

Theories of stagnation in historical perspective

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August 2015

Version 1.02

1. Introduction

Two old doctrines have recently been revived. Lawrence Summers (2014a; 2014b; 2015) has argued that we might be facing a situation of secular stagnation: a long period of low growth amounting to something beyond a regular cyclical downturn. Thomas Piketty (2013, 2014), in a book that attracted even more attention than Summers's article, drew attention to the trend towards increasing inequality and its consequences. Though these are both ideas that

are have generally been excluded from macroeconomics. Secular stagnation has for many years been considered empirically irrelevant and theoretically problematic, whilst economists have in general opted to refrain from discussing distributional issues, which raise welfare issues that it is hard to treat without making political or ethical value judgments that few economists are comfortable making. The typical dynamic stochastic general equilibrium (DSGE) model used in modern macroeconomics, at least prior to the 2008 crisis, abstracts from income distribution by analyzing the behavior of a representative agent, and whilst imperfect competition may allow for unemployment, few macroeconomists took seriously the idea that long-term stagnation might be a serious possibility.

This literature raises three main issues: What is meant by the term secular stagnation? Does stagnation involve output lagging persistently below full capacity or does it involve a slowdown in the growth rate of productive capacity? Is there a connection between inequality and any tendency towards stagnation?

In the intervention that sparked off the most recent discussion, Summers offered a clear definition of secular stagnation: it was the outcome of a negative Wicksellian natural rate of interest, the rate of interest at which saving equals investment.¹ This would explain the Demand for investment is falling because population was growing more slowly, capital had become cheaper reducing the cost of any given level of real investment, and leading companies were sitting on mountains of cash. At the same time, the supply of savings is increasing for a complex of reasons. These include the reserves being accumulated by developing countries, rising inequality, the effects of falling inflation, and changes induced

1. This account follows Summers 2015: 60-2; some of the evidence is given in more detail in Summers 2014b.

by the financial crisis: increased demand for safe assets, an increased wedge between borrowing and lending rates as financial institutions seek to restore their profitability.² Given that there is a lower bound of zero, or possibly slightly above zero, on the market rate of interest, implies that the market rate of interest must be higher than the natural rate, with deflationary consequences. Summers contends that recent experience makes such a situation more than a theoretical possibility. The EU and Japan are expected to experience zero interest rates for several more years and even if the US has rates above zero, the downward trend in interest rates over the past few years means that the zero lower bound is likely to bind in the next recession. Secular stagnation may not be an immediate problem for the US but it is likely to become important in the next few years.

Summers emphasizes the role of aggregate demand in creating the conditions under which stagnation is likely to be a recurring problem. Against this is the argument, represented by Gordon (2014, 2015) that stagnant growth is a supply-side phenomenon. He argues that the gap between actual and capacity output is falling, and that the problem is a slowdown in productivity growth. Taking a long-term perspective, he attributes this to a slowing down in the productivity gains associated with the third industrial “electronic” revolution: investment in computing is encountering diminishing returns. He supports this with discussions of productivity growth in offices and retailing, and an argument that the declining share of employment accounted for by new businesses since the 1980s indicated a decline in business dynamism.³ Looking ahead, he sees developments in education and social changes (fewer children living with both biological parents and rising numbers of young men with prison

2. Given that tax is paid on nominal interest payments, falling inflation changes the relation between nominal and real interest rates.

3. This account follows Gordon 2015: 55-6.

records) as signs that productivity growth may remain low. Thus though he claims that “secular stagnation is evident in every measure of economic performance over the past five years”, Gordon (2015: 58) sees it as a supply-side phenomenon, not brought about by the demand-side problems stressed by Summers.

Though Summers cited rising inequality as one of the factors behind a rising propensity to save and the low natural rate of interest, the revival of this idea has been due to others. Because of their media profiles, Joseph Stiglitz (2012) and Paul Krugman (2013, 2014) have been the most visible proponents of the idea, along with Thomas Piketty’s bestselling *Capital in the Twenty-First Century* (2014). They have, however, drawn on a wide range of research, from organizations such as the OECD (Cingano 2014), the IMF (Berg and Ostry 2011), as well as from academic researchers that finds a link between poor economic performance and rising inequality. There are differences about how this effect works, whether through reducing aggregate demand or through changing the structure of demand in ways that reduce employment and hurt anyone not in the top income bracket, but there is a wide spectrum of research supporting the view that the rise in inequality is dangerous. Krugman (2014) drew the conclusion that this “new view about inequality and growth” had clearly become mainstream when it was endorsed by the rating agency, Standard and Poor’s.

This paper traces some of the historical roots of these debates. Because his work was prominently cited by Summers, Alvin Hansen’s role in developing the theory of secular stagnation is well-known. However, it turns out that the story of the doctrine of secular stagnation is more complex: it did not disappear but, in the hands of his successors, it evolved into something quite different from the theory he proposed in 1939. However, we start not

with Hansen but with the work of the British economist, J. A. Hobson, whose ideas on the relationship between inequality and growth influenced not only Lenin, but much American analysis of the Great Depression, the literature that forms the background to Hansen's work. Though praised by Keynes, Hobson was ignored by most economists, but an important exception was Evsey Domar who found inspiration in his work and who provides a useful link between Hansen and more recent work.

2. Hobson and underconsumption

In 1873 there was a financial crisis and a downturn in much of Europe and the US, with many countries, including Britain and the United States, entering what contemporaries believe to be a long period of stagnation. Though historians have subsequently questioned this, arguing that national income continued to grow steadily, in Britain the period from 1873-96 was known for many years as the "Great Depression".⁴ A Royal Commission on Trade and Industry was set up in 1885 to look into the problem. Though this went against the prevailing free-trade orthodoxy, many of the businessmen called as witnesses argued that the problem was one of under-consumption: that consumers' spending was too low to purchase all the goods being produced. F. A. Walker, the first President of the American Economic Association, believed that US output had fallen by a quarter between 1873 and 1879 and that

4. Morys (2014: 242-4) presents the statistics and explains why contemporaries might have viewed the period differently. The period was one of falling prices, though induced by falling costs, not by deficient demand.

there was nothing to stop it falling even further; industry might stagnate until something “from some unexpected quarter” happened to revive expectations and produce an upturn.⁵

This was the context in which Hobson first expounded his “heresy” of underconsumption, in *The Physiology of Industry* (1889), co-authored with A. F. Mummery, the businessman who had converted him to the idea. According to their analysis, high savings were being invested in capital goods that were being used to produce more goods than could be sold, given the low level of consumption. It was an argument about the balance between the flow of spending and productive capacity. Mummery died shortly afterwards but Hobson went on to develop this argument culminating in *The Industrial System* (1909). Here he developed the argument that excessive saving was the result of a maldistribution of income. Any income that was not a necessary cost of production (the cost of labor and the costs of producing and maintaining capital) constituted a “surplus”. Part of this surplus was necessary to induce businesses to invest but the remainder constituted an unearned surplus that performed no economic function. This surplus, which accrued to the owners of whichever factor of production was scarce and hence had monopoly power, would typically be saved. The “unproductive surplus”, Hobson claimed, represented “a failure of the competitive system to compete: it represents the powers of combination and monopoly” (Hobson 1909: viii).

Hobson never developed this into a theory of long-term stagnation, though this was the implication of his argument. Instead he used it to explain imperialist ventures into Africa and elsewhere which provided opportunities for investing the surplus. His theory was never widely accepted in Britain, where free-trade ideology and the authority of Marshall were

5. Walker’s ideas are discussed in Backhouse 1987.

strong but his ideas were well received in the US (see Rutherford 2007). During the 1920s there developed a wave of business cycle analysis. Hobson's ideas, emphasizing the flow of income and incorporating what came to be known as the "acceleration principle" fitted well with the ideas being developed by John Maurice Clark (1917) and others.⁶

After 1929, when American economists searched for explanations of the Great Depression (in which output really did fall massively), many of them turned to the idea that competition had broken down.⁷ The growth of monopoly meant that the price changes necessary in a dynamic economy were disrupted and that economic power had become too concentrated. The early 1930s therefore saw much Hobsonian analysis of the relationship between monopoly, high savings and depression. The problem was taken so seriously that in April 1938, Franklin Roosevelt wrote to Congress claiming, "Among us today a concentration of private power without equal in history is growing. This concentration is seriously impairing the economic effectiveness of private enterprise as a way of providing employment for labor and capital and as a way of assuring a more equitable distribution of income and earnings". This letter was the prelude to the setting up, by Congress, of a Temporary National Economic Committee (TNEC), which produced 33,000 pages of testimony and reports, investigating concentration of ownership and industrial power and its implications for saving, technological progress and the operation of the financial system.

The final report of the TNEC (US, TNEC 1941) outlined the rise of monopoly and then drew conclusions. Prices were increasingly fixed by managers, not in competitive markets; productivity gains were not shared with consumers but just raised profits; and

6. Though the accelerator is usually attributed to T. N. Carver and Clark, the idea can be found very clearly, complete with a numerical example, in *The Physiology of Industry*.

7. For a survey of this literature, see Backhouse 2014.

savings had become more concentrated. One result was that investment no longer responded to profits, for businesses were able to finance their activities out of retained earnings without having to enter the capital market. The collapse in income and employment was the result of a breakdown in the financial machine that transformed savings into investment. One of the key witnesses in persuading the committee to take this view was Hansen, who had a few years earlier coined the phrase secular stagnation.

3. Hansen and secular stagnation

The notion that the Great Depression was the result of a breakdown in competition fitted well with American traditions, in which the uniqueness of the US lay in part in its open, competitive society. Hansen took this connection between depression and specifically American circumstances a stage further when he linked it to the ending of the frontier, proclaimed by historian Frederick Jackson Turner in 1921.⁸ With the closing of the frontier at the end of the nineteenth century a major source of demand for investment had ceased. In the early twentieth century savings had been had been absorbed by new inventions (electricity and automobiles) which also required large capital investments and by the need to equip a growing population with capital goods. The problem now facing the US, he argued in his testimony to the TNEC and in his Presidential Address to the AEA (Hansen 1939) was that the flow of capital-using inventions had ceased and declining population growth was

8. This account of Hansen and some of the following material is a condensed version of the corresponding section of Backhouse and Boianovsky 2015, which owes much to Mehrling 1997.

reducing the demand for investment. The result was that depressions became longer and recoveries weaker and more short-lived, the problem he called secular stagnation.

This view was a natural extension of his previous work as a business cycle theorist. During the 1920s, he had begun to see fluctuations in investment, driven by population changes and waves of innovations, as the root cause of the cycle. He took from Albert Aftalion the idea that the price level is determined by level of money income in relation to the quantity of goods and services being produced, and from Arthur Spiethoff the idea that there were certain investment opportunities available and once these were taken up, investment would fall off, causing a downturn. A free enterprise system tended towards full employment because price flexibility encouraged a healthy level of investment and a high level of spending. However, though there was a tendency towards full employment, the business cycle was an inevitable feature of a dynamic, growing economy with rapid technological change. Only if the economy matured and accumulation slowed down would the cycle become a thing of the past.

These ideas conditioned Hansen's response to the Great Depression: it was a particularly deep depression because it was the result of large monetary and technological shocks happening together. For a considerable time, he continued to believe that recovery would eventually come largely of its own accord. He was still analyzing depression in terms of the business cycle. It was only after the 1937-8 depression, which took place even though full capacity had not been reached and unemployment was still over ten per cent, that Hansen looked for a different theory of what was happening. Given views on the cycle, all he needed to add to derive his theory of secular stagnation was to take account of declining population

growth. The central point of his AEA Presidential Address (Hansen 1939) was that population growth was declining and that this would lead to a large fall in investment unless there was a rise in technical progress. “We are,” he argued, “rapidly entering a world in which we must fall back upon a more rapid advance of technology than in the past if we are to find private investment opportunities adequate to maintain full employment” (Hansen 1939, p. 10). It was a view that fitted well into a long view of American economic history. The immediate origins of the crisis might be short-term, but its severity was the result of long-term structural factors.

4. Samuelson and Domar

Hansen’s secular stagnation thesis was derived largely independently of Keynes’s *General Theory* (1936). He had obviously read the book, reviewing it twice and coining the phrase “under-employment equilibrium” to describe Keynesian theory (Hansen 1936) but he did not consider Keynes’s theory, which he perceived to be too static, to be the same as his own. Keynes’s article in the *Eugenics Review* showed that Keynes had come round to his own, longer-term, way of thinking. However, though continuing to distance himself from Keynes, he came to realize that Keynes’s concept of the multiplier could make a useful addition to his own theory, working it into a theory of the cycle. This was made very clear by Paul Samuelson, who noticed that Hansen’s theory could be formulated as a second-order difference equation to which a general solution could be obtained (Samuelson 1939a). He noted that the result was a sequence identical with those found by Erik Lundberg and Jan Tinbergen. In a follow-up paper he developed this idea, arguing that the multiplier

determined the level of national income and that the accelerator determined fluctuations (Samuelson 1939b).

Remaining very close to Hansen, and expressing the same doubts about Keynes, Samuelson became pessimistic about the likelihood of full employment after the war. This pessimism was based on the assumption that when the war ended, Federal government spending would fall sharply and, in the absence of careful planning, would produce a major depression. He and Everett Hagen (1943), in a pamphlet produced for the National Resources Planning Board, argued in thoroughly Hansenian terms that once wartime spending was over, demand for investment would be low and savings higher. They remained pessimistic even though Hansen had by then become more optimistic.

If there was a persistent tendency for savings to exceed private investment, full-employment could be achieved only if the gap were filled by government spending. This might necessitate continued deficit financing, raising the question of whether the resulting government debt would become unbearable. This problem was tackled by another of Hansen's students, Evsey Domar (1944). Measuring the burden of debt by the fraction of national income required to pay interest on the debt, Domar showed that the crucial variable was the growth rate of national income. However, though his algebra showed that there would be a limit to the burden of debt, even with year-on-year budget deficits, Domar was pessimistic. He considered a constant growth rate unlikely. He argued, in Hansenian terms, that "The rate of growth achieved in the United States in the period 1879-1928 was due to technological improvements, growth of the labor force, and the discovery of new resources" (1944: 819). Given that population was growing more slowly, and would be

stationary or falling by 1980, and there might be some technological progress, a growth rate of 3% per annum was not sustainable, though it might be possible to achieve 2% for 50 or 100 years.

He followed this up in his better known paper, “Capital expansion, rate of growth and employment” (1946), in which he developed his version of what later came to be called the Harrod-Domar growth model. It was this paper that provided a theoretical model of how secular stagnation could arise. Investment had two effects: it generated aggregate demand and increased productive capacity. Because investment was related to the *level* of aggregate demand and to the *growth* of productive capacity, there would be one growth rate at which aggregate demand would grow in line with productive capacity. Stagnation would occur if growth fell below this rate.

Having derived this result, shifting the focus away from the burden of debt to the problem of economic growth, Domar (1947) related his ideas to the previous literature, most of which omitted one of these two aspects of investment instead of considering them together. One of the early writers he praised most highly was Hobson: “Hobson’s writings contain so many interesting ideas that it is a great pity he is not read more often” (Domar 1947, p. 51). Hobson had recognized the two aspects of investment and, though he had not talked in terms of secular stagnation, he had analyzed the problem of persistent over-saving.

Hobson was fully armed with the σ [accelerator] effect of investment, and he saw that it could be answered only by growth. His weakness lay in a poor perception of the multiplier effect and his analysis lacked

rigor in general. He gave a demonstration rather than a proof. But the problem to which he addressed himself is just as alive today as it was fifty and twenty years ago. (Domar 1947: 52)

The problem tackled by Hobson, Domar argued, was possibly a deeper problem than the one addressed by Keynes, namely what would happen when savings were not invested. He was thus critical of Keynes for dealing with only the short-run dimension of the problem. Like Hansen and Samuelson, he found Keynes too static. A decade later Domar (1957: 6, 14) was even more forthright in his criticism of Keynes for suggesting that the economy tends to the “desert of the stationary state”, a mistaken perspective that led him to endorse pyramid building and to anticipate the euthanasia of the rentier.

Hansen (1951, p. 258, n. 78) disagreed with Domar’s positive assessment of Hobson’s contributions and originality. In chapter 14 of his overview of the history of business cycle theories, Hansen (pp. 254-58) placed Hobson together with Lord Lauderdale and T.R. Malthus as early formulators of the role of aggregate demand in the determination of the level and changes of income. In Hansen’s (p. 255) opinion, “after reading Lauderdale and Malthus, one gains relatively little from Hobson’s work”. Hobson’s suggested argument was that investment outlets are determined by the requirements of growth (technological progress and population growth). If the propensity to consume brings about an amount of full employment saving in excess of such growth requirements, the economy is beset by insufficient aggregate demand. That was just a suggestion, as Hobson did not succeed in showing why the propensity to consume does not change automatically so as to provide precisely the amount of saving that matches the requirements of growth. Hansen acknowledged, though, that

Hobson's analysis of the positive effect of a "greater equalization of incomes" on aggregate demand and employment was a step in the right direction.

Samuelson realized, as early as 1946, that his forecasts of postwar depression had proved wrong. However, he continued to anticipate long-term problems. His most prominent discussion of the topic of secular stagnation came in his textbook, *Economics: An Introductory Analysis* (1948). It is probably little exaggeration to say that this was the book through which most students first encountered economics during the 1950s. Though he did not commit himself to the notion, presenting arguments for and against, he ensured that anyone studying his text would be familiar with the notion of secular stagnation. It was not until the 1985 edition, the first co-authored with William Nordhaus, that the topic was dropped. Rather than presenting it as a historical thesis about the United States, Samuelson presented it as a theoretical possibility: there might be secular stagnation if demand was too low or secular exhilaration if demand were too high. In the 1960s Samuelson presented it as an empirically relevant possibility, for his sixth edition (1964, p. 353) he had a section titled, "A decade of sluggish growth and rising unemployment" in which he pointed out that since 1953, the unemployment rate had been higher at each successive cyclical peak (1952, 2.5%; 1957, 4%; 1960, 5%). He concluded, "Although the picture does not add up to one of stagnation, it does seem to have elements of sluggishness in it" (ibid.). This was the justification for the policy of the Kennedy and Johnson administration of running a budget deficit, and in later editions was described as the New Economics at work. Like Domar, Samuelson linked the problem of stagnation to problems of growth and public debt.

5. After the age of Keynes

Though Hansen had derived most of his ideas independently of Keynes, not making any connection between under-employment equilibrium and secular stagnation, and though Samuelson was far closer, intellectually as well as personally, to Hansen than to Keynes, it was Keynes with whom the so-called “New Economics” came to be associated.⁹ Secular stagnation came to be associated with the last chapter of the *General Theory* rather than with the dynamic arguments favored by Hansen, Samuelson and Domar. For example, Robert Lekachman, in two widely read books (1964, 1966), saw secular stagnation as lying at the heart of Keynesian economics and Harry Johnson (1971), in an AEA Presidential address, argued that secular stagnation helped turn Keynesian economics into a new orthodoxy. However, with the decline of Keynesian economics, support for the idea of secular stagnation declined dramatically. Part of the reason was economic events. Whilst the idea of an economic crisis had traction in the 1970s, the idea that it was due to long-run flaws in capitalist economies was attractive only to a small group of heterodox economists. There were ample potential causes of the crisis that did not require invoking a general tendency towards stagnation. European economies stagnated in the 1970s but the United States recovered relatively quickly and there was an appeal to factors specific to Europe such as welfare-state spending or imperfectly competitive markets.

However the main reason why the doctrine of secular stagnation fell out of favor in the 1970s was the rise of macroeconomic theories based on individual optimization and

9. There are many reasons for this, not least Hansen’s (1953) decision to present himself as an interpreter of Keynes, but they go beyond the scope of this paper.

competitive markets. In what came to be called the Age of Keynes, from the Second World War to the early 1970s, economists accepted that many markets were imperfectly competitive and oligopolistic and they also took for granted economic agents were highly heterogeneous making aggregation treacherous. Macroeconomic theories, therefore, had to rest, on foundations that were empirical as much as theoretical. For example, labor markets, dominated by unions, were seen to be characterized by complex bargaining practices that defied formal theorization (game theory did not take off till the 1970s). As a result much macro was based on assumptions such as mark-up pricing, cost curves that were horizontal up to full capacity, and wage equations postulating adjustment to exogenously given targets for wages that were estimated empirically.

In the 1970s economists increasingly abandoned such modeling practices, moving towards individualistic explanations of social phenomena. Searching for “microfoundations” increasingly meant searching for formal models that related macro relationships to the behavior of optimizing individual agents (see Hoover 201*). It became acceptable to ignore heterogeneity and to adopt the device of the “representative agent”, whereupon the macro behavior was simply micro behavior scaled up. It also became common to assume perfect competition. In such a world, modeled by Edmund Phelps, Robert Lucas and others, the only source of unemployment was errors in expectations. In such a world it was hard to generate stagnation for any longer than it took people to learn that their expectations were systematically incorrect. Secular, long term, stagnation made no sense.

The introduction of market imperfections and phenomena such as hysteresis, whereby the equilibrium rate of unemployment, determined by supply-side factors, rose in response to

persistent unemployment. But whilst this helped explain some features of European experience in the 1980s, it was a long way from the notion of secular stagnation, as the term had been understood by an earlier generation. Thus when the question of stagnation did rear its head, in Europe in the 1980s, or Japan in the 1990s, it did not make sense to see these countries as exhibiting a problem underlying capitalist economies in general. Their experiences were explained in specific, local circumstances. To do otherwise would have been to question the foundations on which macroeconomics had been built.

This move towards individualistic explanations of social phenomena was not confined to economics: it was a much broader cultural phenomenon and had a strong political dimension (Rodgers 2012, Amadae 201*). Rationality, competition and the efficiency of competitive systems came to be seen as defining features of capitalist democracies, marking their superiority over authoritarian, centrally planned socialist states. To entertain the possibility that capitalist economies might exhibit secular stagnation would be to question the superiority of the Western society over Communist regimes. Thus it was only after the fall of Communism in the Soviet Union and Eastern Europe that secular stagnation reappeared. It was used by Walt Rostow to analyze possible population trends in the twenty first century, drawing on Japan as a country that had experienced these demographic changes earlier than other advanced countries (Rostow 1998, 2000). A phenomenon that, at the height of the Cold War, had been no more than a speculative possibility, was now seen as a future that all countries had to confront.

Whilst Japan might face specific problems, which could easily be blamed on some of the many distinctive features of Japanese society, and whilst South East Asia and other parts

of the world might have their own problems, there was great confidence in most Western countries as they entered the twenty-first century. The “dot-com” bubble might have burst but the economic outlook was generally seen as benign, described in terms such as “the Great Moderation”. Lending and real estate prices might be high and inequality might be rising but this was not taken to indicate structural problems. Stagnation seemed far away. When the crash came there was a sudden spate of interest in Keynes and central banks, supported by their governments, took decisive action. However, though Summers and economists who could be dismissed as being on the left (Stiglitz, Krugman, Piketty) might question whether structural problems were being overlooked, there was little inclination to question the foundations.

6. Conclusions

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