsizing of the financial sector; ii. re-distribution of income (and wealth) from top to bottom and from capital to labor; iii. re-orientation of macroeconomic policies towards stabilizing domestic demand at non-inflationary full employment levels; and iv. re-creation of international monetary and economic policy coordination. (Ibidem, p. 19)

#### 3.1.3 The Harrodian approach

From a perspective that combines a Harrodian basic model with Abba Lerner's functional finance, Peter Skott (2016) also elaborates a critique of the mainstream approach to secular stagnation and an alternative model.

Briefly put, the core of his model is given by the following condition for steady growth with full employment

$$\sigma - \frac{C}{K} = f(r) - \frac{C}{K} = \gamma + n + \delta.$$

where f(r) is the output-capital ratio, C/K, the consumption-capital ratio,  $\gamma$ , the government spending-capital ratio,  $\eta$ , labor supply, and  $\square$ , the rate of depreciation. For the terms on the right-hand side of the equation are exogenous, adjustments must happen via either the output-capital ratio (the real rate of interest) or the consumption-capital ratio. While Solow-type models assume that changes in output-capital ratio occur automatically to maintain full employment, Skott considers that assumption to be disputable. As he states it:

"It is questionable for several reasons. The scope for capital-labor substitution is limited in the short run; neighboring techniques in terms of capital intensity may differ widely in terms of the specific, disaggregated capital goods that they use; a fall in the cost of finance may lead to a 'perverse' reduction in the aggregate capital intensity (the famous case of capital reversing). But perhaps most importantly, when firms choose the capital intensity of the productive capacity generated by new investment, the choice is guided by relative input prices. If these relative input prices fail to clear the labor market, the choice of technique will be determined by the wrong prices." (Skott, 2016, p. 175)

As highlighted by Skott (2016), whether mainstream models rely on traditional Solow models or dynamic stochastic general equilibrium (DSGE) models with Ramsey optimization is not key because in either case there are mechanisms for automatic adjustments that will provide full employment in the long run, the main relevant difference is the underlying mechanism. To him, even the currently popular DSGE/Ramsey cannot be regarded as robust for the introduction of either finite lives or finite horizons alone can change the results of the models significantly; if finite lives are admitted, then "the optimality of the market outcome disappears." (Ibidem, p.176), whereas "the ineffectiveness of fiscal policy disappears when households have finite horizons, even if one retains all other assumptions of rational behavior and perfect foresight." (Ibidem, p. 177). Therefore, one of the big flaws in the mainstream approach is to neglect the impact of fiscal policy on the "natural interest rate."

As a result of functional finance relying on Keynesian principles, not only mechanisms such as interest adjusting to saving through a supposedly natural interest rate are disregarded, but also policy prescriptions differ significantly from those based on orthodox economics. Policy guidelines follow Abba Lerner's functional finance, which

"prescribes, first, the adjustment of total spending (by everybody in the economy, including the government) in order to eliminate both unemployment and inflation ...; second, the adjustment of public holdings of money and of government bonds, by government borrowing or debt repayment, in order to achieve the rate of interest which results in the most desirable level of investment; and, third, the printing, hoarding or destruction of money as needed for carrying out the first two parts of the program. (Lerner 1943: 41)" (Skott, pp. 177-178)

Under functional finance, public debt in itself is not important; however, if too high, the level of debt can be a burden. Skott's effort is to show that not only there is data to support that growth and debt are negatively related, but that the main long-run causal link is from growth to debt, not the other way around. Therefore active fiscal policy must take place for slow growth to be solved.

Moreover, another consequence of Skott's model is the direct relationship between unequal income distribution and higher savings, which in turn contributes to slower growth. The link is simple, "[t]he rich, on average, have a higher rate of saving than the poor, and rising inequality tends to reduce the average rate of consumption." (Ibidem, p. 180). To that "the remedy is straightforward: use taxes on capital income as the fiscal instrument, instead of taxes on wage income." (p. 181).

While Skott punches austerity policies, he makes sure to also underline the limits in the approach of Summers and Krugman: "The Summers and Krugman analysis presents a strong contrast to Reinhart–Rogoff claims about dramatic, negative effects of debt on growth. But the break is incomplete." (Ibidem, p. 183). Just like Eckhard Hein, Thomas Palley and others, Peter Skott claims that the reference to the "natural interest rate" is questionable. Better put, although the "natural interest rate" matches perfectly with DSGE models with Ramsey optimization, there is no room for theories of secular stagnation in such models.

## 3.2 Two more enlightening debates

Although gathering and commenting all that is out there is beyond the scope of this work, it is worth to mention and briefly describe two other elaborations and insights from authors in the PK camp to serve as references for further studies.

#### Mature versus dual economies

Whereas most post-Keynesian critiques of the mainstream secular stagnation theories focus on its dsSS version, Servaas Storm (2017) contributes with an enlightening alternative to Gordon's supply-side perspective. His argument starts with an alternative way to measure productivity growth. Instead of the "Solow residual," the suggestion is to take labor productivity as a simple weighted average of the growth rates of average labor and capital productivities. With that he shows the U.S. economy is going through a dualization process where two distinct trends coexist—while in primary activities, manufacturing, wholesale, retail, and transportation, information, and finance, insurance, and real estate (FIRE) productivity growth prevails, there seems to be a crisis in productivity growth in Utilities and Construction (UC); Educational, Health, and Private Social Services (EHS); and the Rest." (Storm, 2017, p. 184).

As technology advances and the gap between the "dynamic" and the "stagnant" sectors widens, so does the gap between real wage gains. Moreover, as the flip-side of productivity gains turns out to be job losses, workers tend to be pushed to the not-as-well-paid jobs of the "stagnant" sectors, thus promoting aggregate stagnation of the economy owing to the sinking of AD. Counter-tendencies,

however, such as the productivity technology-push of the 1990s and the financial bubble of the 2000s masked the slow down of the economy due to structural changes.

Interestingly, because Storm's perspective has a quite particular angle, it offers two contributions. On the one hand, it responds to the supply-side mainstream theory as it debunks the notion of a unidirectional causal line that sees productivity as an ultimate exogenous factor capable of promoting economic growth and real wage gains. In Storm's viewpoint, the existing stagnation tendency results not merely from the aggregate slowdown of productivity growth, but from a rather intricate process of dualization. On the other hand, and as a consequence, he offers an explanation of stagnation that relies both on supply and demand factors while also evidencing the façade of the "Great Moderation" guidelines as he points to the incapability of the markets to provide "balanced" growth, i.e., one in which aggregate demand does not fall behind supply potential.

Is Summers's demand-side secular stagnation, really demand determined?

In a recent critical paper, Stefano Di Bucchianico (2019), poses two questions on the mainstream demand-side secular stagnation. First, by arguing that even if the "Cambridge capital controversies" should be disregarded, the natural negative interest rate is a tension within the neoclassical models "regardless of the specific formalization, being it the simple Euler equation, Ramsey, IS-LM, OLG. The only case that we have deemed logically consistent is the Krugman's Euler version, which unfortunately dodged the introduction of capital." (Di Bucchianico, 2019, p. 17).

However, in what matters for the present study, it is probable that Di Bucchianico's most important novelty is the challenge of the notion that dsSS is indeed an ultimately demand-based explanation of the phenomenon. Disregarding the technology and population growth sides of dsSS, under neoclassical/pre-Keynesian schemes, even arguments apparently on the demand side, such as inequality, only enter the logical thread as they affect the natural interest rate through changes in the saving schedule.

# 4. Concluding remarks

Considering the six years of the secular stagnation hypothesis at the spotlight of academics, policymakers, and investors, a few statements might help understand the development of the process:

1. Initially, the mainstream approach, especially that of Summers, was mainly tentative. As the debate gained momentum, models and quantitative analysis such as in Eggertson and Mehrotra (2014), Eggertson et. al. (2017), and Rachel and Summers (2019) gave the debate a formal layer.

- Also, Gordon's reflections developed from relatively loose arguments to his most detailed work, The Rise and Fall of the American Economy (Gordon, 2016).
- 2. Despite that and the acknowledged need for the reestablishment of paradigms on the part of some mainstream economists and policy makers in order to realign theory with the "new normal," little advancement has been made towards the building of a thorough critique of the neoclassical theory. That, in turn, probably derives from a central contradiction in authors such as Summers and Gordon, who, regardless of a veil of openness, ultimately built their theories neglecting non-standard authors on stagnation tendencies such as Marx, Luxemburg, Kalecki, Steindl, Paul Sweezy, and Paul Baran, to name a few.
- 3. In a post-Keynesian perspective, the fact that quantitative easing was in many countries followed by NIRP can be interpreted as a neo Keynesian attempt to bypass the ZLB. At best, this seems to be an insipid patchwork. At worst, a harmful approach. Generally, post-Keynesian traditions do not agree that the ZLB is a hurdle to growth-at least not in the way it is presented by mainstream authors. Rather, financialization, the weakening of labor contra capital, the abandoning of full employment as a central target for policymakers are some of the most important issues to be addressed as they all lower aggregate demand.
- 4. Finally, regarding the secular stagnation debate, the dividing line between the mainstream and the post-Keynesian approaches seems to be their understanding of the *causa causans* of the current phenomenon. As neo Keynesians admit most neoclassical tenets such as the neutrality of money and the investment and saving curves to be well-behaved and and quickly adjust to a supposedly natural interest rate, it turns out that even in the ZLB version of the secular stagnation hypothesis aggregate demand ultimately plays a secondary role. Post-Keynesian authors, on the other hand, tend to stress that stagnation takes place ultimately owing to the fall of aggregate demand. Depending on the interpretation, emphasis might be given to either the misguided policies of the last thirty to forty years or to structural changes owing to especially to technology.

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