

# How secular is the current economic stagnation?

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## Abstract

From the burst of the dotcom bubble in 2000, until the global financial crisis that started in August 2007, the global economy was growing. During that phase, macroeconomics went through an era of general optimism around the idea of having reached a *great moderation*, with high steady growth and low stable inflation. Central bankers thought they managed to dampen the economic cycles. This era came to an end following the meltdown which started with the global financial crisis of 2007. And as among economic agents, macroeconomists' general state of mind went from optimism to pessimism. Almost ten years since the beginning of the crisis, growth is not back to its pre-crisis trends. Therefore, macroeconomists are debating the notion of a *secular stagnation*. Is the economy on a long-term stagnation trend, if so, for what reasons, and how to address this situation?

This paper offers a critical review of the debates among macroeconomists around this notion of *secular stagnation*, a concept which was invented by Alvin Hansen following the global economic crisis of the 1930s, and was brought back into the public debate largely by Lawrence Summers since the end of 2013. This literature review starts with a brief synthesis of the original debate about secular stagnation, launched by Hansen in 1938, and ended in the mid-1950s, since these debates inspired contemporary theorists. The second part highlights the main elements of neoclassical explanations for secular stagnation. The third part focuses on the Minskian idea of the end of a debt super-cycle. The last part offers a contemporary reading of the unleashing of the contradictions of capitalism, and the tendency of mature capitalism to generate oligopolies, as a cause for long stagnation.

**Keywords:** macroeconomics, secular stagnation, balance sheet recession, financialization, private debt, growth and distribution

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# 1 Introduction

Between the recovery from the bursting of the dotcom bubble (2000) and the global financial crisis of 2007, the global economy was growing. In particular, the USA and European Union were experiencing economic growth, with stable and low inflation. At the same period, the academic field of macroeconomics was dominated by a “new consensus” in theory, around a Taylor-rule based monetary policy to regulate business cycles by manipulating the interest rate. The aim was to ensure growth with mild fluctuations in the business cycle, and low inflation (Carlin & Soskice, 2005). And this so-called consensus was rather optimistic: this period became known as the *Great Moderation*. Indeed, Bernanke (2004) argues that substantial, steady growth, and low, stable inflation, were the consequence of economists (and in particular, central bankers) having understood how to stabilize business cycles.

From the offset of the global financial crisis in August 2007, it was clear to most of the actors of the sector that this was not a regular krach marking the end of a normal business cycle, but a major meltdown, comparable only to 1929 “black Tuesday”. Since then, the slow recovery made it clear that it was not a regular bust. Indeed, the notion of a super cycle coming to an end is apparent, in discussions concerning commodity super-cycles (LeBillon & Good, 2016), debt super-cycles and Minsky super-cycles (Palley, 2011).

But then, if developed economies appear to be at the end of the boom phase of a super-cycle, what comes next? Some authors challenge the approach of reasoning in terms of long cycles. Indeed, to explain the general tendency of capitalist economies to stagnation, the radical theoretical tradition considers that capitalism has its own internal contradictions, and the state of the political forces make the system tend toward stagnation. In this case, full employment tends to be an exception, and not the rule (Kalecki, 1943). Indeed, the concentration of firms endogenously produces stagnation (Steindl, 1952). The extreme phase of concentration is labelled “monopoly capital”, and is typically associated with long stagnation and unemployment (Baran & Sweezy, 1966). In this perspective, the de-regulation of the financial sector since the 1980s has never formed a sustainable accumulation regime, it just consisted in removing some of those institutions which enabled the reproduction of capitalism; the negative consequences of which were just postponed by a credit and speculation boom.

This inquiry about what comes next led to the re-emergence of the concept of “secular stagnation” in the public debate. The phrase was coined by Alvin Hansen in 1934, developed in Hansen (1938) and popularized in 1939 in a NBER presidential address.

Since Lawrence Summers’ speech at the IMF on November 8 2013, the “secular stagnation” concept began to be widely discussed, both in the media and among academic economists. This discussion reached the point that in the fall of 2015, the American Economic Review 105(5) issued a set of three articles about secular stagnation, with contributions of three leading participants in this discussion: Larry Summers, Robert Gordon and Barry Eichengreen.

**Why this interest in this notion of secular stagnation?** First, the current situation bears some similarity to the one in which Hansen created the concept. In 1938, the USA

was falling into the second dip of a recession which followed the 1929 krach: the recovery ended due to the end of expansionary economic policies. Indeed, the president of the USA, Franklin D. Roosevelt, attempted to end the New Deal expansionary policies by restoring a balanced budget. These austerity policies made the USA fall back into recession, with negative growth and higher unemployment. This situation raised the question of whether the government had to sustain the economic activity forever, since apparently without being pushed by public spending, the private sector did not generate growth. Hansen's book generated a lot of debates about the idea that without aggressive public stimulus growth could be gone forever, but finally, debates were ended by the rapid post-war growth (Dockès, 2015).

The rest of this paper is organized as follows: a second part reviews the original debates when the "secular stagnation" phrase was coined: from the publication of Hansen's book in 1938, to the mid-1950s. The third part examines the current neoclassical arguments that could explain the current state of long stagnation, from the supply and the demand sides. The fourth part reviews the explanations for secular stagnation from a perspective of endogenous money and credit. This perspective links the financialization process since the 1980s, and the current bleak recovery from the 2007 financial krach. The fifth part reviews the explanations for a long stagnation from the perspective of competition and institutions. Indeed, the increase of the power of big corporations means a higher degree of monopoly, which may explain a state of high profits and low employment and growth. This approach is complementary to the one of the fourth part; indeed, the financialization of non-financial firms, and the free circulation of capital across the world, contributed to the rise of big corporations. A sixth part concludes that, in order to explain the current state of stagnation, the approaches that focus on credit, competition and institutions are more convincing than the neoclassical explanations. As Koo (2011) argues, in times of long recession, the macroeconomic theory that is most adequate to explain the situation and to get out of it, is Keynesian.

## 2 The original debates around the concept of secular stagnation (1938-1952)

This part reviews debates that happened during the first major discussion of secular stagnation. It started with the publication of Hansen (1938). It ended around the mid-1950s; here the last major work reviewed is Steindl (1952).

### 2.1 Hansen's seminal 1938 work: Full Recovery or Stagnation?

The original discussion started with Hansen (1938). *Full recovery or stagnation* became an influential book, which fuelled both public and academic debates. Similarly to what is happening today, the original debate revolved around this question: is low growth due to bad economic policy, or have developed economies reached a trend of long-term low growth? Hansen argued that the USA had reached a point when contra-cyclical economic policy was

not enough, and that relying on the private sector would make the economy stay on a trend of low growth. Instead, the government should take a role of permanent public investment to maintain growth. If not, demand would be structurally too low to have an economic expansion emerging.

Hansen was influenced by his reading of Keynes (1936). Indeed, he evoked in 1936 the main ideas of what he would later label the causes of secular stagnation: end of the frontier (for the USA)<sup>1</sup>, slow demographic growth, and innovation becoming less capital-using and more capital-saving (Dockès, 2015).

In 1939 the American growth was fuelled by expansionary economic policy and the demand increase due to the war. But after 1945 the debate about secular stagnation reappeared.

For Hansen (1938), the 1934-1937 recovery was only pushed by consumption due to government intervention, so logically, as in 1937 the expansionary policies were stopped, growth fell again. To have growth, governments should either push consumption up permanently (to stimulate private investment), or have permanent programs of public investment. Indeed for Hansen, only innovation, population growth or conquest of new territories or new resources can generate growth without public intervention. And he argued that innovation was becoming less capital-using and more capital-saving. Population growth had slowed down, reducing profitable occasions to invest (e.g. in “consumers’ capital” industries, that is to say household appliances). So possibilities for extensive accumulation seemed low. This is why Hansen argued for more intensive accumulation, helped by a government serving as an “investment bank” permanently, and not just deciding of discretionary spending during downturns. Hansen argued that rather than just stimulating private investment, governments should endorse a role of permanent public investment. Hansen was criticized, mainly by economists more favorable to free markets, the debate revolving more around the methodology and the data, about the assessment of exogenous factors causing growth, not about Hansens’ theory and typology (Dockès, 2015).

However, some contributions to the debate launched by Hansen offer a different analysis.

## **2.2 Schumpeter and the Marxists: secular stagnation announcing the end of capitalism**

Schumpeter was a critic of the stagnationist view (Schumpeter, 1947). Indeed, in his theories of long waves, phases of expansion tend to be followed by phases of depression, but a new wave of innovations could provide with new occasions to invest, and a new expansion, in the future. By definition, innovations are ideas that no one has come up with yet, so one cannot say that no big wave of innovation is going to happen. Therefore, nothing implied that the 1930s stagnation was exceptional, or “secular”. Nonetheless, Schumpeter thought that the survival of capitalism was threatened by the rising criticism of this regime and in particular by the fall of the legitimacy of the dominance of the bourgeois class. Moreover, for Schumpeter excessive public intervention causes crises. He argued that excessive public intervention and regulation stifles the capitalist process (Schumpeter, 1947). For that reason

he was a vocal critic of Keynes' and Hansen's views that advocated public intervention in order to restore growth (Dockès, 2015).

There was a debate in 1946 in Harvard university, between Schumpeter and Sweezy, a Marxist influenced by Hansen (Dockès, 2015). Both agreed on the near end of capitalism, but they had a fundamental disagreement about stagnation, Schumpeter blamed the excessive public intervention. On the contrary, Sweezy supported the view according to which massive public investment would increase growth. Sweezy defended the Hansen/Keynes view that there can be a trap of too much saving compared to the potential of profitable investment. Schumpeter and Sweezy agreed that the rise of trusts, and the concentration of the market actors, was threatening the functioning of capitalism. Later, Sweezy re-used some of these arguments in his participation to this debate in his seminal Marxist book about the US economy: Baran and Sweezy (1966).

Back then, like now, the debate was very US-centered. However some parallels clearly can be drawn with Japan since 1990, and Europe since the 2007 financial crisis. Summers (2015, p.1) says so explicitly: "The experience of Japan in the 1990s and now that of Europe and the United States [...] I believe that the concept of secular stagnation introduced by Hansen (1939) is highly relevant".

Thus, as the 1930s crisis became a double dip recession in the USA, in 1938 discussions were launched as to whether growth was over forever, and whether bad policies were to blame, or whether it was capitalism which exhausted its expansion, and even whether it was the end of this economic regime.

Since 2013, as the USA experiences a disappointingly low level of growth, as Europe stagnates, as Japan still does not see the end of a crisis which started in 1990, as China's growth path experiences turbulences and Brazil and Russia are in recession, the debates about secular stagnation are back; in particular they were popularized by Lawrence Summers. But a lot of other neoclassical economists expressed their considerations on the topic, and this review is going to draw a summary of their arguments.

### **3 Contemporary neoclassical contributions to the debate**

Following Summers (2014b), several macroeconomists from the dominant neoclassical theoretical tradition have provided the public and academic debate with arguments about whether or not developed economies are bound for secular stagnation.

Their contributions can be divided into two main categories. The first set of arguments concerns the supply side of the economy, and the stagnation of potential supply as a cause for stalled growth. The second set is focused on low demand as a cause of stagnation. This interrogation as to whether demand can be structurally low in the long run made leading neoclassical macroeconomists question the notion of temporary output gaps around a long term GDP growth trend.

## 3.1 Supply-side arguments

### 3.1.1 Insufficient innovation

Robert J. Gordon is the vocal leader of the view according to which innovation is not generating enough economic growth to overcome the current state of stagnation: he is a techno-pessimist (Gordon, 2015)<sup>2</sup>. It is a supply-side vision, which explains the “ceiling” to production but not the actual level of production.

Gordon (1990) already argues that in the modern economies, R&D mostly develops cheaper and more efficient capital goods: as in Hansen (1938), innovation is rather capital-saving than capital-using, which has a structurally negative effect on growth. So in this view, long term growth depends on innovation. And past innovations were more pro-growth than the current ones.

Also, since 2006, Moore’s law about the doubling of the capacity of computer chips every two years has proven wrong (Gordon, 2015). This may indicate that innovation is slowing down.

Gordon (2014) states that innovations such as big data generate a zero-sum game. Indeed, big data organizations use new cutting-edge technologies, and employ highly qualified engineers. But most of the time firms apply this physical and human capital to marketing. The result is a development of the big data sector, but no impact of the amount of other types of output produced and sold. Indeed, all this massive investment only ends up financing innovations which enable big corporations to take market shares from each other, rather than creating new markets which would increase aggregate production.

Gordon (2015) explains that the share of people employed in firms that are younger than 5 years halved from 1982 to 2011. For him, this lack of dynamism of new firms means that there are less productivity gains. Indeed, he assumes that the creation of new firms is an indicator of new business ideas. However, maybe start-ups can’t have profitable investment plans because of excessive concentration of capital in big firms, which crowd out small innovative firms. So this can have nothing to do at all with lack of innovation, but rather be a matter of market structures and lack of competition.

Eichengreen (2015) explains that innovations may have a large range of applicability but may disrupt on the short/medium run the existing productive system until they have a positive impact on growth. So in his view, maybe it is not that there is not enough innovation; the problem is that currently the innovation does more harm than good to growth. This could change once the transition to a new productive system, that fits the new technologies, is complete.

However, as Schumpeter (1947) already stated, it is hard to assert with certainty that innovation has or has not reached an end, or entered a period of low development. But the question may also be whether there is a problem of innovation, or a problem of converting innovation to growth.

As Glaeser (2014) points out, maybe the problem is not a lack of innovation, but the fact that the few rather than the many benefit from it. Technological progress has distributional consequences, maybe they are the problem (not and not the progress itself, or lack thereof).

Thus, as to analyzing the relationship between innovation and supply-side growth, one should take into account the way that innovation interacts with the productive system, and with income distribution.

### 3.1.2 Human capital, stagnating, or depreciating

**An upcoming stagnation of the level of human capital?** Gordon (2015) also tackles the issue of human capital. He argues that the US potential GDP growth was fuelled by increased human capital, but he says that the growth of this production factor has stalled: since 1970, the rate of high school graduation has reached a ceiling, and college education may be reduced in the future because of the burden of student debt. Indeed, this factor may incite high school graduates to avoid taking on debt for enrolling in higher education. This is debatable: Gordon assumed that college education increases productivity. But in the last decades, Americans felt obliged to enroll into college to get a certain job and social status. Whether it was a matter of increasing one's productivity, or just sending a signal to the labor market, is debatable. Even if human capital *is* crucial for potential GDP, Gordon overlooks the possibility that in the medium run the American political system improves high schools, or cancels a certain amount of student loans to avoid another financial meltdown, or reduces the cost of higher education<sup>3</sup>. If that happens, productivity growth due to the accumulation of human capital may increase. For these reasons, these arguments seem dubious.

Moreover, Gordon (2015) evokes the fact that the decline of marriage among Americans with low cultural capital (without college education) generates single mother households which produce poorly educated males with low productivity, and a high likeliness to end up in prison. But he overlooks the fact that economic stagnation produces poor households, and weak public service generates households with low cultural capital. Therefore, one may argue that it is economic stagnation (or, in the past, non-inclusive growth) which generates these poorly skilled households, and not the other way around. What is more, Gordon (2015) evokes prison records as a major obstacle to employment, and the share of high-school dropouts with such records has soared since the 70s. This argument is easily debunked: employers can cherry-pick employees for low-skilled jobs only because there is a reservation army of jobless people. If full employment were reached, employers would hire every available worker, regardless of their record. So discrimination is to a large extent a result of unemployment, not a cause of it.

Contrastingly, Glaeser (2014) blames the lack of public investment in infrastructure, education and training for the absence of human capital growth. This is an accurate description of the non-inclusive growth that was taking place before 2007 in the US. On the contrary, in countries with massive public investment in education such as the Scandinavian countries, public schools generate few drop-outs. Education for all (in particular, those who can't afford to pay for it, namely, the working class, the unemployed and recent low-skilled immigrants) is largely a matter of public investment in educational institutions. This approach in terms of institutions seems more relevant to the current situation, rather than Gordon (2015) which treats the stagnation of human capital in the US as a phenomenon largely independent of policy choices.

Another link between unemployment and the accumulation of human capital is the notion that the global crisis generated unemployment hysteresis. Indeed, in this framework, the causality comes from long-term unemployment to depreciation of human capital. In the USA, from 2007 to 2014, labor force participation declined by 0.8% a year, only half of which is due to ageing (Hall, 2014). This suggests that 0.4% a year was due to people dropping out of the labor force, because they were discouraged to find a job, considering the adverse macroeconomic conditions (Gordon, 2014). This is a worrying point: the fact that job-seekers are discouraged shows the deepness of the crisis. The theory according to which the people who drop out of the labor force have their human capital depreciating, is based on the idea that their skills deteriorate from not being used. This phenomenon makes long term unemployment cause stagnating potential output. However, as far as the Great Recession is concerned, the unemployment shock was strongest on low-skilled workers. Thus they used to have, and looked for, low-skill jobs. Therefore, if their abilities to work depreciate, they could regain them quickly if growth, and demand for low-skill jobs, were to come back.

### 3.1.3 Adverse demographics

Hansen (1938) and Hansen (1939) already evoked demographic stagnation as a major obstacle to growth.

Indeed, Hansen (1938) was inspired by Keynes (1936), which marked Keynes' conversion to the idea that rising population growth raises effective demand (because it generates opportunities of profitable investment), and therefore is a phenomenon favorable to growth<sup>4</sup>.

Contrastingly, from a neoclassical point of view, the first chain of causality between demographics and output growth is that population stagnation entails potential labor input stagnating, and therefore makes potential GDP stagnate too. This is why Gordon (2014) cites stagnating demographics as one of the main "headwinds" that the American economy is facing. Gordon (2014, p.50) states that "By definition growth in output per capita equals growth in labor productivity times growth in hours per capita [...] even if the decline in participation slows from 0.8 to 0.4% per year, the portion attributable to baby-boom retirement, that is still enough to make it impossible for real GDP per capita to match productivity growth".

Contrastingly, at the global level, Wolff (2014) points out the fact that the question is not the lack of population growth: the global population *is* growing. The problem for growth is rather the lack of integration of Chinese and Indian numerous population in the world economy. Indeed, they cannot afford to buy massive quantities of exports from the developed economies. If they are integrated into mass consumption, it will create a lot of opportunities for profitable investment in high income countries. In open economies such as today's developed ones, "profitable investment" may also be destined for exports, and demographics of the domestic country alone don't determine the level of external effective demand. Indeed, since the 1930s when Keynes (1936) and Hansen (1938) elaborated their theories, globalization was accompanied by a development of international trade, and economies getting more open.

Thus, slowing demographic growth in the developed economies means stagnating effective demand for domestic goods. But rising global population may generate demand for exports

for the developed economies.

### 3.1.4 The structural reforms argument

Focusing on Europe, Jimeno, Smets, and Yiangou (2014) advocate supply-side oriented structural reforms to avoid “eurosclerosis” (secular stagnation in Europe<sup>5</sup>). Indeed, they argue that the rising dependency ratios (a consequence of stagnating demographics along with the increase in life expectancy) are a problem, especially with levels of public debt that are already high. They also argue that a tougher financial regulation is dragging investment down. This tendency is combined with the de-leveraging of the private sector. What’s more, in European countries, total factor productivity growth is low or negative.

To counteract these tendencies and bring growth back, Jimeno et al. (2014, p. 158) advocate to “lower the cost of capital by rebooting the financial sector and completing the single market in capital”. This measure would work only if the lack of supply of capital or credit was the problem. However, the authors don’t give evidence that shows that the supply of credit is what constrains growth in Europe. In fact, interest rates are at historical lows: in September 2016, two European firms, Henkel and Sanofi, borrowed money by issuing bonds with negative interest rates. Thus, capital is cheap, but this does not mean that profitable investment plans are abundant. If this is the problem, then lowering the cost of capital would not bring growth back.

The other measure advocated for by Jimeno et al. (2014, p.160) is to increase productivity growth by increasing “horizontal flexibility - the ability of resources to reallocate within and across sectors to firms where they are used most productively [...] This is [...] why increasing labor market flexibility could produce major benefits”. This is a rather surprising recommendation in a time of massive unemployment in most European countries. One can see how such reallocation may increase productivity near full employment. But with idle productive capacity (which is the case now in Europe), making it easier to sack people would probably drag effective demand down, at a moment when an insufficient full-capacity aggregate supply is not what is limiting output growth.

This approach, which is focused completely on the supply side of the economy, is highly questionable. Indeed, the current stagnation was not caused by issues with the aggregate supply. In Europe, first in 2008-2009 the crisis was caused by the downward demand shock in the aftermath of the 2007 financial krach. Then there was the 2010-2011 turn to budgetary austerity, which added a second negative demand shock. The crisis was not a supply-side shock, therefore, it cannot be solved by reforming only the supply side. What is more, the European institutions (led by the European Commission) have been implementing supply-side structural-reform inspired policies in the last decades, to no positive effect on growth. The notable exceptions are the countries in which there was a major bubble (Spain, Greece), and which suffered the most after the crisis.

Summers (2015) acknowledges this fact in a pragmatic way: “[This is not to say that] structural reform is a bad thing or should not be substantially encouraged. But the idea that structural reform will help area-wide secular stagnation can be supported by neither theory nor evidence”. (p64)

Thus, for Larry Summers, the question of structural reforms (for instance, flexibilizing the labor market) is largely irrelevant to the current state of secular stagnation; it is an independent problematic.

### **3.1.5 Less predictable economic policy since the 2009 crisis**

Since the global crisis, there was a shift toward more discretion in economic policy-making. For instance, in the USA, president Obama implemented a major stimulus bill: 550 billion \$, in February 2009. At the time, both in the USA and Europe, the political leaders justified these interventions by the fact that they were necessary to avoid a major economic meltdown.

However, Taylor (2014) argues that this shift toward more discretion generated less economic predictability, which was correlated with poor economic performance. Taylor (2014) concludes that too much pro-active economic policy-making is a probable cause of the disappointing recovery. This view is shared by economists in the Austrian tradition, e.g. Koppl (2014).

Indeed, from the perspective of these authors, investment is a bet for the future. Therefore, predictability is good for investment, because it makes the bet more safe. Thus, if the government budget varies by high amounts, it means that the future of the macroeconomic situation becomes less predictable. What is more, a high government spending, accompanied by public debt, may mean that the government will increase taxes in the future. This, in turn, makes investment very risky, if investors expect to pay high taxes in the future. The combination of these factors would lead them to avoid investing.

However, this explanation disregards the fact that public spending dampened the effects of the massive negative demand shock of 2008. Indeed, public spending sustained profitable investment opportunities in the trough of the crisis.

For these reasons, some neoclassical authors acknowledge the demand-side causes of the crisis that the developed economies faced, and the stagnation they are facing.

## **3.2 Demand-side arguments**

The most active neoclassical economist in the public debate about secular stagnation is Larry Summers. He insists on the problem of structurally low demand as a cause of the crisis.

### **3.2.1 The notion of structurally bleak demand**

The problematic, according to Summers (2014b), is whether developed economies are bound for a generation-long secular stagnation because of structurally bleak demand. This is a new idea in the field of neoclassical macroeconomics: in the original new classical - new Keynesian “New Consensus” (Carlin & Soskice, 2005), there can be demand gaps only in the short run. But Summers (2014b, p.71) states that demand is structurally stagnant (thus it can cause low output even in the long run), and evokes an “inverse Say’s law”, the idea that “lack of demand creates its own lack of supply”.

For Summers (2014a), in the US economy, the late 90s (dotcom bubble) and 2003-2007 (housing price boom), economic boom phases were supported by financial bubbles. Thus, in the USA, there has been no period of growth with stable and sustainable finance for about 20 years. And the boom in the European periphery was fuelled by “inappropriately cheap credit”, whereas exports of the North of Europe “were financed in unsustainable ways” (Summers, 2014a, p.31).

Following Hansen (1938), Summers argues that the government should spend on infrastructure (for instance the environment) to restore the level of demand, and to maintain it on the long run. To address the issue of financial stability, he also argues that the government should maintain interest rates at a high enough level. Indeed, interest rates that are too low generate financial bubbles by making leveraging too attractive and therefore encouraging borrowing in order to speculate (Summers, 2014a).

Thus, like in the 1930s, the argument in favor of public investment is that there is not enough relatively safe good investment opportunities for the private sector (Hansen, 1938). The problem with this argument is that the causality is unclear: is growth bleak because of insufficient investment, or are there few investment opportunities BECAUSE the economy is stagnating? In any case, a push of public investment is supposed to solve the problem.

Summers (2014b) also updates the notion developed in Hansen (1938) of the depressing effect of capital-saving innovations on the economy. Indeed, innovation does not necessarily increase aggregate investment, if the innovation does not require to build a lot of capital, or if it enables investors to use more efficiently the capital that they already have. Summers (2014b, p.69) resorts to an example: “WhatsApp has a greater market value than Sony, with next to no capital investment required to achieve it. Ponder the fact that it used to require tens of millions of dollars to start a significant new venture, and significant new ventures today are seeded with hundreds of thousands of dollars. All of this means reduced demand for investment, with consequences for equilibrium levels of interest rates.”

Summers (2014a) argues that the real interest rate required to achieve full employment (FERIR) has become negative. And it is even harder to design an adequate growth policy if you want to combine it with financial stability. However if FERIR is very low in developed economies this should stimulate capital outflows to the rest of the world, and therefore depreciate the exchange rate, which should increase exports. The reason why this is not happening may be that stagnation is global.

However, this vision relies implicitly on the idea of the existence of a natural interest rate. Summers (2014b, p.69) states that “it is useful at the outset to consider the possibility that changes in the structure of the economy have led to a significant shift in the natural balance between savings and investment, causing a decline in the equilibrium or normal real rate of interest that is associated with full employment.”. Summers (2015) explicitly describes a loanable funds market, with intersecting  $I(i)$  and  $S(i)$  curves, representing investment and saving as functions of the interest rate. Their intersection determines a “normal” interest rate. Summers (2015) concludes that if the equilibrium interest rate is below 0, then output can decrease and stay low indefinitely. However, there are determinants other than the

interest rate which affect investment and saving. In particular, the expectations of economic agents, and the way they perceive opportunities of profitable investment, and risks for the future, play a major role (Keynes, 1936). Moreover, the notion of negative natural interest rates that would be required in order to bring back full employment neglects the liquidity trap issues (Palley, 2016). Indeed, when the interest rate is set by the central bank to 0 or negative values, economic agents become indifferent between cash and assets. It becomes a matter of the form under which wealth is stored, rather than a matter of the level of investment.

Indeed, the loanable funds market, with an exogenous money supply and an endogenous interest rate, is a fiction. In reality, the process of money creation is endogenous: economic agents ask for credits, commercial banks create money by granting those credits, and they resort to the central bank to refinance themselves (Lavoie, 2014). This determines the amount of credit-money. Thus, the central bank doesn't control the money supply. However, it can manipulate the interest rate at which banks borrow from it and refinance themselves. Therefore, there is no exogenous supply of loanable funds; the amount of money in the economy depends on the demand of loans. The interest rates are, to a large extent, determined by the base rates set by the central banks: they are, to a large extent, exogenous to savings and investment. For this reason, the reasoning in Summers (2015), claiming that the natural interest rate has decreased, is dubious. Indeed, the lack of investment opportunities, or the high level of saving, are ultimately caused by pessimism about the future. So, the channel through which government expenditure would improve the growth path would not be through raising the demand for loanable funds. Rather, it would be by bringing back medium and long run optimistic animal spirits.

### **3.2.2 Procyclical fiscal policy generating a double-dip recession**

Eggertsson and Krugman (2012) build a new Keynesian model with a debt-driven slump, and debt-constrained economic agents. They explain that with such assumptions, expansionary fiscal policy is the appropriate response. On the contrary, European governments since 2010 are implementing fiscal austerity. Indeed, Paul Krugman has been a vocal critic of these policies.

As Summers (2015, p.65) points out, "The fact that various kinds of profligacy may have contributed to our current situation does not constitute an argument for austerity as the primary strategy for its resolution".

### **3.2.3 Global savings glut**

The idea of a global savings glut was launched by the Bernanke (2005) speech. He argued that policies to boost exports in Asia, and high oil prices in the Middle East, generated a high amount of savings at the global level, whose future was problematic. Indeed, it was stated that it caused the massive current account deficit in the US. Bernanke (2005) argues that the associated inflow of capital into the USA stimulated a speculative increase in the real estate market: a surge in construction, in mortgage credit, and in real estate prices.

Thus, in this view, the bubble that preceded the subprime crisis was, at least partly, caused by the global savings glut.

In Bernanke (2015), that is to say, during the secular stagnation debate, Bernanke revived the global savings glut notion in order to explain why interest rates are low.

This vision was debunked by Borio and Disyatat (2011, p.27): “we raise two basic objections to the popular “excess saving” view. It fails to distinguish sufficiently clearly between saving, a national account concept, and financing, a cash-flow concept, thereby focusing too heavily on net rather than gross capital flows. And it conflates the determinants of the market and the natural rate of interest rate. As a result, the “excess saving” view has little to say about the underlying patterns of global intermediation that contributed to the credit boom and the transmission of the turmoil, and diverts attention away from the monetary and financial factors that sowed the seeds of the crisis.”

Indeed, the “savings glut” explanation keeps a loanable funds model as its background: it assumes that there can be an excessive amount of savings, dragging the interest down. But in national income accounting, savings are equal to investment by definition. Therefore, this approach is not suited to explain how actual financial markets work.

Besides, the world as a whole is a closed economy, and from 2004 to 2014, global savings just went from 23 to 24% of global GDP (Eichengreen, 2014). This 1 percentage point increase is not a dramatic shift. Besides, Eichengreen (2014) points out the fact that China is looking to expand its internal market. If it manages to increase domestic consumption, it would push down the global saving rate, of which China is a major actor.

Therefore, if there is such thing as a massive amount of global savings looking for an outlet, it is neither a cause of the crisis, nor of the stagnation becoming long-lasting.

### **3.2.4 The zero lower bound (ZLB) view**

Paul Krugman elaborated on the Keynesian notion of the zero lower bound in the 1990s, commenting the Japanese stagnation since 1990, and the Asian crisis since 1997. Krugman (1998) brought back the liquidity trap to the attention of standard macroeconomists. Krugman (2009) reasserts his notion of the zero lower bound on the interest rate preventing countries from getting out of stagnation traps. Indeed, before the crisis, economic policies relied heavily on monetary policy and the interest rate. But when the zero lower bound is reached, this instrument cannot bring growth back, because of the liquidity trap.

According to Krugman, monetary policy was too stringent before the crisis; without enough maneuvering room to respond to a large adverse shock. In the press in 2014<sup>6</sup>, Krugman elaborated on the “timidity trap”: an inflation target which is too low is inefficient in times of crisis. Instead, monetary authorities need to anchor expectations of inflation, in order to prevent a deflationist spiral.

In the aftermath of the crisis, Blanchard, Dell’Ariccia, and Mauro (2010) questioned the 2% inflation target (the most widespread figure), asking whether it was too low and whether a 4% target would have less costs in terms of risk of deflation.

However, in the context of a deflationary spiral, raising the inflation target when the 2% target is not achieved may not prove effective.

Before 2007, monetary policy was mostly a matter of interest rate targeting. However, the liquidity trap forced monetary policy in developed economies to resort to unconventional instruments, with the most massive being quantitative easing (QE). Pesaran and Smith (2016) shows that QE tends to have a short-lived effect: its positive effects on growth vanish within a year. Therefore, it cannot be a solution for a structural policy to restore growth.

There also are negative side-effects of zero lower bound situations. Summers (2014a) elaborates on the negative side-effects of low interest rates: they increase risk-taking because investors want yield (and they can't get it from basic lending, because interest rates are low), they promote irresponsible lending, and Ponzi schemes become more attractive because borrowing is cheap.

Therefore, Krugman (2009), Blanchard et al. (2010) and other new Keynesian authors advocate more aggressive fiscal policy in situations of major slumps and zero lower bound situations.

Thus the zero lower bound vision explains why economies can't get out of stagnation thanks to monetary policy alone. However, it does not explain how economies get there in the first place. As to how to put an end to stagnation, it only implies that the solution is not monetary policy.

### **3.2.5 Paradox of toil**

Eggertsson (2010) constructs a new Keynesian macroeconomic model, with a fallacy of composition, in which if most of the population wants to work more, under certain conditions it could decrease aggregate employment. He assumes that firms are in monopolistic competition, and that in the case of recession, employment is demand-determined. In particular, in case of a recession, in a context of zero lower bound, if everybody wants to work more, the labor supply increases and therefore wages keep decreasing. This generates a self-reinforcing phenomenon of wages going down and unemployment going up, a situation he calls the "paradox of toil". Eggertsson (2010, p.15): "The logic is that the increase in labor supply lowers aggregate wages, which in turn gives the worker lower income to spend on goods and services. These deflationary pressures increase the real interest rate, and this cannot be offset by the central bank cutting the nominal interest rate. Thus less goods are demanded. Because the firms will employ labor only to satisfy any consumer demand for goods, this reduces aggregate employment.". One can imagine an upward shift in the labor supply in a recession situation, if workers expect a worse situation for the future, or if unemployment benefits or wage pensions are cut due to austerity policies.

Thus, a negative shock to the macroeconomic conditions, in a zero lower bound situation, can entail a self-reinforcing phenomenon of low employment.

### 3.3 Necessity to rethink the assumption of a GDP “naturally” fluctuating around its long-term potential

In the dominant macroeconomic “new consensus”, following the New Keynesian theory, there can be output gaps due to insufficient demand, but only in the short run (Carlin & Soskice, 2005). On the long run, the dominant vision until the crisis was that economies follow a long term growth path; natural potential GDP growing slowly. During business cycles, the actual GDP would fluctuate above or below its potential, generating positive and negative output gaps. A positive output gap corresponds to the situation when the economy is above its potential (high growth, low employment, high inflation), and a negative output gap is when it is below its potential. This vision is consistent with the mechanisms of DSGE models: economies experience stochastic positive or negative shocks, but after each shock they return to the pre-shock growth path. However, this vision is challenged in the debates about secular stagnation.

Summers (2014a, p.27) states that “The Great Recession has cast doubt on the idea that, with or without policy intervention, the workings of the market will eventually eliminate output gaps”. Summers (2014b, p.65) also mentions the fact that there has been a shift in the goals of economic policies. The problem is not to stabilize the economy along a growth trend anymore. It is to bring back a growth trend. Thus, the growth trend is not considered as some natural exogenous factor anymore. As growth stalls, the medium and long run trajectory of the economic system becomes a matter of concern for economic policies. Moreover, Summers (2014b) considers that downward revisions of the estimates of potential GDP were due to observed low or negative growth, which was caused by a stagnating aggregate demand. Therefore, the main problem of the developed economies (the USA in particular) is structurally bleak aggregate demand. This is what is implied by Summers (2014b, p.71) when evoking an “inverse Say’s law” in which “lack of demand creates its own lack of supply”.

Contrastingly, Gordon (2014) claims that the observed low inflation in the USA is a symptom of GDP being close to its potential. Thus, Gordon acknowledges that his explanation for the long stagnation is supply-sided, contrary to the one by Summers (2014a, 2015), which is demand-sided. However, the Summers (2015) explanation for low demand is based on a neoclassical representation of the economy, with loanable funds, combined with a natural rate of interest that would resorb the output gap, even if it that natural rate being negative causes this mechanism to be highly theoretical.

Therefore, if Summers (2015) doesn’t challenge the notion of a natural interest rate, he does question the conditions of long-term generation of demand, which is a novelty compared to the pre-crisis neoclassical literature.

Moreover, Ball (2014, p.160), while mentioning a “natural rate of unemployment”, emphasizes the effects of the great recession in terms of hysteresis. Indeed, both “potential GDP” and growth trends after the crisis fall short of those before the crisis, in the OECD countries in which the recession has been the most severe. This empirical observation of hysteresis challenges the results of standard neoclassical DSGE models, in which, after a negative shock, the economy re-adjusts to the equilibrium and returns to the same growth

path. Bassi and Lang (2016) provide a theoretical model which explains how a crisis can permanently alter the economy's potential GDP, and GDP growth trend. In their agent-based stock-flow consistent approach, firms are heterogenous. They respond to shocks by changing their investment plans. This generates investment hysteresis: firms alter their accumulation decisions; some shut down. In this case, in the aftermath of the shock, some firms have shut down (bringing the economy's potential down), and some firms deleverage (dragging investment demand down, and with it, the growth rate). Therefore, it is possible to account for genuine hysteresis. This theoretical contribution provides an alternative to the DSGE modeling.

However, the importance of questioning the notion of potential GDP is not only theoretical. Truger and Nagel (2016) shows that European treaties make the notion of potential GDP (and output gaps) performative. The EU budgetary pacts define limitations to public deficit in terms of a share of potential GDP. But, as actual GDP fell sharply in Greece and Spain, it generated downward revisions in measured potential GDP.

Considering the visions that don't consider potential GDP as given is one reason among others to consider what economists outside of the neoclassical framework are saying. In particular, the financial dimension both of the crisis and of the recovery are at the center of analyses that are based on Minsky's work.

## **4 The Minskian interpretation of the long stagnation: end of a debt super-cycle**

### **4.1 A financial collapse leads to a major crisis only when stabilizing institutions have been ditched**

Palley (2011) interprets Minsky's work to clarify the distinction between regular business cycles ("Minsky basic cycles") and super-cycles in Minsky's work. Palley points out that Minsky did not say that deep financial crises would happen often. Capitalist economies are based on a cyclical process: "success breeds excess breeds failure". This mechanism is general, but the historical context is changing constantly.

#### **4.1.1 From basic Minsky cycles...**

A Minsky basic cycle happens on a duration from 7 to 10 years. First, hedge finance (low leverage) is the dominant position. Hedge firms can repay their debts at any time period. However, some firms do take risks, and as the economy is growing, those who take more risks have higher returns on average. That is to say, speculative optimistic expectations are validated. Thus, hedge firms notice this phenomenon and start to take more risks: speculative balance sheet positions increase. Speculative firms cannot repay the principal of their debt, but can make their payments at every period. However, the firms that have to get new debt in order to make their credit payments (Ponzi finance) appear, and become

profitable. The next stage, as the Ponzi expectations are validated, is that Ponzi balance sheets become dominant. Finally, the fragility of the system is such that any shock in the system makes all the Ponzi pyramids collapse, and a financial crisis comes. The crisis makes pessimistic expectations dominate, and therefore, there is a period of de-leveraging. In this phase, the tendency of firms to repay debts and to decrease their leverage level brings aggregate demand, and thus output, down. This phase lasts until hedge balance sheets become dominant again (Minsky, 1986).

It is worth mentioning that Minsky's analysis was focused on business borrowing and business financial positions. The real estate market, and household debt and leverage, were paid little attention. However, particularly in the US, household debt played a major role in the 2007 krach (it is the securitization of mortgages to non-solvent households that caused the collapse of several major financial institutions). Nowadays, mortgages and student loans are still an important part of the stock of private debt in the USA. Thus, an update of Minsky to consider contemporary balance sheets of private economic agents should take into account household debt along with corporate debt.

#### 4.1.2 ... to Minsky super cycles

However, the Minsky basic cycles don't always have the same magnitude. In fact, debt basic cycles and debt super-cycles happen simultaneously. The super cycles correspond to stages of systemic stability (with thwarting institutions), systemic exuberance and then systemic vulnerability (Ferri & Minsky, 1992).

Indeed, the long cycles have the same logic of building over-optimism, due to the validation of optimistic expectations, as basic cycles. However, super-cycles concern the institutions which are limiting the economic fluctuations and instability. For instance, such institutions as big government (high percentage of public spending to GDP), the Bretton-Woods system, and the Glass-Steagall act, define ceilings and floors to economic fluctuations (Palley, 2011).

Following a major crisis (for the institutions mentioned above, the 1929 krach), politicians and regulators of the economy in general, get pessimistic. Thus, they build some stabilizing institutions. But then, as economic growth comes back, the expectations of the optimists who advocate the end of regulation are validated. For instance, such vocal actors in the public debate as Milton Friedman, who advocated de-regulation, gained credibility as major meltdowns of the economy were not happening. So over the years, as optimism builds on, thwarting institutions disappear, so fluctuations become wider and wider. Thus, the limits to private leverage are slowly removed, and financial krachs happen more and more often, with consequences on the economies that are more and more severe (Palley, 2011).

Therefore, such major financial busts as 1929 or 2007 happen around once a generation, because institutions are slow to change. Indeed, regulators, like investors, tend to lose the pessimism that they had following the past busts.

Thus, financial regulation follows the same path as private leverage: success (de-regulation is accompanied by high leverage, and debt accelerates growth) brings excess (regulation fades

away) brings failure (one day, the system collapses).

Besides, regulating requires constant updates, to deal with innovations which dodge existing regulation (e.g. securitization, shadow banking institutions). That is to say that even if regulation stays constant, the financial sector proves very creative to innovate constantly in order to be able to avoid regulation and take more risks, if the risks are associated with increased profits (Palley, 2011).

Palley (2011) argues that beliefs and behavior of households have changed too, fluctuating with the super-cycle. Indeed, following the 1929 krach, households were reluctant to buy equity for a long period. Similarly, before the 2007 krach, there was an increased demand for risk from the households: housing was seen not only as place to live but also as an investment. Moreover, in business, there was a culture of “greed is good”. Inside the firms, as the economy was growing, expectations of the risk-takers proved them right, therefore risk-takers gained power in the corporations. Thus, there was a global cultural change toward more risk.

Super-cycles are not only a matter of law; they also concern the changes of patterns of behavior, perceptions and risk-taking of economic agents. Investors and households adapt to the world: they have understandings, they take decisions, they get new understandings. Thus, there is a feedback loop between decisions, their effects, and the new decisions. Besides, no decision-maker has the whole history of capitalism on her mind, so everyone is influenced by the recent history.

So the theory of the Minsky cycles (basic cycle and super-cycle) is a framework designed to clarify and organize thoughts and theories <sup>7</sup>. But the super-cycle is a notion that takes history into account. It avoids the idea that economies would “mechanically” fluctuate always the same way (Palley, 2011).

Some followers of Minsky, such as Keen (2011), argue that looking at the evolution of the level of private debt enables to forecast a major crisis. Indeed, before 2007, private debt as a share of GDP reached record high levels in most developed economies (except Japan).

The conclusion of this analysis is that to avoid the next major financial meltdown, governments should resist tendencies to remove thwarting institutions. That is to say that the first thing to do would be to re-build new thwarting institutions, to re-regulate the financial sector. In this perspective, the period around 2010, when developed economies were meeting around the idea of regulating finance, retrospectively sounds like a missed opportunity.

However, even if the financial sector mostly functions just as it did before the crisis, there is an important trend to de-leveraging of the private sector in most developed economies.

## 4.2 Balance-sheet recession as a cause of long stagnation

Koo (2011) has a Minskian approach. He explains that since the 2007 crash, the developed economies (USA, Europe) are in balance-sheet recession. Japan has been in such a recession since 1990. Balance sheet recession means that the private sector reduces its demand for goods and services in order to restore its balance sheet. Indeed, the financial meltdown

has decreased the price of the assets of private agents, while their liabilities (such as debts) tend to be fixed, because they are issued and defined in nominal terms. For this reason, the balance sheets of a lot of private agents went underwater. In this context, these private agents reduced their expenditure in order to repay their debt and restore their balance sheet back to normal. This explains why a financial crisis that happens at a high level of private indebtedness tends to have major consequences in terms of economic crisis. The higher the leverage, the stronger the instability, and the longer the de-leveraging. Keen (1995) provides a mathematical framework to model these situations. Koo (2011) elaborates on the fact that if left to its own, the private sector will have to deleverage for a long period of time, with economic stagnation as a consequence. Indeed, savings increase the most in times of crisis in the countries in which the financial bubble was the most important (for instance the USA and Spain, which experienced a construction boom). Thus, there is a self-reinforcing phenomenon of economic stagnation: effective demand is weak because of the de-leveraging, therefore the economy stagnates, along with the prices of the assets of the private agents.

This is why Koo (2011) developed his idea of “yin and yang macroeconomics”. In his opinion, during the boom phase of a long cycle, economic policy should be conservative (tight monetary policy, low public deficits). But during major slumps, governments should sustain aggregate demand by implementing an expansionary fiscal policy. And this policy should be maintained for long enough for the balance sheets to be repaired. In this he joins some neoclassical authors, such as Summers (2014a), and some post-Keynesians.

Contrastingly, even if major stimulus plans were adopted in 2009 in Europe and the USA, the austerity in Europe since 2010, and the return of the Republicans to Congress in the USA, put an end to those expansionary policies. The experience of the USA in 1937 (Dockès, 2015), and Japan since 1990 (Koo, 2011), shows that the turn to austerity before the end of stagnation usually brings back recession (at worst) or stagnation (at best).

### **4.3 Long-term inflexions in the generation of demand, intertwined with debt dynamics**

Several post-Keynesian traditions offer interpretations of the same general story: developed economies going from a debt-led to a debt-burdened dynamic, with a turning point in 1990 in Japan, and 2007 in the USA and Europe. In particular, several models offer a mathematical formalisation of this transition, with different theoretical hypotheses.

#### **4.3.1 A post-Keynesian response to Summers: inequality and private debt**

Cynamon and Fazzari (2015, p.1) aim at providing a model of the phenomenon that “household borrowing postponed the full brunt of inequality-induced demand drag for decades prior to the Great Recession”.

Cynamon and Fazzari (2015, p.2) questions what mechanisms allow for a generation of aggregate demand that is sufficient to absorb the supply-side growth: “the ability of business to sell its supply-determined potential output is not automatic. What we call the demand generation process is a second structural pillar of growth that has an independent impact on

output and employment. A weak demand generation process can keep the economy below its potential output path indefinitely [...] Our main point here is that demand generation is independent of the supply side to a large enough extent that demand can constrain output and employment growth below a supply-determined growth path, which should not be interpreted as denying important linkages between supply and demand.”

Thus, Cynamon and Fazzari (2015) address the same issue of structurally insufficient demand as Summers (2015), but with a post-Keynesian theoretical background. The authors consider the fact that it is necessary to think of relevant variables to capture the actual adjusted household demand, actual cash spending in control of household sector. Indeed, for instance usually imputed rents are counted in household spending, while house building or health care is not... Thus their variable to capture household demand is an adjusted measure of the consumption expenditure that is captured by national income accounting.

Thus, according to Cynamon and Fazzari (2015, p. 3-4, 7), real adjusted household demand plummeted during the crisis as compared to the pre-crisis growth trend (in 2008 and 2009, 16.4% below pre-crisis trend, in 2013 17.5% below).

Before the 2007 bust, in the USA it’s not that the *level* of demand was unsustainable (there was low inflation, and low interest rates, so the economy was not overheating). However, the *structure* of how that demand was financed was unsustainable: the contribution of private debt, and its growth trend, were unsustainable. That’s why the recovery from the crisis is so slow: it is the consequence of a long-term rise in inequality, compensated by private indebtedness. After the 1980s rise in inequality, the household demand to disposable income ratio did not fall (as re-distribution from poor to rich would predict because of the smaller propensity to consume of the rich): “the demand drag from rising income inequality was **postponed** in the US economy by massive household borrowing.” (emphasis added). Indeed, the household debt to disposable income ratio soared from 80s.

However, the 2007 bust triggered a reverse trend in private indebtedness. The bottom 95%’s access to borrowing was squeezed, forcing them to spend less. This phenomenon brought demand for consumption to a lower path, more financially sustainable, but insufficient for generating full employment (Cynamon & Fazzari, 2015). We are not recovering from recession because the bottom 95% don’t generate as much demand as before, because they can’t or won’t borrow anymore. The distributional shift that was a slow process starting in 80s had negative effects on demand (and therefore growth) that were postponed until end of “borrowing binge” (Cynamon & Fazzari, 2015, p.12), but now that it’s over, it constrains growth.

### 4.3.2 A Kaleckian model of private debt

Hein (2014) provides a Kaleckian theoretical model, in a stock-flow consistent (SFC) accounting framework, to formalise the same dynamics. The Kaleckian framework enables to analyze jointly distribution and growth, whereas the SFC accounting allows for taking into account the distributive effects of indebtedness, and interest payments<sup>8</sup>.

Indeed, in his model, a rentier class grants loans to workers, who can therefore finance their consumption not only with their wages, but also by the means of borrowing.

His model generates:

- a debt-led dynamic, when an increase in the leverage ratio of the workers leads to a higher rate of capacity utilization, and a quicker capital accumulation
- a debt-burdened dynamic, when an increase in the leverage ratio of the workers leads to a lower rate of capacity utilization, and economic stagnation due to slow capital accumulation

Thus, Cynamon and Fazzari (2015) and Hein (2014) bring the household debt into the analysis, what Minsky did not do in his time.

However, in Hein (2014), the model is formulated in terms of comparative statics, thus it does not explain how the economy transitions from a debt-led to a debt-burdened regime. As it is difficult to put a lot of different elements in a Kakeckian models, the mechanisms of borrowing are also simplified. However, another Kaleckian model provides a formalization of the securitization process, which was also at the root of the 2007 crisis.

### **4.3.3 Securitization and fragility of finance-led growth**

Bhaduri, Raghavendra, and Guttal (2015) also designs a model using the SFC accounting framework. They describe the economy as being composed of households, firms, banks (tightly regulated), a finance sector (with a lighter regulation, representing in particular the shadow banking system), and a central bank.

Aggregate demand is sustained by expectations of capital gains on securities. Therefore, a boom of equity prices can push growth up. Also, banks create loans and sell the underlying assets to the financial system, which issues securities. “Given that ABS are used as collateral in the derivative market, the finance sector has the ability to create securities over and above the amount of underlying assets required. Thus, the finance sector acts as a source for securities, as if it has an infinite elastic supply curve using the underlying assets. In that process, it severs the relation between amounts of credit available in the economy and the underlying assets” (Bhaduri et al., 2015, p. 172-173) . This system generates a “self-reinforcing dynamic between the process of securitization and credit expansion in the economy” (Bhaduri et al., 2015, p.173).

The Bhaduri et al. (2015, p.180) model generates a self-reinforcing financial investment-led regime. This dynamic is inherently unstable, as “the whole edifice is built on the belief of rising capital gain promoting expansion of credit on an increasingly narrow foundation of liquid reserves in the self-referential modern financial sector. Proclivity to sudden financial collapse is hardly a surprise in these circumstances”.

Thus, this model explains why a debt-led growth is inherently unstable, by going into the details of the securitization process, and points out the fact that if financialization generates growth, it can only be systemically fragile. Indeed, debt led growth is based on self-referential expectations: credit raises asset prices, and rising asset prices make investors borrow more. This pyramid collapses at the smallest negative shock. Moreover, capital gains expectations

increase private demand, but all capital gains cannot be realized at the same time, because if a lot of agents sell the same type of assets at the same time, their prices fall.

Hein (2014) also shows that debt-led growth has distributional consequences: increased debt means increased interest payments from debtors to creditors, the latter usually being already better-off. Thus, financialization generates a snowballing of wealth, a redistribution from the worse-off to the better-off (both for households and firms). A whole branch of the post-Keynesian literature explains how this process of concentration of capital is intertwined with stagnation dynamics.

## 5 Capital concentration slowing capitalism down

Indeed, looking at the distribution of capital and the structure of competition on most markets, the idea of analyzing the dynamics of capitalism in terms of **maturity and concentration**, is not new. For instance, Steindl (1952) and Baran and Sweezy (1966) are seminal works in this field. Both are based on the notion that innovations create new markets, but then, as markets become mature, competition declines. When most sectors of the economy are mature, the whole system becomes mature, and at the global level, oligopoly dominates competition.

These analyses have been renewed in the recent period, forming an explanation to the stagnation of the developed economies, following the radical political economy tradition.

### 5.1 The adverse effects on growth of a rise in income inequality

The interaction between functional income distribution (wages versus profits), and capital accumulation and growth, is central in post-Keynesian analyses.

For instance, Stockhammer (2013a) provides a comprehensive analysis of the inequality as a root cause of the current crisis. Several factors are at play. For instance, the poor having low possibilities for consumption brings demand for consumption down, which drags growth down. Simultaneously, the rich having more and more funds to invest and not knowing what to do with them, generates real estate and financial bubbles.

Onaran and Galanis (2012) present a major empirical survey, concluding to the fact that most economies are wage-led, and therefore an increase in the profit share has usually a negative effect on growth and accumulation.

Therefore, the rising profit share in the developed economies put a downward pressure on private demand since the 1980s. However, at the beginning it was compensated by an increase in private debt, documented for instance by Keen (2011). But when the 2007 crisis happened, this temporary private demand push on growth came to an end, as put forward by Cynamon and Fazzari (2015).

Thus, one root cause of the current stagnation are financialization, and increased inequality since the 1980s, whose consequences were delayed by the rise of private debt (which

is also a component of financialization, as this increase of indebtedness means an increased importance of banks and/or financial markets).

This means that the root causes of economic stagnation are of distributive nature, that is to say that growth or stagnation are a matter of conflict of class interests, between lenders and borrowers (considering “working class” versus “rentier” households, or indebted firms versus financial institutions that lend money).

Moreover, there is also an element of conflicting interests between big oligopolistic firms and smaller firms.

## 5.2 How oligopoly at the micro level produces stagnation at the macro level

Hein (2015) provides a model of the concentration of firms in mature economies in the Kaleckian tradition.

He builds on stagnationist theories, most of which are influenced by radical political economy (notably Kalecki (1954), Baran and Sweezy (1966) and their followers). These radical approaches have in common the idea that the competitive structure of the markets matters at the macroeconomic level.

In particular, Hein (2015) builds on the contribution of Steindl (1952). This book was a contribution to the original secular stagnation controversy. It was published toward the end of the public debates of the first discussions on secular stagnation. Steindl (1952) develops the idea that if an economy is dominated by competitive firms, those firms have low profits and a high capacity utilization. If employment is high, workers have high bargaining power so they can push for a high wage share. But if an economy is dominated by oligopolies, the firms tend to be big and make high profits. In order to discourage competitors from entering the markets, oligopolies keep a low level of capacity utilization. Indeed, if there is an increase in demand for their output, they can respond by increasing production, quicker than new firms that would try to enter the market. What is more, they can squeeze competitors out of the market by increasing production, which they can, because they have lower marginal costs, and more profit margin. However, as all the productive capacity is not used, those oligopolistic firms don't tend to purchase more capital. Thus, capacity utilization is low, capital accumulation is slow, and employment tends to be low too. Consequently, workers are pressurized to work more and not ask for wage increases, as there is a reservation army of unemployed people ready to take their job if they are fired. Low wages produce underconsumption, that is to say a structurally weak private demand for consumption. Oligopoly at the micro level produces stagnation at the macro level (Hein, 2015).

The process of capitalism becoming mature tends to endogenously lead to the emergence of oligopolies. Indeed, when a lot of innovations happen, there is competition, but progressively the firms that make the most profit eliminate the smaller ones from the market. And when a negative shock occurs, again the most profitable firms are those who are capable of surviving, the others being squeezed out of the market. Thus, competition tends to decrease, and markets tend to become oligopolistic. Price wars are costly to oligopolists, so they tend

not to engage in them, generating informal trusts. Thus, endogenously, capitalism produces oligopoly (or “monopoly capital” as Baran and Sweezy (1966) put it).

Building on these theories, the post-Kaleckian model developed in Hein (2015) integrates this underconsumptionist approach due to the contradictions of capitalism, and updates it. He integrates in it the particular historical configuration of the rise of a financialized capitalism embodied by a financial dominant class.

Indeed, financialization is a particular configuration of oligopolistic mature capitalism. The biggest firms are also the most financialized, and those that benefit the most from the process of financialization. The contradictions of capitalism in a Marxian approach are basically that capitalists want profit, so they want low wages, but if wages are too low then workers can’t buy the output, so there is a problem with the realization of profit. In this view, the financial sector is some ally (or part of, depending of the approach<sup>9</sup>) of the capitalists that rule the biggest commodity-producing firms.

Thus, besides workers’ households and firms, Hein (2015) innovates by incorporating a capitalist/rentier category in his Steindlian model<sup>10</sup>.

This model economy generates regimes of low capital accumulation and low capacity utilization in the absence of a positive shock<sup>11</sup>. The model can generate debt-led or debt-burdened regimes, and it produces a period of stagnation, under several possible conditions (Hein, 2015, p.21), including:

- a rise in the profit share
  - this happened in most high income countries since the 1980s, as documented for instance by Stockhammer (2013b)
- a rise in the rentiers’, or workers’ propensity to save
  - this is true in several developed economies: following the crisis, households started a process of de-leveraging, which is embodied by increased saving as measured by national income accounting (Koo, 2011)
- A fall in autonomous investment growth, or a fall in “animal spirits” of firms, or a fall of autonomous consumption or government expenditure. In this simple model, all these phenomena are formalized by the autonomous component on the investment function. In the recent crisis, this can represent:
  - the financial krach of August 2007, which can be interpreted as a negative shock on animal spirits of firms
  - a fall in autonomous consumption, due to the pessimism of workers facing the crisis
  - austerity policies in Europe, which can be represented as a fall in autonomous expenditure

Thus, this model provides with a quite comprehensive picture of the dynamics of a mature capitalist economy with a financialization process.

So, the post-Keynesian analyses of the current stagnation situation present it in terms of a rentier-dominated and debt-burdened capitalism. For Hein (2015), this situation is the result of a “stagnation policy”: legislative changes that favored big corporations over small ones, financialization that was encouraged by governments, and dismantling of the welfare state.

## 6 Conclusion: From a debt-led world to a world of stagnation

The current debate among neoclassical economists regarding “secular” stagnation is better understood when put into perspective with theories of maturity and oligopoly as endogenous consequences of the capitalist system. Moreover, taking into account the monetary dimension, and the dominance of debt in financialized capitalism, makes it possible to understand the fact that a major crisis happened, and why the recovery from it is so slow. The standard tools of economic policy reveal unsuited to bring growth back, because they are based on an economic theory which does not regard these aspects, or does so only at the margin.

From this literature review, post-Keynesian policy recommendations would be first to change the toolbox of economic policy makers. The assumption of a “spontaneous” potential GDP long term trend should be ditched. Monetary policy should consider ways to decrease private debt (such as quantitative easing for the people, and/or a debt jubilee) instead of trying to stimulate bank lending by all means. Budgetary policy should be proactive enough, and long-term oriented, in order to push aggregate demand sufficiently, as Hansen (1938) already advocated. Competition should be encouraged, and oligopolies dismantled.

However, the most important political conclusion of this analysis, in our view, is that macroeconomic policy should never consider some spontaneous market forces that should be taken for granted and against which policies are powerless. On the contrary, most of economic tendencies labelled as “secular stagnation” are rooted in financialization, which is the result of the political hegemony of some rentier/financier class. This class should not make policy-makers consider their interests as the natural general public interest (what Gramsci called “cultural hegemony”).

Finally, from a post-Keynesian perspective, the current stagnation doesn’t have to be “secular”, because governments could counteract it with some pro-active policies. It is not an exception, but the systemic product of financialization. Since the 1980s, financialization is the particular situation of the current balance of powers, and the current form that leverage manias took, but it is not an exception: after 1873 (Vienna krach), 1929, and 2007, depressions followed.

Thus, the current economic stagnation, when put into long economic perspective, is the particular form of the recurring pattern of long cycles, and a particular configuration of power between different social groups.

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## Notes

<sup>1</sup>The Frontier was the limit between the territories controlled by the United States, and what was considered as no one's *terra nullius* (even if it was inhabited by Native Americans) in the West. As the Americans of European origin conquered and settled territories further to the West, the Frontier was shifting westwards. The Frontier was declared closed (all the current mainland territory of the USA was considered as settled) in 1890. This was considered as a matter of concern because the availability of new territories for capitalism to penetrate was considered as a resource for growth (in a logic somewhat similar to Rosa Luxemburg's theory of imperialism, but with different political conclusions).

<sup>2</sup>However Gordon's view is more systemic and balanced: he evokes a list of six "headwinds" that slow economies down: demographics, education, inequality, globalization, the environment and high public and private debt.

<sup>3</sup>Hillary Clinton's program for the 2016 presidential election includes "making college debt free": <https://www.hillaryclinton.com> consulted on September 23, 2016.

<sup>4</sup>Before that, Keynes tended to be Malthusian or eugenicist: he used to believe that population growth had negative effects on the economy (Dockès, 2015).

<sup>5</sup>The "eurosclerosis" term was actually coined in the 1970s by Herbert Giersch, who argued that excessive regulation and social benefits in Europe were going to lead the continent to having lower growth and higher unemployment than the USA.

<sup>6</sup>New York Times, March 21st, 2014.

<sup>7</sup>This is also how Minsky described mathematic models. His models were not meant to "fit the data" or "describe the reality", but to formalize his intuitions and organize thoughts. This is a nominalist epistemology.

<sup>8</sup>This framework was developed by Godley and Lavoie (2007). Since, it has been used by post-Keynesian macroeconomic analyses focused on money and credit.

<sup>9</sup>There are heated debates on the subject in the field of radical political economy

<sup>10</sup>Hein (2015) writes "capitalists'/rentiers' households". Whether the appropriate term is "rentiers" or some other (finance class...), whether rentiers are a category of capitalists, or their objective allies, or a distinct class, are major theoretical questions. However, these issues don't make a difference in terms of macroeconomic dynamics. For this reason, this article is not going to get into a summary of these debates. To get into them, see for instance Duménil and Lévy (2013).

<sup>11</sup>Such as government spending, for instance. For the sake of simplicity, there is no government sector in this model, but it can be formalized for instance by shocks on the autonomous parameter of the private demand.

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