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Working Paper No. 945

Demand, Distribution, Productivity, Structural Change, and (Secular?) Stagnation

by

Michalis Nikiforos

Levy Economics Institute of Bard College

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ABSTRACT

The present paper emphasizes the role of demand, income distribution, endogenous productivity reactions, and other structural changes in the slowdown of the growth rate of output and productivity that has been observed in the United States over the last four decades. In particular, it is explained that weak net export demand, fiscal conservatism, and the increase in income inequality have put downward pressure on demand. Up until the crisis, this pressure was partially compensated for through debt-financed expenditure on behalf of the private sector, especially middle- and lower-income households. This debt overhang is now another obstacle in the way of demand recovery. In turn, as emphasized by the Kaldor-Verdoorn law and the induced technical change approach, the decrease in demand and the stagnation of wages can lead to an endogenous slowdown in productivity growth. Moreover, it is argued that the increasingly oligopolistic and financialized structure of the US economy also contributes to the slowdown. Finally, the paper argues that there is nothing secular about the current stagnation; addressing the aforementioned factors can allow for growth to resume, as has happened in the past.

KEYWORDS: Stagnation; Demand; Distribution; Technical Change; Institutions

JEL CLASSIFICATIONS: E02; E11; E12; E21; E22; E32; O33

1. INTRODUCTION

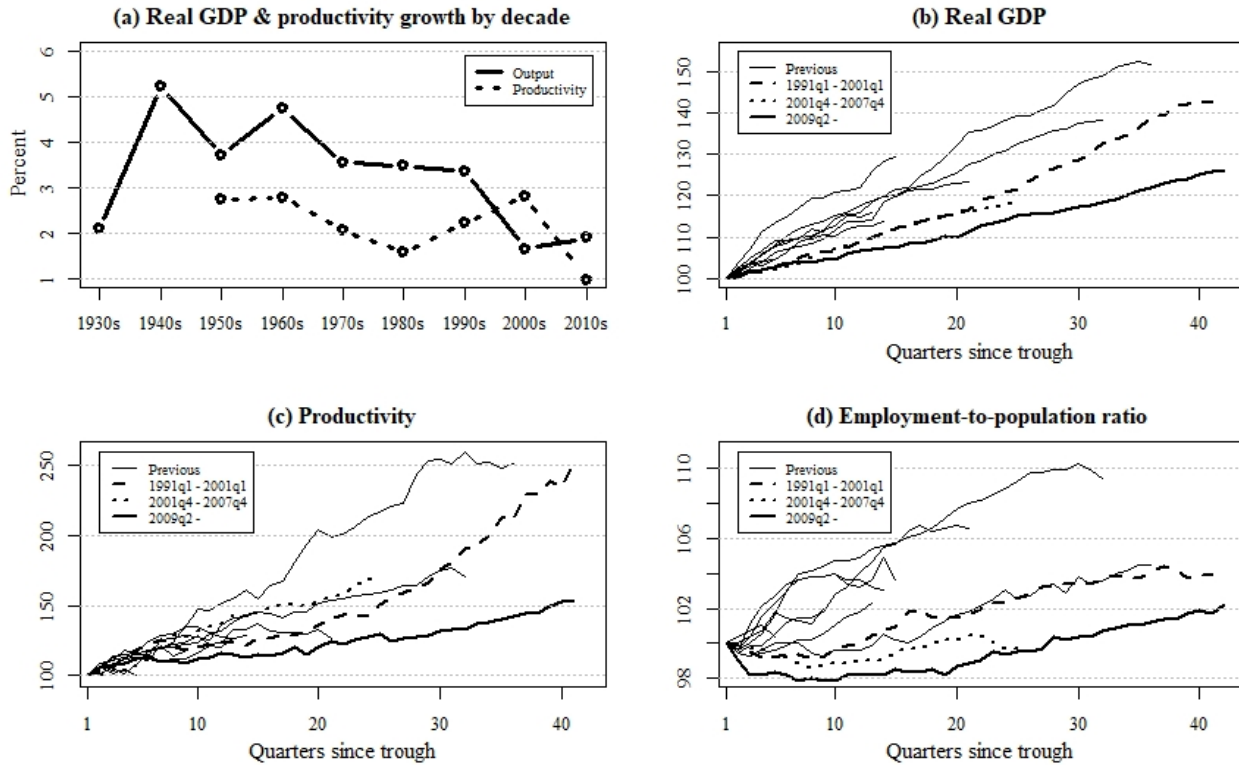
Secular stagnation refers to the tendency of the real GDP growth rate in the United States and other capitalist economies to decrease and remain low. Indeed, as we can see in figure 1a, the US economy experienced robust growth in the three decades between 1940 and 1970. However, the average real GDP growth rate never recovered from the “stagflation” crisis of the 1970s. If anything, the average growth rate decreased slightly in the 1980s and 1990s, and then collapsed in the first two decades of the new millennium. The average real GDP growth rate for the 2000s and 2010s was below 2 percent.

The trend in productivity is not as clear. In the same figure we can see that the growth rate of productivity decreased in the 1970s and 1980s, then recovered in the following two decades, and has collapsed together with the growth rate of output after the Great Recession of 2007–9.

Figure 1b presents the trajectories of real GDP in every postwar economic recovery. Two things stand out. First is that the last three recoveries have clearly been the slowest in the postwar period. Second, the current recovery, which started in the third quarter of 2009, is the slowest of them all. Figure 1c shows that labor productivity’s growth in the current recovery is also the slowest among all postwar recoveries (a fact that corroborates the collapse of productivity in the 2010s in figure 1c). Finally, despite the low productivity growth, the increase in the employment-to-population ratio also stands out as the slowest among all postwar recoveries (figure 1d).

The term “secular stagnation” was coined by Alvin Hansen (1938, 1939) in response to the Great Depression and the sharp downturn of 1937–38. Hansen proposed a demand-based explanation for the US economy’s tendency to stagnate. Investment opportunities, according to his explanation, had declined because of the decline in the expansion of the markets, slower population growth, and new technologies that were less capital intensive. Hansen framed his theory in terms of Knut Wicksel’s loanable funds approach for the determination of the interest rate (e.g., Hansen 1939, 5) and for that reason he has been the starting point of recent New Keynesian discussions of

Figure 1: Main Macroeconomic Variables



Source: Bureau of Economic Analysis

Note: Panel (a) presents the average growth rate of the two variables by decade. Panels (b)–(d) present the trajectories of the respective variables in each postwar business cycle (trough to peak). The value for each cycle’s trough is normalized to 100.

stagnation. Joseph Schumpeter (1939) criticized Hansen’s explanation and attributed the downturn to the New Deal policies that were hostile to businesses (and the heroic Schumpeterian entrepreneur). Part of this “stagnation circle” at Harvard at this time, first as a student and then as an instructor, was Paul Sweezy, who wrote extensively on stagnation in the following decades, but from a more Marxian vantage point (e.g., Baran and Sweezy 1966; Sweezy 1982). Finally, another important contribution in the postwar period was made by Joseph Steindl (1952).¹

However, the postwar period’s relatively robust growth led to a demise in the interest in stagnation. It was only after the recent crisis and the developments summarized in figure 1 that

¹ For a history of the idea of secular stagnation, see Backhouse and Boianovsky (2016).

there has been a revival of interest and contributions discussing the prospect of stagnation in the US economy. Two approaches have been put forward by neoclassical economists. First, Robert Gordon (2017) provides a purely supply-side explanation, where the slowdown in output and productivity growth is due to an exogenous slowdown in innovation. On the other hand, New Keynesian economists (e.g., Summers 2014; Krugman 2014) have offered demand-based explanations. As usual in New Keynesian models, demand plays a role because of nominal rigidities—in this case it was the so-called zero lower bound of the interest rate.

The present paper provides an alternative explanation that emphasizes the role of demand in the slowdown of output growth, but in a more straightforward way and without resorting to nominal rigidities. It will be argued that the US economy experienced three main shocks to demand between the 1980 through the 2010s. First, there was a decrease in the US economy's net exports, as foreign producers managed to outcompete American producers. Second, starting in the 1980s, the traditional Keynesian macroeconomic management of the economy was abandoned in favor of fiscal conservatism; the fiscal policy of the 1990s and the 2010s has no precedent in the postwar US economic history. Finally, another important change in recent decades has been the increase in income inequality. From a demand point of view, the increase in inequality implies the transfer of income shares from households with a high propensity to consume to households with a low propensity to consume and puts negative pressure on consumption. To the extent that redistribution does not lead to increases in investment or exports that compensate for the decrease in consumption (which has been the case recently), the increase in inequality also has a negative effect on aggregate demand.

It is also important to note that the negative effects of these developments on demand were compensated for, especially until the crisis of 2007, with the private sector's debt-financed expenditure. In the aftermath of the crisis, households' debt overhang is another factor that contributes to slow consumption growth.

These changes also have important consequences for productivity growth. As emphasized by a long line of economists going back to Adam Smith, changes in the growth rate of output affect

technical change. Hence, a negative demand shock that leads to a decrease in output growth can also have secondary negative effects on productivity growth. Second, as emphasized by Karl Marx, and more recently by the theory of induced technical change, the main motive for the introduction of labor-saving technical change is the cost of labor. When the cost of labor stagnates, the incentive for capitalists to introduce new production techniques with higher labor productivity diminishes. Hence, besides its demand effect, the increase in inequality also accounts for the slowdown in productivity. Moreover, overindebted firms are also less likely to innovate as they struggle to repay their debt.

Finally, two more related aspects of the US economy's structural transformation are worth mention. One of them is the financialization of the US economy, which has increased the size and influence of the financial sector. An important aspect of this process has been the decoupling of investment from cash flows. Over the last four decades, corporations increasingly use their profits on paying dividends and share buybacks instead of investment. This has an obvious effect on demand and productivity growth. Second, the same period has also seen an increase in the monopoly power of large corporations. Large monopolies contribute to stagnation because they tend to invest less, they have less incentive to innovate, and, because of entry barriers, they also have a negative effect on other firms' innovation.

2. NEOCLASSICAL EXPLANATIONS OF SECULAR STAGNATION

A recent well-known explanation of the slowdown in output and productivity growth has been provided by Gordon (2017) in his book, *The Rise and Fall of American Growth*, which examines the US economy's growth performance over the last one-and-a-half centuries. Gordon argues that in the century after the Civil War (1870–1970) there was synchronous technological advancement on many different fronts: the advent of electricity and indoor plumbing; the introduction of trains, motors, and later airplanes in transportation (replacing horses as the main transportation means since antiquity); the improvement in telecommunications; and the introduction of assembly-line production. These changes revolutionized production and formed the basis for the rapid output and

productivity growth over this period, and, together with other improvements, such as medical advances or the introduction of air conditioning—only an American could give such a central role to air conditioning—led to a rapid improvement in living standards and an increase in life expectancy by 27 years (from 45 to 72 years) over the same period.

However, Gordon argues these tautochronous technological changes in the century after the Civil War were a historical coincidence. He attributes the slower growth of productivity and output of the last fifty years to technical change being concentrated only in the information and telecommunication sectors, and, as a result, not having the all-encompassing and revolutionary effect of the previous period. He concludes that there is no reason to expect that in the future technical change will accelerate and criticizes this belief as naive techno-optimism. Finally, he attributes part of the slowdown in output growth to demographic factors.

Gordon's argument is consistent with the neoclassical approach to growth. In the steady state of the canonical neoclassical growth model (Ramsey 1928; Solow 1956), the growth rate of output is determined by the natural growth rate—the sum of (Harrod-neutral) technical change and population growth—both of which are exogenous. Hence, the rapid growth of the period 1870–1970 was due to a coincidental exogenous increase in the natural growth rate. In turn, the secular stagnation of the last fifty years is the result of a decrease in the natural rate, which is also exogenous.

Gordon's book is a very interesting presentation of the US economic history of the last century and a half; however, his main argument suffers on many fronts. First, it completely disregards the role of effective demand and focuses entirely on supply-side factors. As Keynes and Kalecki emphasized, we cannot understand the workings of a modern capitalist economy without reference to demand. For example, it is very hard to make sense of the recent crisis and the slow recovery that has followed without an examination of demand factors.² Second, there is a long economic tradition that goes back to Smith and Marx, which emphasizes the endogenous character of

² For a methodological discussion of this, which argues that the relevance of aggregate demand in the short and long run is an essential feature of capitalism, see Nikiforos (2018).

technical change. From this point of view, the rapid technical change of the last two centuries in the United States and other capitalist economies is not exogenous, but rather due to some basic characteristics of capitalist accumulation. Hence, we should try to understand what factors have contributed to the slowdown of technical change. Finally, and this is also related to the importance of demand, the slowdown in productivity growth is not as dramatic as the slowdown in output growth. As figure 1a shows, there is a lot of diversity within the period from the 1970s until 2014; in the 2000s, despite the slow output growth, productivity growth was comparable with that of the early postwar decades.

The role of aggregate demand as a determining factor for the past 40 years of secular stagnation has been highlighted by New Keynesian authors like Lawrence Summers (2014) and Paul Krugman (2014). As in every New Keynesian model, the starting point of their analysis is neoclassical, hence the role of demand is introduced through nominal rigidities. In particular, the rigidity that gained prominence in the postcrisis years—because of the aforementioned contributions of Krugman and Summers, and other works such as Krugman (1998) and Eggertsson and Krugman (2012)—was the so-called zero lower bound of the nominal interest rate, which, within a neoclassical framework, does not allow the loanable funds market to clear.

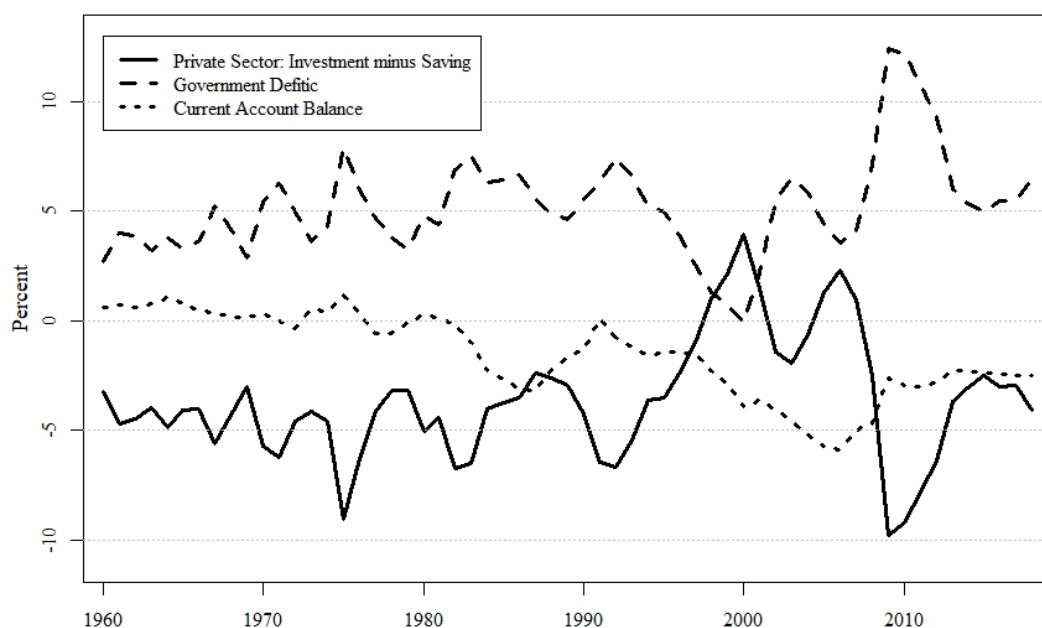
It is beyond the scope of the present paper to provide an extensive critique of the New Keynesian theory or the loanable funds approach to the determination of the interest rate. It suffices here to say that the hype around the zero lower bound evaporated after the Bank of Japan and the European Central Bank introduced negative interest rates, showing that in reality there is no such rigidity.

In what follows, I provide an explanation of stagnation based on demand factors but without having to resort to any nominal rigidity. These demand factors interact with distribution, productivity, and other structural changes that have taken place over the last several decades and provide a more satisfactory explanation of the slowdown of output and productivity growth.

3. DEMAND EFFECTS

A good starting point for understanding the structure of an economy and the sources of aggregate demand is provided by the financial balances (or the net lending) of its three major institutional sectors—private, government, and foreign—in conjunction with the growth rate. As was emphasized by Wynne Godley (e.g., Godley 1999), basic accounting principles imply that the three balances sum to zero: if one sector runs a deficit then at least one other has to run a surplus.³

Figure 2: Financial Balances of the Three Institutional Sectors of the US Economy



Source: Bureau of Economic Analysis

The US economy's three balances for the period 1960–2019 are presented in figure 2. A few observations can be made. First, the growth rate slowdown in the last four decades coincides with an increase in the current account deficit. The current account deficit increased in the first part of the 1980s, but reverted back toward zero by the end of the decade. Starting in the early 1990s, there was a monotonic increase in this deficit, which lasted until the eve of the Great Recession in

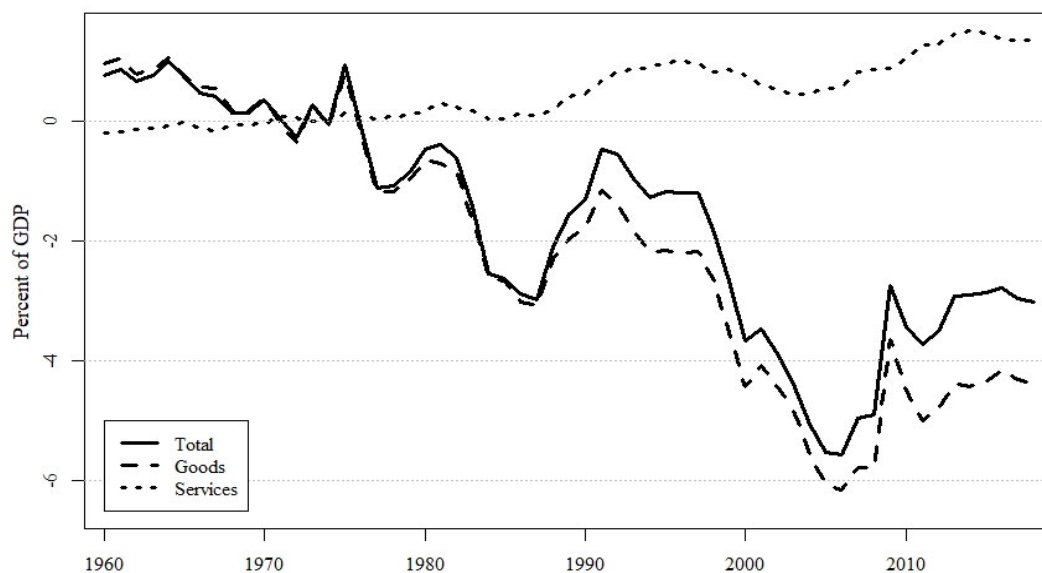
³ For a more detailed discussion, see Nikiforos and Zezza (2017, especially section 4).

2006 when the economy started to slowdown. The current account deficit increased from around zero in 1990 to around 6 percent in 2006.

As one would expect, and as confirmed in figure 3, the reason behind the current account deficit's deterioration is the deterioration of the trade deficit of a similar magnitude. This increase in the trade deficit was due to foreign competitor firms' successful invasion of markets in the United States and abroad. To a certain extent it was also related to technological change over that period, but it was also implicitly encouraged by US trade policy, as "free trade" was used as a way to undermine the power of labor and trade unions.

This increase in the trade deficit was a major drag on aggregate demand, which contributed to the slowdown of the growth. Besides these demand effects, the prolonged increased in the trade deficit implied a demise of American manufacturing, which had important consequences for regions of the country whose economy was based on it. In turn, this had important political repercussions.

Figure 3: Trade Balance of the US Economy

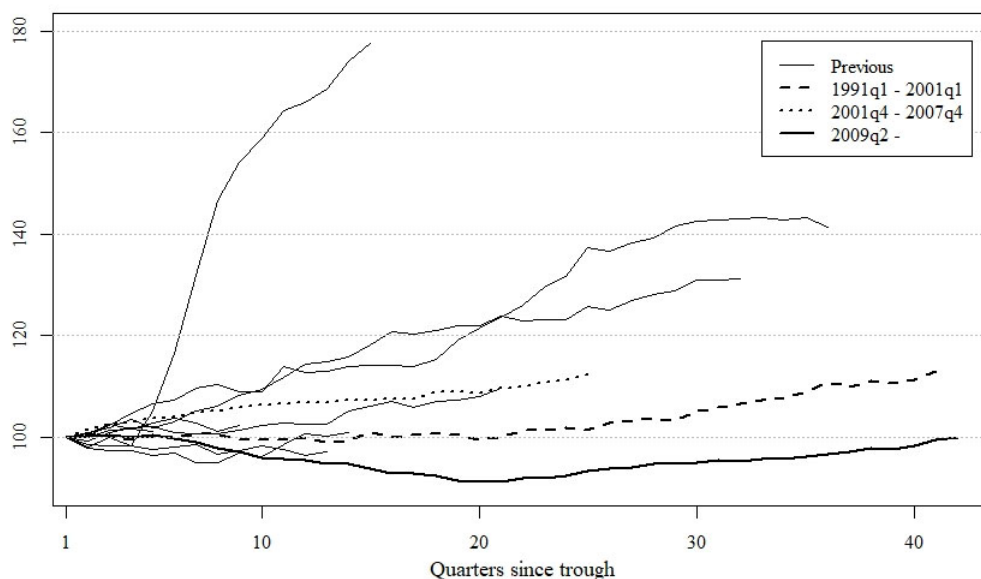


Source: Bureau of Economic Analysis

In the period after the crisis, the current account deficit has not increased to its previous levels. This is mostly due to the shale gas extraction methods that were successfully applied after 2011 and have led to the decrease in the trade deficit of petroleum goods to close to zero (from 3 percent before the crisis). Otherwise the trade deficit of goods other than petroleum has returned to its precrisis levels.⁴

Another major source of deficient aggregate demand has to do with the US government’s generally conservative fiscal stance in the last four decades. Going back to figure 2, we can see that in the first three decades of the sample, government was a net borrower and government deficit fluctuated procyclically around 5 percent of GDP. Things changed in the 1990s, starting in 1992, when the deficit was around 7.5 percent of GDP; the government’s fiscal stance became increasingly restrictive and 2000 was the only year in—at least postwar—US history that the government balance was positive.

Figure 4: Government Expenditure in Postwar US Recoveries



Source: Bureau of Economic Analysis

Note: The figure presents the trajectories of real government consumption expenditures and gross investment in each postwar business cycle (trough to peak). The value for each cycle’s trough is normalized to 100.

⁴ For a discussion, see Papadimitriou, Nikiforos, and Zezza (2019, 4–5).

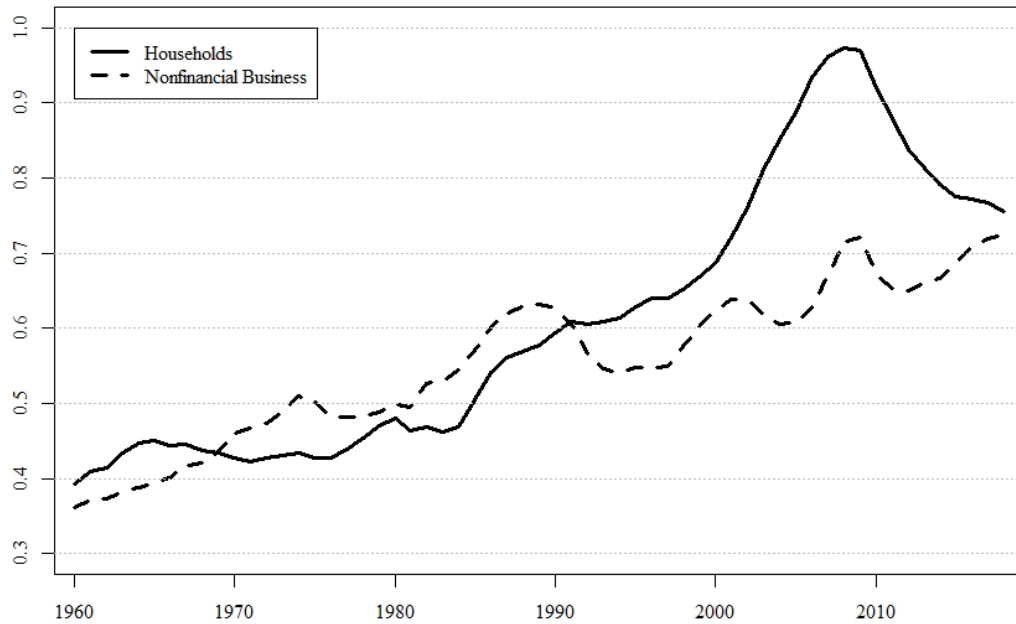
After the crisis of 2001, government's net lending increased and remained high. This is mostly due to the period's low growth rates and the increase in defense expenditures to fund the wars in Afghanistan and Iraq. Nondefense expenditure remained subdued.

Government deficit increased with the crisis of 2007–9 and remained relatively elevated for a fairly long time due to the slow recovery (it has also increased recently due to the 2017 tax cuts). However, as figure 4 shows, the post-2009 recovery stands out as the recovery with the slowest growth rate in real government expenditure. As of 2019Q3, more than ten years into the recovery, real government expenditure is still slightly below its level at the beginning of the recovery.

If demand from government expenditure and net exports is deficient, then growth can only come about through private expenditure. In fact, as the current account deficit increased and government deficit decreased, growth became dependent on the private sector becoming a net borrower. Figure 2 shows that until the early 1990s the private sector was a net lender, with some cyclical fluctuations in its position. In the 1990s, as the balance of trade turned very negative and the government consolidated its budget, the private sector became a net borrower for the first time in the postwar period. This situation persisted until the eve of the Great Recession (with an exception in the early 2000s). It was actually this reversal in the private sector's stance—essentially the increase in its saving rate—that triggered the slowdown and then the crisis.

Importantly, accounting consistency also implies that net borrowing leads to accumulation of net financial liabilities. Therefore, given the US economy's aforementioned structural characteristics, growth is dependent on the private sector accumulating debt. If we want to use Hyman Minsky's (1992) classification, growth is dependent on the private sector moving from a hedge, to a speculative, and then a Ponzi position. Indeed, this is how growth was sustained until 2007. Figure 5 shows that since the mid-1980s and until the recent crisis there was a rapid increase in the private sector's total debt-to-GDP ratio—especially that of households. As Godley (1999), pointed out such a process is unsustainable, and sooner or later has to stop.

Figure 5: Ratio of Liabilities of the Private Sector to GDP



Source: Bureau of Economic Analysis; Federal Reserve Board

The crisis of 2007–9 marked exactly the stop of this process, when households finally increased their saving. In the aftermath of the crisis, households did not increase their indebtedness and, as figure 1 showed, the economy stagnated. The debt that allowed the economy to grow is now an overhang that contributes to stagnation in its own right.

It is also worth mentioning that such a process of increasing indebtedness is usually accompanied by some sort of asset bubble, another Minskyan process. The bubble—as long as it lasts—makes the balance sheets of both the lenders and borrowers look better and allows the process to continue for longer. The asset bubbles that have become endemic in the United States over the last decades (e.g., the stock market bubble of the 1990s or of the present days, the real estate bubble of the 2000s, etc.) can be understood along these lines.

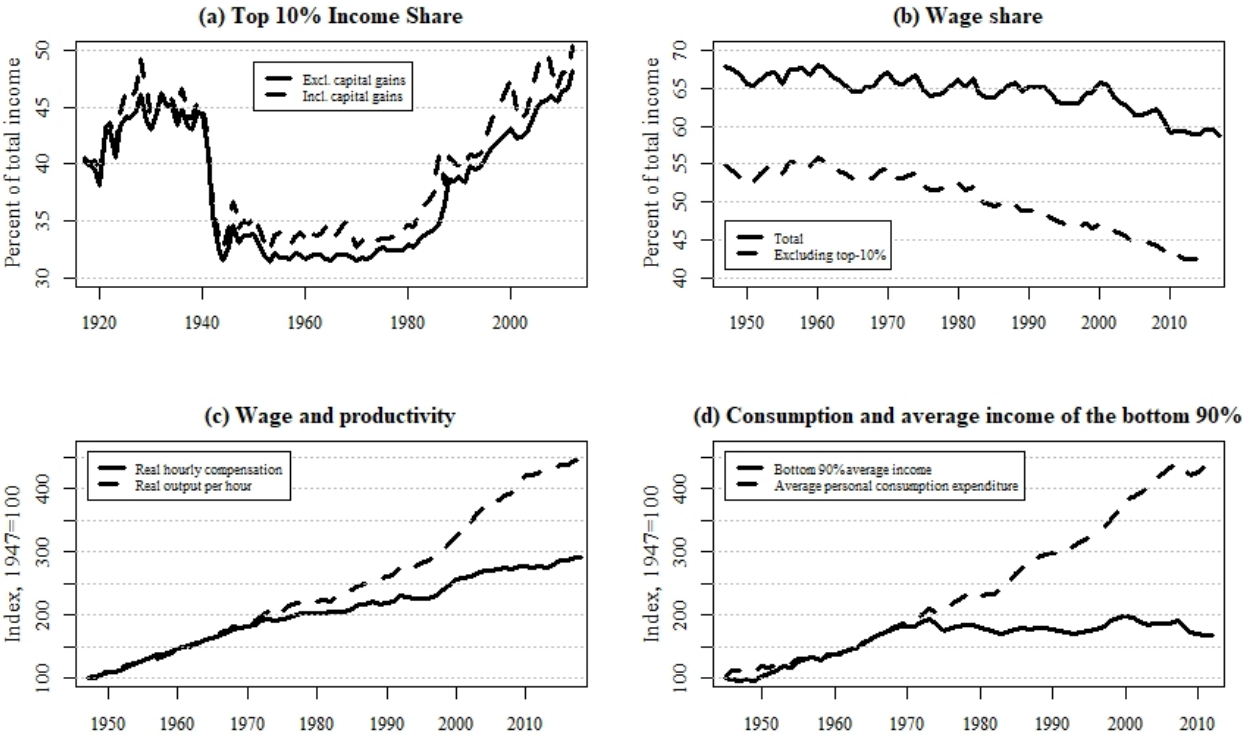
To sum up the argument of this section, given some of its structural characteristics—which have led to a decrease in net export demand—and the pervasive fiscal conservatism that has prevailed in Washington over the last four decades, the US economy faces a dilemma between stagnation and

financial instability. The economy can avoid stagnation at the cost of private sector balance sheets becoming more fragile—a fragility that will eventually become in itself a contributing factor to stagnation, as has been happening since the early 2010s.

4. INCOME DISTRIBUTION

Another major structural change that has taken place in the United States over the last four decades is the increase in income inequality. Figure 6 presents several aspects of this increase. Panel (a) shows that starting in the late 1970s the share of income of the top 10 percent of the population

Figure 6: Income Distribution



Sources: Bureau of Economic Analysis; Bureau of Labor Statistics; Alvaredo et al. (2016)

started increasing and is now at a higher level than in the late 1920s, when it had reached its previous peak. Panel (b) shows that the increase in income inequality is also visible if we focus on the wage share, which has also decreased the last decades. If we exclude the share of wages of the top 10 percent of the population, the decrease is much bigger: the wage share of the bottom 90 percent has decreased by close to 13 percent of GDP compared to the early 1970s. Panel (c) presents another way of seeing the decline in the wage share. It shows that in the early postwar decades the real wage was growing at the same pace as labor productivity. Since the early 1970s, the real wage has been increasing much slower. In the 25 years between 1947 and 1972 the real wage doubled, while in the almost fifty years that followed it only increased 50 percent. This implies a rate of increase that is four times slower than in the previous period. Finally, panel (d) shows that the average real income of the bottom 90 percent has stagnated over the same period; today it is slightly *below* its level from the early 1970s.

From a macroeconomic point of view, this increase in inequality implies a redistribution of income from households with a high propensity to consume to households with a low propensity to consume. Therefore, *ceteris paribus*, it leads to a decrease in consumption and aggregate demand. On the other hand, an increase in inequality can lead to an increase in aggregate demand, if it has a strong effect on investment and net exports. It was already shown that this has not been the case with net exports; investment has also not been very responsive to the increase in profit margins, at least in the last few decades.

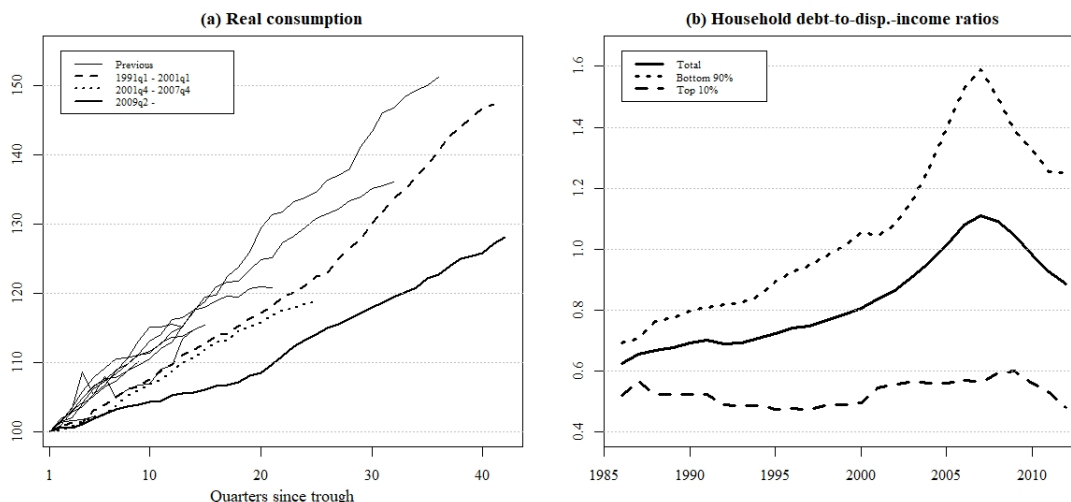
Figure 7a shows that the effects of inequality on consumption are visible. As one would expect, since consumption is by far the largest component of aggregate expenditure, consumption's trajectories in postwar recoveries are similar to GDP in figure 1b: the last three recoveries have been the slowest, and the current one has been by far the slowest of them all.

Given the magnitude of the increase in inequality, the decrease in consumption should be even larger. Going back to figure 6d, we can see that up until the early 1970s, average consumption expenditure increased at the same rate as the income of the bottom 90 percent. Afterward, the latter stagnated but consumption kept increasing. It is thus obvious that to the extent that this increase in

consumption did not come from the households in the top 10 percent income bracket, it had to come through borrowing on behalf of the bottom 90 percent of households.

Indeed, as figure 7b shows, the increase in households’ debt-to-income ratio was very unevenly distributed. As it was explained above, the aggregate increase was enormous and unsustainable, but the increase in the bottom 90 percent of households’ debt-to-income ratio is stunning. When the crisis started in 2007, their debt-to-disposable-income ratio reached 1.6. On the other hand, the ratio did not increase for the households at the top, as the increase in their incomes counteracted the increase in the stock of debt.

Figure 7: Consumption and Household–Debt Decomposition



Sources: Bureau of Economic Analysis; Federal Reserve Board; Taylor et al. (2013)

Note: Panel (b) presents the trajectories of real personal consumption expenditure in each postwar business cycle (trough to peak). The value for each cycle’s trough is normalized to 100.

Edward Wolff (2012, 23), in a paper with a painstakingly detailed examination of the balance sheets of the American “middle class,” confirms that the increase in indebtedness was related to consumption expenditures: “Where did the borrowing [of the middle class] go? Some have asserted that it went to invest in stocks. However, if this were the case, then stocks as a share of total assets would have increased over this period, which it did not [...]. Moreover, they did not go

into other assets. In fact, the rise in housing prices almost fully explains the increase in the net worth of the middle class [...]. Instead, it appears that middle class households, experiencing stagnating incomes, expanded their debt in order to finance normal consumption expenditures.” This kind of behavior of middle- and lower-income households can be explained in two ways. First, as some basic services (such as education or healthcare) became more expensive, households had to borrow in order to finance the consumption of this services. Second, emulation effects à la Veblen ([1899] 1973) and Duesenberry (1949) might have also played a role.⁵

No matter what the behavioral explanation is, this discussion adds another layer to the dilemma described in the previous section. The increase in inequality puts heavy downward pressure on consumption and demand. Thus, there has to be a choice between debt-financed consumption, which makes the balance sheets of middle- and lower-income households more fragile and eventually leads to a financial crisis, or stagnation. The American economy and society chose the first path in the decades before the crisis. In the period after the crisis, when the debt-financed consumption did not happen, consumption, demand, and output stagnated. Also, in this case, the debt overhang is now an additional factor contributing to stagnation.

5. ENDOGENOUS TECHNICAL CHANGE

Starting in the very first chapters of *The Wealth of Nations*, Smith ([1776] 1999) emphasizes the endogenous nature of technical progress. Increases in labor productivity—as a result of economies of scale achieved through a higher division of labor—are limited by the extent of the market. Smith describes a virtuous cycle where technical progress allows for a larger sized market, which in turns allows for more technical progress.

⁵ A more detailed discussion of the behavioral explanations of the increase in debt-financed expenditure, together with a formal treatment of the relation between distribution, growth, and debt within a stock-flow consistent framework, can be found in Nikiforos (2016a).

These ideas—which were also discussed by Alfred Marshall ([1890] 1898) and Allyn Young (1928)—underlie what later came to be known as the Kaldor-Verdoorn law (Verdoorn 1949; Kaldor 1957) as well as Gunnar Myrdal’s (1957) principle of circular and cumulative causation. Petrus Verdoorn (1949) provided an empirical examination of output growth’s effects on productivity growth, while Nicholas Kaldor (1957) defined a technical progress function where productivity growth is a function of the capital–labor ratio’s growth rate. Myrdal is more concerned with development’s institutional aspects, but his main idea is similar, as he describes a virtuous (or vicious) cycle among development and technical and institutional change.

Another important tradition in the theory of technical change that also goes back to classical political economy—especially Ricardo ([1817] 1951) and Marx ([1867] 1976)—emphasized the introduction of techniques of production with higher labor productivity as a way to save labor and increase profitability. More generally, from this point of view the cost of factors of production is an important determinant for technical change; the more expensive a factor of production is, the more incentive firms have to introduce new techniques of production that economize on it. For example, when labor becomes more expensive—and the wage share increases—firms have a stronger incentive to introduce labor-saving technical change by adopting techniques with higher labor productivity.

These approaches to technical change, in conjunction with the discussion on demand and distribution in the previous sections, provide a better way to understand the slowdown in the rate of productivity growth compared to Gordon’s (2017) neoclassical approach, where productivity growth’s rise and fall is exogenous.⁶ To begin with, as it was explained in the previous sections, deficient net export, government expenditure, and consumption demand (the latter because of the

⁶ It is important to note here that the steady state growth rate is not exogenous in all neoclassical growth models. In the so-called endogenous growth approach that was developed in the early 1990s, the neoclassical model was transformed to produce endogenous growth through some externality-producing mechanism (Lucas 1988; Romer 1990; Barro 1990; Rebelo 1991). These models have some severe implications for the neoclassical approach to growth. The most important is that because of the externalities, the neoclassical production function is turned into an AK production function (with no decreasing returns to each factor of production), and therefore the long-run growth rate is not the same as the natural growth rate—which brings us back to the issues raised by Harrod (1939). Second, because of the externalities, market mechanisms cannot guarantee efficient resource allocation. Efficient allocation requires the intervention of a “benevolent central planner.”

increase in inequality) lead to a decrease in the growth rate of the economy. Based on the Kaldor-Verdoorn law, this decrease can, in turn, have second-round negative effects on productivity growth. Moreover, to the extent that productivity growth contributes to demand growth (because, for example, it encourages investment), this process can lead to a vicious circular and cumulative process with lower output and productivity growth.

A second factor that is responsible for the slowdown in productivity growth is the stagnation in wage cost (see figures 6b and 6c and the discussion in the previous section). Given this dramatic decrease in the cost of labor, firms have a much weaker incentive to adopt labor-saving production techniques.

Interestingly, Gordon (2017) says that much in chapter 16 of his book—in a discussion that contradicts the book’s main thesis. The chapter examines the factors that contributed to the “Great Leap Forward of the American level of labor productivity that occurred in the middle-decades of the twentieth century” (p. 535), which Gordon calls “one of the greatest achievements in all of economic history.” He identifies two main factors for the great leap. First are the New Deal institutions and strong labor unions, which led to increases in the real wage. Gordon (2017, 541–3) mentions several transmission channels through which higher wages translated into productivity increases (such as the effect of higher wages and shorter hours on reducing worker’s fatigue and increasing their productivity). However, he concludes that: “the main upward stimulus to productivity must have come from the impetus of higher hourly wages, particularly in the 1930s, that led firms to economize on the use of labor. This helps us understand the explosion of productivity during World War II.”

Gordon makes his argument with the use of a neoclassical production function, where an increase in real wage causes a substitution of labor for capital. However, it is well-known that this is equivalent to a process where the increase in the real wage induces labor-saving technical change.⁷

⁷ Gordon (2017, 541) calls his explanation “basic economic theory.” However, it is noteworthy that this explanation contradicts the neoclassical theory of distribution.

The second factor Gordon (2017) identifies is World War II. Because of the increase in government expenditure: “as early as 1941, the economy was straining against a shortage of capacity [...], the owner of a leading machine tool supplier shook his head at the backlogs stating that ‘*demand is infinite*’” (Gordon 2017, 549; emphasis added).

In turn, this increase in demand and growth led to increases in productivity in the manufacturing of war equipment, which then persisted when companies switched back to peacetime production. Gordon (2017, 537) also mentions that “the war created household saving that after 1945 was spent on consumer goods that had been unavailable during the war.” In other words, the government deficit during the war was mirrored by a private sector surplus that led to an increase in their financial assets, allowing for the increase in consumption after the war.

Gordon calls the assertion that the war was the most important contributor to the great leap “the most novel aspect of the chapter.” Although the novelty of this argument is questionable—these points have been repeatedly made by several heterodox economists—its essence is in line with the present paper’s argument. Gordon describes a situation where high government expenditure demand and increases in wages led to improvements in productivity, in line with the discussion of this section’s previous paragraphs. Also, the aforementioned effect of wartime government deficits on household balance sheets is basically the opposite of what has been happening over the last four decades and was discussed in the previous sections.

6. MONOPOLY CAPITAL AND FINANCIALIZATION

For reasons of completeness of the argument, the role of two more factors should be touched upon very briefly. First, it seems possible that a contributing factor to secular stagnation is the US economy’s increasingly oligopolistic and monopolistic—and monopsonistic—structure. This is an issue that has been recently emphasized by neoclassical economists (e.g., Teulings and Baldwin 2014; Summers 2016; Philippon 2019). Probably without realizing, these economists recycle arguments that were put forward several decades ago by Josef Steindl (1952) in his *Maturity and*

Stagnation in American Capitalism and Paul Baran and Paul Sweezy (1966) in *Monopoly Capital*. Both books emphasize how the emergence of large oligopolies and monopolies increase the share of profits and therefore savings, while at the same time the increases in demand are not enough to match this increase in savings.

According to Steindl, in oligopolistic markets firms tend to operate with excess capacity—which discourages the entrance of new firms in the market—because there is no market mechanism to eliminate it. In competitive markets, the elimination of excess capacity takes place through price-cutting, which forces less competitive firms out of the market, but in oligopolistic markets firms have the power to set the prices. In turn, this excess capacity weakens investment incentives and leads to stagnation.⁸

Baran and Sweezy also emphasize the surplus absorption problem that tends to increase under monopolies. Aside from investment, they also examine the role of aggregate demand's other sources, such as capitalist consumption, the sales effort, civilian and military government expenditures, etc., and they conclude that overall demand will not be sufficient to realize the surplus and therefore the monopoly-capital economy will tend to stagnate. The insights provided by Steindl and Baran and Sweezy fit within the framework outlined above and are relevant for understanding the structure of the US economy today, the increase in income inequality, and investment's nonresponsiveness to the increases in the profit margins.

Another important and related development has been the US economy's so-called financialization. Financialization has many different dimensions: changes in corporate governance and sources of profits, as well as the importance of financial motives, markets, institutions, and elites, etc. It is beyond the scope of this paper to go into the details of all these.⁹ A few things are important here. First, part of the financialization process is related to the financial sector's increasing

⁸ Hansen (1954) wrote a favorable review of the book.

⁹ For a discussion of financialization, see Boyer (2000), Lazonick and O'Sullivan (2000), Stockhammer (2004), Epstein (2005), Orhangazi (2008), and Lazonick (2014, 2015).

concentration, hence the arguments on monopoly capital can be conditionally extended.¹⁰ Second, financialization is related to the increase in income inequality. Finally, part of financialization has been the decoupling of cash flows and accumulation, as it becomes increasingly attractive or even imperative for firms to channel their profits into financial markets and share buybacks, or to distribute them. These aspects of financialization are part of the story outlined above and contribute to economic stagnation.

Related to that, nonfinancial corporations are now more indebted than ever (see figure 5, above). Importantly, this debt accumulation has also been decoupled from investment and borrowed funds have, to a large extent, been used for share buybacks. Besides the record level of indebtedness, according to a recent report by the Bank for International Settlements (BIS 2019), the leverage of US corporations is also above its pre-2007 level. In the same report it is also mentioned that the percentage of issuers with BBB corporate debt (the lowest investment grade rating) and the share of mutual fund portfolios comprised of BBB bonds have also increased. Moreover, the number of firms whose cash flows are not enough to cover interest payments on their debt—what Minsky (1992) called Ponzi firms and what some more recent literature calls zombie firms (Caballero, Hoshi, and Kashyap 2008; McGowan, Andrews, and Millot 2017; Banerjee and Hofmann 2018)—is also elevated despite the last decade’s record low interest rates. Finally, at the same time, and despite the very slow recovery, the stock market valuation is higher than its level in the early fall of 1929, and, according to some measures, also higher than its level in the late 1990s.¹¹ These processes are also clearly unsustainable and when they are over they will be another factor contributing to the US economy’s stagnant state.

¹⁰ Sweezy (1997), in one of his last published articles, referred to the “financialization of the capital accumulation process.”

¹¹ For a more detailed discussion of the data, see Papadimitriou, Nikiforos, and Zezza (2019, 2020).

7. INSTEAD OF CONCLUSION: STAGNATION, IS IT SECULAR?

The present paper discussed a set of interrelated and mutually reinforcing factors that can explain the stagnation of output and productivity growth of the last decades. The role of demand was emphasized, and it was explained that the US economy has been experiencing deficient aggregate demand because of net export's weak performance, the fiscal conservatism that has dominated (most of) the last four decades, and the increase in income inequality, which puts downward pressure on demand. It was also stressed that because of these developments the US economy's growth before the crisis rested on the private sector's increasing indebtedness, especially households at the bottom of the distribution. This debt that allowed the US economy to grow before the crisis is now another factor contributing to stagnation.

It was also explained that the slowdown in productivity growth is better explained based by endogenous productivity theory, as opposed to the exogenous approach adopted by Gordon (2017). In particular, two approaches to technical change are relevant: the Kaldor-Verdoorn law and the induced technical change hypothesis, which posit that labor productivity responds to the growth rate of output and the increase in the cost of labor. These approaches to technical change taken together with the aforementioned demand factors provide a consistent explanation for the stagnation of demand, output, and productivity. Finally, it was argued that two related factors that contribute to stagnation are the US economy's increasingly oligopolistic and financialized structure.

A last question to be answered is if the stagnation we are experiencing is *secular* or not. In other words, are there endogenous forces that can pull the economy out of its current stagnant state or should we expect it to last for a long time (unless by accident or an exogenous factor)? As it was explained above, Gordon's (2017) answer is that there are no endogenous forces. The "rise of American growth" was exogenous in the first place and the current stagnant conditions are the norm. Sweezy (1982) reaches the same conclusion, albeit working within a very different theoretical framework. In an article entitled "Why Stagnation?" he concludes with a discussion of "whether or not the history of capitalism has been characterized by a long cycle of some fifty

years' duration (what Schumpeter called the Kondratieff cycle).” He suggests that although “it is the nature of an investment boom to exhaust itself, [...] the stagnation phase of a long wave does not generate any ‘forces of reversal.’ If and when such forces do emerge, they originate not in the internal logic of the economy but in the larger historical context within which the economy functions.” Thus, Sweezy also argues that solutions to stagnation are exogenous and coincidental rather than endogenous.

In two recent papers (Nikiforos 2016b, 2019), I express a rather different opinion. Although I agree that there are no strictly speaking economic forces that can pull an economy out of stagnation, I argue that crisis and stagnation act as catalysts for endogenous political-economic responses. As Karl Polanyi ([1944] 2001) argued, crisis induces *spontaneous reactions* that try to resolve it. Indeed, after the recent crisis there have been different manifestations of these sorts of reactions. Income inequality has been at the center of different movements—such as Occupy Wall Street, Black Lives Matter, and the #MeToo movements, as well as teacher’s strikes that have taken place across the country—and it has become one of the main issues of political discourse. The dominance of fiscal conservatism and free trade ideology has also been questioned, and people and politicians are becoming increasingly critical of financial institutions and large monopolies. As it was discussed in this paper, these issues that were in the margins of public discourse until recently are the main factors that have led to stagnation.

Moreover, to the extent that history is a useful guide for the future, it teaches us that the forces of reversal exist. To a large extent, the American economy was pulled out of the crisis of the early 20th century by forces of this kind: the progressive era of the turn of the century; the emergence of strong labor unions and other forms of labor and civic activism; and the establishment of New Deal institutions that led to the breakup of large monopolies, ended the era of *haute finance* (as Polanyi called the financialization of the time), promoted a more equitable distribution of income, and led to the adoption of a generally expansionary fiscal policy.

By this, I do not mean to suggest that we should subscribe to historical determinism. Each era has its own peculiarities and has to invent its own specific mechanisms, policies, and institutional

arrangements. The “forces of reversal” exist as tendencies, but the reversal itself that will pull the economy out of stagnation may or may not happen. People’s actions (or inaction) play a crucial role in the determination of the actual path that history follows.

REFERENCES

- Alvaredo, Facundo, Anthony B. Atkinson, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman. 2016. "Distributional National Accounts (DINA) Guidelines: Concepts and Methods used in WID.world." WID.world Working Paper No 2016/1. World Inequality Database.
- Backhouse, Roger E., and Mauro Boianovsky. 2016. "Secular stagnation: The history of a macroeconomic heresy." *The European Journal of the History of Economic Thought* 23 (6): 946–70.
- Banerjee, Ryan, and Boris Hofmann. 2018. "The rise of zombie firms: causes and consequences." *BIS Quarterly Review* (September): 67–78.
- Baran, Paul, and Paul Sweezy. 1966. *Monopoly Capital*. New York: Monthly Review Press.
- Barro, Robert J. 1990. "Government spending in a simple model of endogenous growth." *Journal of Political Economy* 98 (5, Part 2): S103–25.
- BIS (Bank for International Settlements). 2019. *Annual Economic Report*. Basel: Bank for International Settlements.
- Boyer, Robert. 2000. "Is a finance-led growth regime a viable alternative to Fordism? A preliminary analysis." *Economy and Society* 29 (1): 111–45.
- Caballero, Ricardo J., Takeo Hoshi, and Anil K. Kashyap. 2008. "Zombie lending and depressed restructuring in Japan." *American Economic Review* 98 (5): 1943–77.
- Duesenberry, James. 1949. *Income, Saving, and the Theory of Consumer Behavior*. Harvard Economic Studies. Cambridge, MA: Harvard University Press.
- Eggertsson, Gauti B., and Paul Krugman. 2012. "Debt, deleveraging, and the liquidity trap: A Fisher-Minsky-Koo approach." *The Quarterly Journal of Economics* 127 (3): 1469–513.
- Epstein, Gerald A. 2005. *Financialization and the world economy*. Northampton, MA: Edward Elgar Publishing.
- Godley, Wynne. 1999. "Seven Unsustainable Processes: Medium-term Prospects and Policies for the United States and the World." Technical report. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- Gordon, Robert J. 2017. *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*. The Princeton Economic History of the Western World. Princeton, NJ: Princeton University Press.

- Hansen, Alvin H. 1938. *Stagnation or Full Recovery*. New York: Norton.
- . 1939. “Economic Progress and Declining Population Growth.” *The American Economic Review* 29 (1): 1–15.
- . 1954. “Growth or Stagnation in the American Economy.” *The Review of Economics and Statistics* 36 (4): 409–14.
- Harrod, Roy. 1939. “An Essay in Dynamic Theory.” *Economic Journal* 49 (193): 14–33.
- Kaldor, Nicholas. 1957. “A Model of Economic Growth.” *The Economic Journal* 67 (268): 591–624.
- Krugman, Paul. 1998. “It’s baaack: Japan’s slump and the return of the liquidity trap.” *Brookings Papers on Economic Activity* 1998 (2): 137–205.
- . 2014. “Four observations on secular stagnation.” In Coen Teulings and Richard Baldwin (eds.), *Secular Stagnation: Facts, Causes and Cures*. London: CEPR Press.
- Lazonick, William. 2014. “Profits without prosperity.” *Harvard Business Review* 92 (9): 46–55.
- . 2015. “Stock buybacks: From retain-and-reinvest to downsize-and-distribute.” Center for Effective Public Management of Brookings Institution Report. Washington, DC: Brookings Institution.
- Lazonick, William, and Mary O’Sullivan. 2000. “Maximizing shareholder value: a new ideology for corporate governance.” *Economy and Society* 29 (1): 13–35.
- Lucas, Robert E. 1988. “On the mechanics of economic development.” *Journal of Monetary Economics* 22 (1): 3–42.
- Marshall, Alfred. (1890) 1898. *Principles of Economics*, 4th edition. London: McMillan and Co.
- Marx, Karl. (1867) 1976. *Capital: A Critique of Political Economy, Vol. I*. London: Penguin Books.
- McGowan, Muge Adalet, Dan Andrews, and Valentine Millot. 2017. “The walking dead?: Zombie firms and productivity performance in OECD countries.” OECD Economic Department Working Papers No 1372. Paris: Organisation for Economic Co-operation and Development.
- Minsky, Hyman. 1992. “The Financial Instability Hypothesis.” Levy Economics Institute Working Paper No. 74. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- Myrdal, Gunnar. 1957. *Economic Theory and Under-developed Regions*. London: G. Duckworth.

- Nikiforos, Michalis. 2016a. "A nonbehavioral theory of saving." *Journal of Post Keynesian Economics* 39 (4): 562–92.
- . 2016b. "Distribution-led growth in the long run." *Review of Keynesian Economics* 4 (4): 391–408.
- . 2018. "Distribution-led growth through methodological lenses." Forum for Macroeconomics and Macroeconomic Policy (FMM) Working Paper 24-2018. Düsseldorf, Germany: IMK at the Hans Boeckler Foundation, Macroeconomic Policy Institute.
- . 2019. "Induced Shifting Involvements and Cycles of Growth and Distribution." Levy Economics Institute Working Paper No 924. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- Nikiforos, Michalis, and Gennaro Zezza. 2017. "Stock-flow Consistent Macroeconomic Models: A Survey." *Journal of Economic Surveys* 31 (5): 1204–39.
- Orhangazi, Özgür. 2008. "Financialisation and capital accumulation in the non-financial corporate sector: A theoretical and empirical investigation on the US economy: 1973–2003." *Cambridge Journal of Economics* 32 (6): 863–86.
- Papadimitriou, Dimitri B., Michalis Nikiforos, and Gennaro Zezza. 2019. "Can Redistribution Help Build a More Stable Economy?" Strategic Analysis. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- . 2020. "Prospects and Challenges for the US Economy: 2020 and Beyond. Strategic Analysis. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- Philippon, Thomas. 2019. *The Great Reversal: How America Gave Up on Free Markets*. Cambridge, MA: Harvard University Press.
- Polanyi, Karl. (1944) 2001. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.
- Ramsey, Frank P. 1928. "A Mathematical Theory of Saving." *The Economic Journal* 38 (152): 543–59.
- Rebelo, Sergio. 1991. "Long-run policy analysis and long-run growth." *Journal of Political Economy* 99 (3): 500–21.
- Ricardo, David. (1817) 1951. "On the Principles of Political Economy and Taxation." In P. Sraffa and M. H. Dobb, *The Works and Correspondence of David Ricardo: Volume 1*. Cambridge, UK: Cambridge University Press.

- Romer, Paul M. 1990. "Endogenous technological change." *Journal of Political Economy* 98 (5): S71–S102.
- Schumpeter, Joseph A. 1939. *Business cycles*. New York: McGraw-Hill.
- Smith, Adam. (1776) 1999. *The Wealth of Nations*. London, UK: Penguin Books.
- Solow, Robert M. 1956. "A Contribution to the Theory of Economic Growth." *The Quarterly Journal of Economics* 70 (1): 65–94.
- Steindl, Joseph. 1952. *Maturity and Stagnation in American Capitalism*. Oxford: Basil Blackwell.
- Stockhammer, Engelbert. 2004. "Financialisation and the slowdown of accumulation." *Cambridge Journal of Economics* 28 (5): 719–41.
- Summers, Lawrence. H. 2014. "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound." *Business Economics* 49 (2): 65–73.
- . 2016. "Corporate profits are near record highs—why is that a problem?" *Financial Times*, March 30.
- Sweezy, Paul M. 1982. "Why Stagnation?" *Monthly Review* 34 (2): 1–10.
- . 1997. "More (or Less) on Globalization." *Monthly Review* 49 (4): 1–4.
- Taylor, Lance, Armon Rezai, Rishabh Kumar, Laura de Carvalho, and Nelson Barbosa. 2013. "US Size Distribution and the Macroeconomy, 1986–2009." Technical report. New York: Schwartz Center for Economic Policy Analysis (SCEPA), The New School.
- Teulings, Coen, and Richard Baldwin. 2014. *Secular Stagnation: Facts, Causes, and Cures*. A VoxEU.org eBook. London: CEPR Press.
- Veblen, Thorstein. (1899) 1973. *The Theory of the Leisure Class*. Boston: Houghton Mifflin Company.
- Verdoorn, P. J. 1949. "Fattori che regolano lo sviluppo della produttività del lavoro." Reprinted in English as "On the Factors Determining the Growth of Labor Productivity" L. L. Pasinetti, *Italian economic papers, Vol. 2*. Oxford: Oxford University Press.
- Wolff, Edward N. 2012. "The Asset Price Meltdown and the Wealth of the Middle Class." NBER Working Paper No. 18559. Cambridge, MA: National Bureau of Economic Research
- Young, Allyn A. 1928. "Increasing Returns and Economic Progress." *The Economic Journal* 38 (152): 527–42.