Analysis

Secular stagnation: A false alarm in the euro area?

International economy | 04 October 2018 | Michaela Elfsbacka Schmöller

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Worries about secular stagnation, a prolonged period of low growth, arose after the Great Recession. In the euro area, such fears may appear misguided given sound growth, tightening labour markets and expectations of gradual normalisation of monetary policy. Secular stagnation, however, focuses on the long term, its key structural drivers have remained broadly unchanged, and it does not rule out the occurrence of upswings. Moreover, the extent to which the expansion proves financially sustainable and remains sound in advanced stages of monetary policy normalisation will prove decisive. Recent technological innovations and their diffusion may hold sizeable productivity gains in store with the potential of overcoming the risk of secular stagnation. Policies that boost long-term growth represent a no-regret policy option and would help alleviate current constraints on monetary policy.



Secular stagnation concerns after the Great Recession

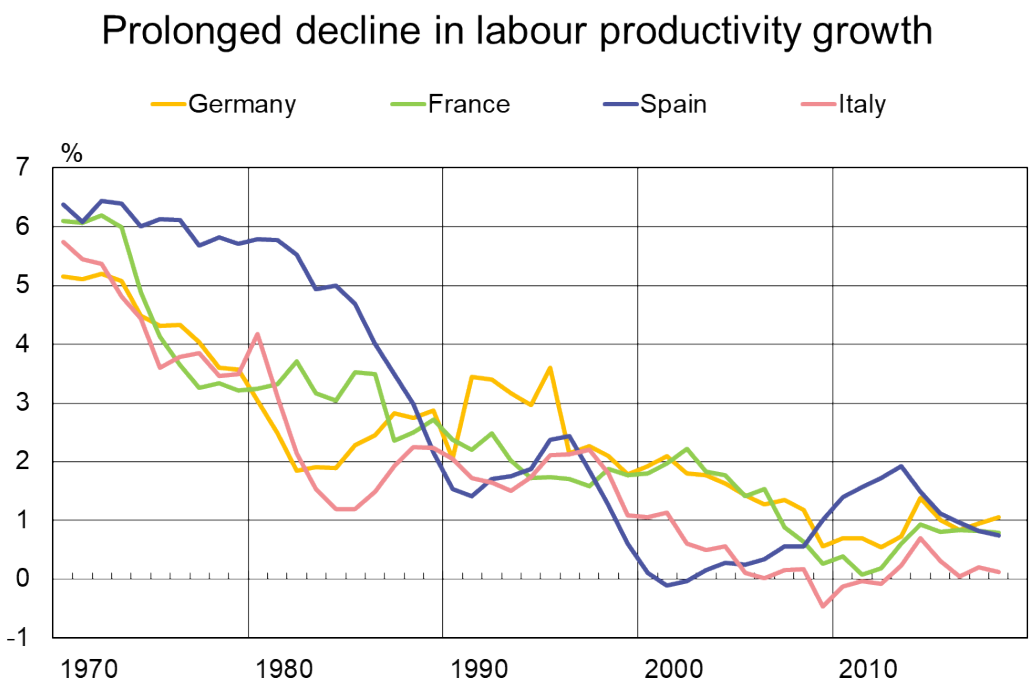
The Great Recession during 2008–2009 was characterised by a drastic fall in GDP and a marked increase in unemployment in the euro area and other advanced economies. Economic growth remained weak for many years following the crisis, accompanied by persistently high unemployment and subdued inflation. Productivity growth had slowed well before the crisis and its fall accelerated substantially during the Great Recession. This raised concerns that the advanced economies might be suffering from issues even more fundamental than the long-lasting effects of the global financial crisis, leading to a revival of the secular stagnation hypothesis.

While there is no single definition of 'secular stagnation', most views would agree that the term denotes a prolonged period of low growth, low inflation and low interest rates. Alvin Hansen coined the term in 1937 drawing on the experience of the United States following the Great Depression.[1] This episode was characterised by a prolonged period of insufficient aggregate demand and underinvestment, depressing the US equilibrium real interest rate.[1] While World War II and the subsequent baby boom reversed the key drivers in Hansen's argument at that time and the United States in fact did not experience secular stagnation, the Japanese 'lost decades' — the at present more than twenty years of low growth and low inflation following Japan's major banking crisis in the early 90s — are often referred to as a potential present-day example of secular stagnation. Following the burst of its asset price bubble in the early 1990s, Japan entered a major and long-lived crisis and was simultaneously confronted with severe population ageing. Ever since, the Japanese economy has undergone more than twenty years of weak growth[2] and subdued inflation in an environment of ultra-accommodative monetary policy.

What are the causes of secular stagnation?

The demand-side perspective on secular stagnation, formulated most notably by Summers (2014) and Eggertsson & Mehrotra (2014), focuses on the sustained decline of the natural rate of interest, which is a phenomenon observable in many advanced economies. Chart 1 illustrates the sustained decline in the natural rate of interest for the euro area. Accordingly, a persistent oversupply of savings over investment pushes the natural rate of interest lower, possibly even into negative territory, inducing a low growth and low inflation environment. Given the zero lower bound constraint on nominal interest rates, it is difficult for central banks to sufficiently lower real interest rates to raise investment to a level compatible with full employment. The drivers of secular stagnation in this setting are structural factors who exert downwards pressure on the natural interest rate. A key factor is population ageing, as currently observed in advanced economies, which increases the need to save for retirement. A rise in within-country inequality represents a further main cause in generating tendencies of secular stagnation as incomes and wealth are increasingly concentrated to fewer individuals with a correspondingly lower propensity to consume. In addition, persistent deleveraging efforts by households, as observed during the Great Recession, reduce aggregate demand and by that the natural rate of interest. The currently observed decline in the relative price of investment goods[3], such as machines and equipment, further raises savings over investment as any given level of investment can be attained by means of fewer resources.

Chart 1.



Labour productivity per hour worked, annual change, 5-year moving average.
Source: Conference Board.
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The demand-side view on secular stagnation is complemented by the technology pessimists' take, most prominently represented by Gordon (2015), which puts concerns about low current and future potential output growth at centre stage. The supply-side pessimists doubt that the digital and ICT revolution will be able to parallel the exceptionally high productivity gains reaped in the period between the 1920s and 1970s. They argue further that the most important productivity advances through ICT had been realised by the early 2000s in the form of widely-accessible internet, web browsing and email communication, while in the subsequent years the Third Industrial Revolution entered a phase of diminishing returns in terms of further productivity improvements.

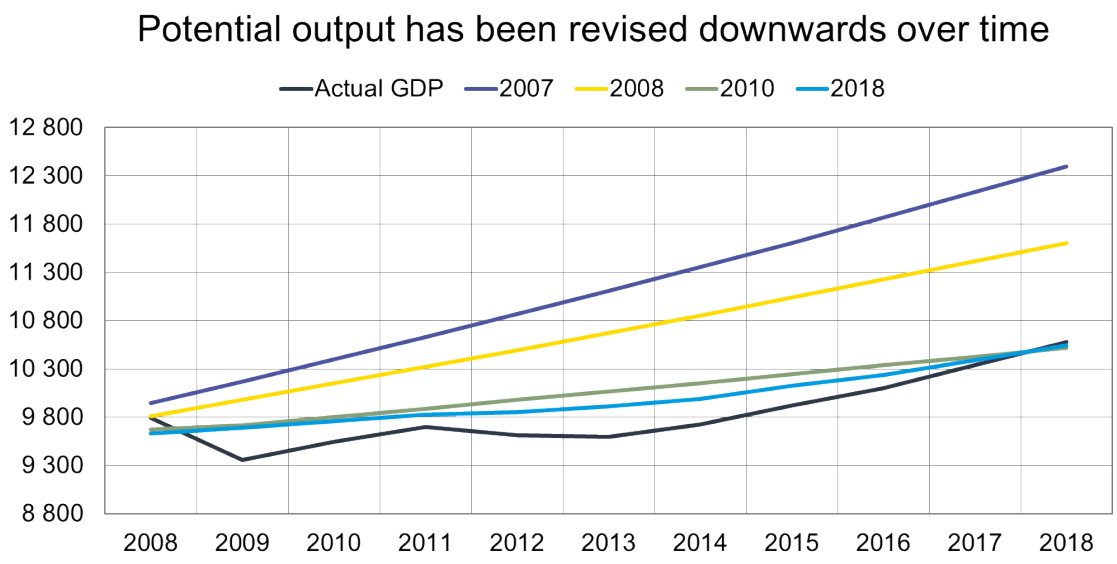
Importantly, both perspectives on secular stagnation are interlinked. Low potential output growth also contributes to a reduction in the equilibrium rate of interest via two main channels: First, a slower pace of innovation generates fewer attractive investment opportunities, decreasing investments. Slower productivity growth lowers households' income prospects, reducing their present consumption and increasing savings.[4] Secondly, the demand- and supply-side perspectives on secular stagnation can also be interconnected in the form of an 'inverse Say's Law'[5], where a prolonged lack of demand creates a substantial lack of supply.[6]

Secular stagnation versus hysteresis: complements rather than opposing views

When seeking to explain economic developments in the euro area and other advanced economies after the global financial crisis, the secular stagnation view and the hysteresis argument, which emphasizes the long-lasting effects of a severe crisis, are often treated as opposing theories; however, these viewpoints are not mutually exclusive. It is important to note that in this context secular stagnation is concerned with the long-term, while hysteresis focuses on the short- to medium-term developments that arose from the Great Recession — most notably the persistence of the recession, as well as the acceleration of the decline in productivity growth and interest rates in the aftermath of the crisis.

The secular decline in the equilibrium real interest rate and corresponding market-based interest rates is a long-term phenomenon (see Chart 1) which began well before the Great Recession and hence cannot be interpreted as only being crisis-induced. This observation also applies to the slowdown in productivity growth which already set in before the Great Recession (Chart 2).

Chart 2.



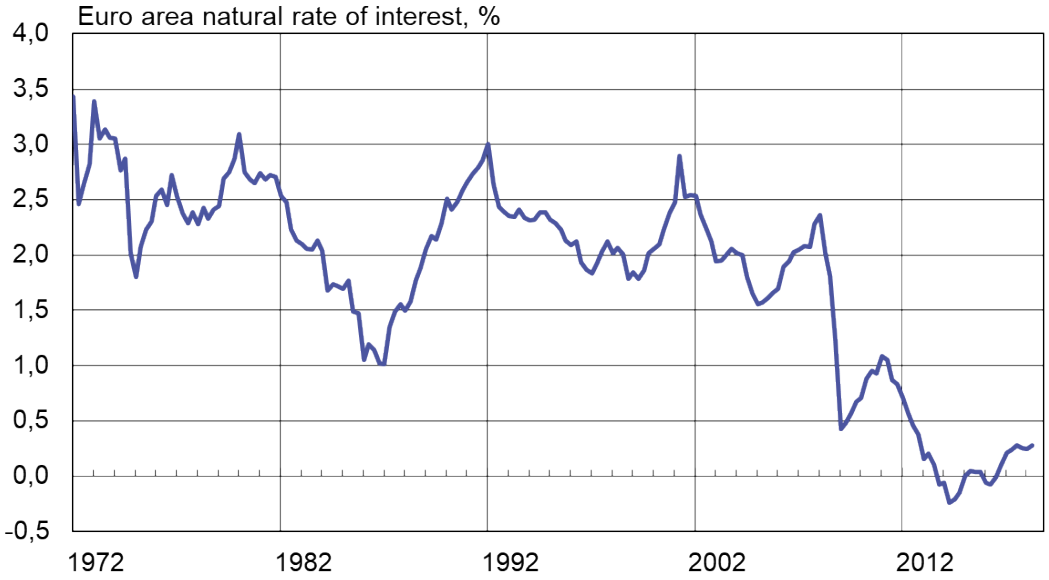
Volumes (euro billions, 2010 prices). Own calculations of the evolution of potential output based on the European Commission's forecasts of the output gap and potential output growth at various years.
Source: European Commission.
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The hysteresis view, in turn, points out that total factor productivity is not solely determined by long-term supply-side developments but also fluctuates procyclically as the key drivers of technological progress — R&D and the adoption of new technologies into production processes —

increase during upswings and fall during downturns. Chart 3 illustrates the dynamics of euro area business R&D expenditure over the business cycle and demonstrates the procyclical nature of innovation activity. As a result, productivity may decrease substantially in a downturn as both innovators and firms postpone productivity-enhancing investments to the future, generating highly persistent recessions. Thus, hysteresis considerations are particularly apt for explaining the acceleration of both the slowdown in productivity growth and the decline of the natural rate of interest following the Great Recession, as well as for providing insights into the depth of the recession and the initial sluggishness of the recovery.[7]

Chart 3.

The decrease of the natural rate is a long-term phenomenon and accelerated in the recent crises



Source: Holston-Laubach-Willams estimate (Holston et al. (2018)).
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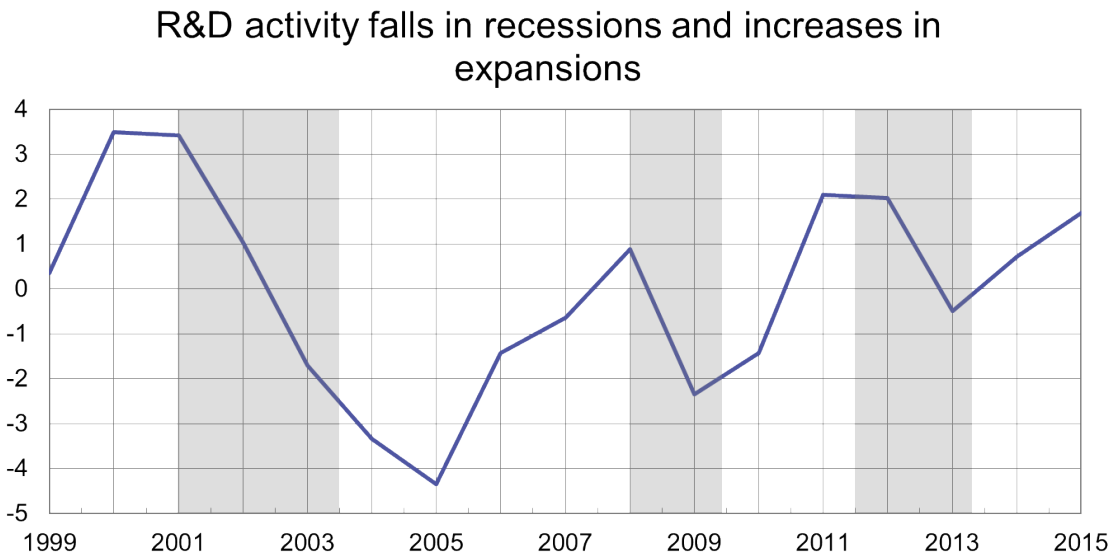
Expansions can occur in an environment of secular stagnation

In recent years, the euro area has seen continuous and marked improvement in its economic conditions. Unemployment has declined steadily and labour markets have become increasingly tight, while expectations of gradual monetary policy normalisation have strengthened. Worries about secular stagnation raised about five years ago appear to have been overly pessimistic and misplaced. Yet when evaluating the secular stagnation argument in light of the recent expansion, it

is important to note that secular stagnation does not exclude the possibility of upswings. Proponents of secular stagnation point out that expansions can occur in an environment of secular stagnation. However, they are increasingly likely to be fuelled by financial speculation, as the environment of ultra-low interest rates encourages investors' risk-taking and search for yield, also rendering financial crises more likely.[8] From the secular stagnation perspective, signs of secular stagnation had been present in advanced economies for many years but were masked by excessive risk-taking and financial unsustainability which were key in generating previous expansions in the first place — most notably, the build-up of a major housing bubble in several advanced economies preceding the Great Recession, which culminated in the most severe economic crisis in the post-war period.

Further observations suggest that the importance of the current upswing in overcoming tendencies of secular stagnation in the euro area should not be overstated. Firstly, the recent recovery in the euro area has been subject to substantial monetary policy support, rendering it crucial that the recovery remain self-sustained also in more advanced stages of monetary policy normalisation. Secondly, potential output has been subject to repeated downward revision since the crisis, as demonstrated by Chart 4 which shows potential output estimates at various time horizons against the evolution of actual real GDP in the euro area.[9] As a result, even a closure of the euro area output gap does not imply a return to the pre-crisis trend.

Chart 4.



Business R&D expenditures in the euro area (EA-12); own calculations (Schmöller and Spitzer (2018)); log-linearly detrended and population-adjusted data; constant prices;
Source: Eurostat; euro area recession bands according to the OECD business cycle classification.
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Lastly, secular stagnation does not mean that economies are bound to remain in stagnation. Rather, secular stagnation refers to an arbitrarily long period which persists only for as long as the major underlying driving forces prevail. A reversal in these key structural drivers would raise the natural rate of interest and thus bring the economy closer to normal territory. While this type of change might render fears of secular stagnation obsolete, it would not invalidate the initial grounds for these concerns in the time before the shift took place. From a historical perspective, Hansen's initial argument for secular stagnation was reversed due to exogenous change, most importantly by the marked increase in government spending during World War II and the subsequent baby boom. Estimates suggest that the natural rate of interest in the euro area has remained low and close to zero (see Chart 1), and no signs of a drastic recent reversal are discernible at present. Likewise, the main drivers of secular stagnation, such as the decrease in the relative price of investment goods, population ageing and the increase in inequality are all long-term, slow-moving factors[10], making an abrupt turning point unlikely. Consequently, the current expansion in the euro area should be interpreted as a recovery from the persistent effects of the Great Recession and the sovereign debt crisis and thus a medium-term phenomenon, while long-term interest rates at present remain at historically low levels - bearing the corresponding risk of secular stagnation.

Recent technological progress may reverse tendencies of secular stagnation

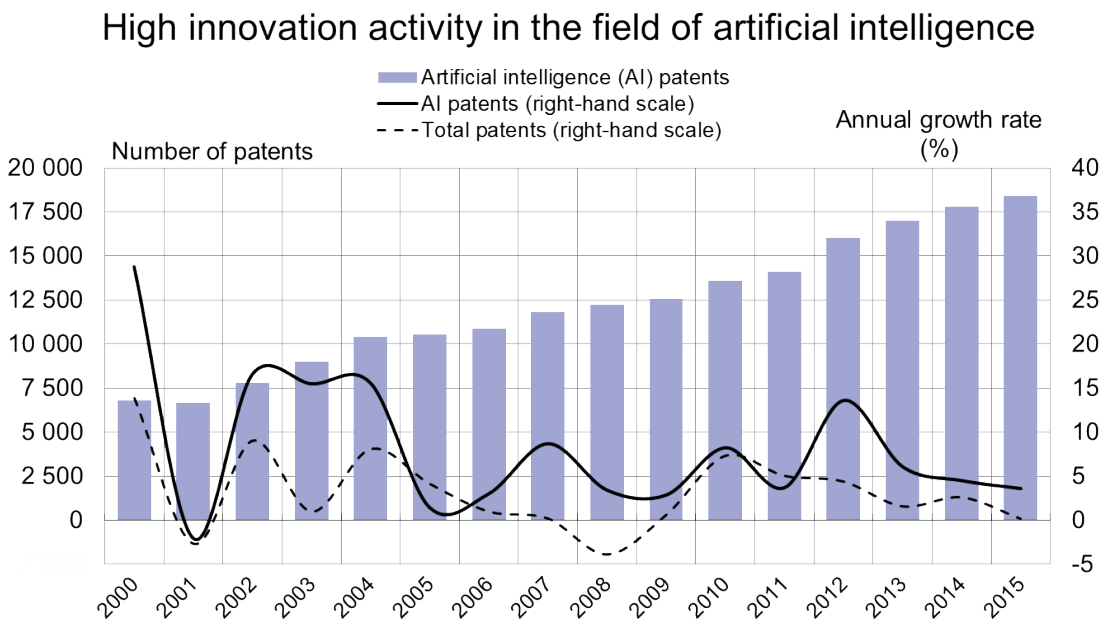
The technology pessimists' rather bleak outlook on productivity can be challenged by a positive take on the future evolution of productivity. From this perspective, technological progress may hold in store positive future surprises, as recently developed technological innovations may have an outstanding impact on productivity and the overall economy, including the capacity of reversing tendencies of secular stagnation.

At present measurement issues may underestimate the contribution of digital technologies to economic output and hence productivity as conventional GDP and productivity measures are not aptly designed to fully capture their effect. However, while recent evidence suggests that mismeasurement is indeed an issue, its extent and the resulting underestimation of growth is likely to be small and thus not capable of explaining the magnitude of the slowdown in productivity.[11]

It is important to note that productivity growth evolves in a two-stage process: the initial invention of new technologies through research and development, subsequently followed by technological diffusion, i.e. the incorporation of these new technologies in the production

processes of firms. As a result, even though many important technology advances may have been invented in recent times, they will only exert an effect on output and productivity once firms utilise these technologies in production. Potential productivity gains from technologies that have yet to be widely adopted may be sizable. A central example is the field of artificial intelligence in which future productivity gains may be considerable once AI-related technologies diffuse to the wider economy. Chart 5 illustrates the evolution of patents in artificial intelligence and shows that numerous innovations have occurred in this field since the early 2000s and that AI-related innovation activity has grown rapidly. AI may represent — as did the steam engine, the internal combustion engine and personal computers — a general purpose technology, meaning that it is far-reaching, holds the potential for further future improvements and has the capability of spurring other major, complementary innovations over time with the power of drastically boosting productivity. Incorporating AI in production requires substantial changes on the firm-level, including capital stock adjustments, the revision of internal processes and infrastructures, as well as adapting supply and value chains to enable the absorption of these new technologies. Consequently, this initial adjustment related to the incorporation of general purpose technologies in firms' production may take time and may initially even be accompanied by a drop in labour productivity before delivering positive productivity gains.[12]

Chart 5.



Patents in artificial intelligence technologies, IP5 patent families.
Source: OECD, STI Micro-data Lab: Intellectual Property Database, http://oe.cd/ipstats, June 2017.
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Relatedly, as established in the previous section, the Great Recession and subsequent euro area

debt crisis are also likely to have negatively impacted the evolution of productivity as productivity-enhancing investments may have been postponed, causing a procyclical fall in research and development activity as well as firms' incorporation of new technologies in their production processes. Given the procyclicality of total factor productivity, productivity may improve substantially in the context of the current expansion: sound overall economic conditions may foster innovation through increased R&D activity and especially so the capacity and willingness of firms to integrate new technologies in production. These procyclical productivity improvements may also have the capacity to substantially support the ongoing recovery in a self-reinforcing manner via a positive feedback mechanism between sound economic conditions on one hand and productivity gains on the other.[13]

Policies that boost potential growth: a no-regret policy option

Secular stagnation holds important implications for monetary policy, as the core of the secular stagnation hypothesis lies in the sustained decrease in the natural rate of interest rate. Because of the effective lower bound on nominal interest rates, the central bank's room for lowering key policy rates is limited and unconventional monetary policy measures may be needed more often. Moreover, in the presence of a low equilibrium interest rate, it may be increasingly difficult for monetary policy to achieve its inflation target —even when the zero lower bound is not binding — as economic agents may adjust their inflation expectations downwards. This situation may arise when agents reassess the likelihood of the zero lower bound to bind in the future and thus reassess the corresponding tail risk in future inflation. This reassessment could, for example, be triggered by changes in their views of the economy's long-term growth and equilibrium interest rate, as well as a recent occurrence of a zero lower bound episode.[14]

The general adverse effects attributed to secular stagnation as well as the corresponding potential obstacles for monetary policy mean that addressing the headwinds causing secular stagnation is key when designing adequate macroeconomic policies. Growth-promoting policies aimed at counteracting the decline in the equilibrium real interest rate and which support potential output growth are a promising avenue for policymaking. Crucially, and in contrast to other suggested policy tools such as expansionary fiscal policy or raising the inflation target, growth policies are not subject to the corresponding risks related to central bank credibility or fiscal sustainability. Growth-promoting measures seek to boost long-term potential growth and through that individuals' future income prospects, rendering them desirable from a welfare perspective. This holds true irrespective of the presence of secular stagnation — a pivotal point in light of the uncertainty about the prevalence of secular stagnation — making them a 'no-regret option' for

policymakers.

Potential policy measures could aim at supporting innovation through research and development as well as easing market access for start-ups and entrepreneurs. Strengthening education, particularly at the lower end of the skills distribution, is key in promoting the absorption of new technologies and will at the same time alleviate the challenges resulting from structural change and automation. Further measures could aim at increasing labour market participation through the integration of workers on the side-lines of the labour market. Public infrastructure investments, in turn, would have the advantage of raising long-term potential growth while at the same time mitigating the present-day risk of secular stagnation by boosting aggregate demand.

A risk of secular stagnation in the euro area remains

In the aftermath of the Great Recession, concerns arose that advanced economies might be faced with more than a persistent response to the financial crisis, leading to a revival of the secular stagnation hypothesis. From the demand-side perspective, secular stagnation follows from an increase in savings relative to investment, triggered by structural factors such as population ageing, an increase in inequality and a fall in the relative price of investment goods. This excess in savings pushes the natural rate of interest close to or below zero. The supply-side perspective on secular stagnation, respectively, focuses on a slowdown in potential output growth, mainly as a result of the Third Industrial Revolution having entered a phase of diminishing returns.

The secular stagnation view and the hysteresis argument, which emphasizes the long-lasting effects of the global financial and sovereign debt crises on the euro area economy, appear to be complements rather than opposing theories in understanding both the sustained decline of the natural rate of interest and the slowdown in productivity. Crucially, secular stagnation is concerned with the long term and contributes to explaining the persistent decline in the euro area's natural rate of interest and productivity growth which had both already set in decades ago. The hysteresis view, in turn, provides important insights into the causes of the acceleration of the slowdown in productivity and the decrease in the natural rate of interest following the recent crises in the euro area as well as the depth and persistence of the recessions.

When assessing the validity of the secular stagnation hypothesis against a backdrop of economic expansion in the euro area, it is important to take into account that upswings can also occur under tendencies of secular stagnation. However, in an environment of secular stagnation, expansions are more likely to prove unsustainable, as ultra-low interest rates favour risk-taking and search for yield — features that characterised the expansion of several advanced economies before the financial crisis. Therefore, to be able to conclude that recent concerns about secular stagnation merely represented a false alarm, it is crucial that the prevailing expansion proves sustainable and

persists also in advanced stages of monetary policy normalization. Moreover, while current economic conditions can be considered sound, the slowdown in productivity growth and the fall in the natural interest rate have largely remained unchanged and a drastic reversal is not observable in the data at this stage.

Secular stagnation should not be misinterpreted as remaining in stagnation perpetually. Instead, tendencies of secular stagnation only prevail until its main driving factors are reversed. While drivers of secular stagnation are mainly slow-moving factors for which no sudden changes may be expected, recent key technologies, such as artificial intelligence, might be capable of countering the slowdown in productivity and by that tendencies of secular stagnation. Lagged technological diffusion could be why the effects of recent innovations have not yet been discernible in economic data, as firms need to first incorporate them into production. Thus, sizeable productivity gains may be realised once these key technologies diffuse to the wider economy. Moreover, given the procyclicality of total factor productivity, productivity may notably improve in the context of the current expansion, as the latter fosters both R&D activity and firms' readiness to incorporate new technologies in production with the potential of supporting the expansion in a self-reinforcing manner.

In conclusion, it remains unclear if the euro area is currently subject to the threat of secular stagnation. While economic conditions have improved substantially, the natural rate of interest and productivity growth have at this stage remained low. This may hamper monetary policy, as its room for manoeuvre by means of standard policy measures may be more frequently constrained in the event of a downturn. In addition, it may become more challenging to bring inflation to target — even in the absence of the zero lower bound — as a result of a possible downwards adjustment in inflation expectations. Policies that promote potential growth are an apt policy option to counteract the low growth and low interest rate environment and exert desirable effects regardless of whether fears of secular stagnation materialise or not.

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Notes

1. See Hansen (1939) for details. ↑
2. Note that per capita GDP growth in Japan has performed substantially better than overall output growth over this period. ↑
3. See Sajedi and Thwaites (2016) for reference. ↑
4. For reference see, for instance, Fischer (2016). ↑
5. Source: Summers (2015). ↑
6. This insight has recently also been proposed by economic research, most notably by Benigno and Fornaro (2018). ↑
7. For an analysis of productivity-related hysteresis effects and their role in explaining business cycle persistence, see Anzoategui, Comin, Gertler and Martinez (2017) for the United States and Schmöller and Spitzer (2018) for the euro area. ↑
8. See Summers (2014). ↑
9. See also Coibion, Gorodnichenko and M. Ulate (2017). ↑
10. See for instance Ferrero, Gross and Neri (2017). ↑
11. For reference, see Syverson (2017) and Byrne, Fernald, and Reinsdorf (2016). ↑
12. Source: Brynjolfsson et al. (2017). ↑
13. See Anzoategui et al. (2018) and Bianchi et al. (2018) for the US and Schmöller and Spitzer (2018) for the euro area case. ↑
14. Source: Hills, Nakata and Schmidt (2016). ↑

Keywords

hysteresis, low interest rates, monetary policy normalisation, productivity slowdown, secular stagnation