

More age, less growth? Secular stagnation and societal ageing

Introduction

The populations of the advanced economies are ageing. At the same time, their economies are showing signs of stagnation, with low rates of interest, limited growth in real wages and flatlining of national productivity (Dorling, 2020; Gordon, 2016; Jackson, 2017; Summers, 2016). Increasing periods of zero or even negative growth are disrupting earlier trends when growth seemed linear and resolutely upward (Durand, 2017, p.3). Empirical analyses exploring the extent, cause and consequence of this apparent economic stagnation have turned to the role of demography, and particularly the impact of demographic ageing. Several writers have suggested that a point exists when the ageing of a population ceases to reflect the material improvement of a society – increased productivity, rising household incomes and lowering mortality rates – and instead becomes a brake on further growth (Aksoy, Basso, Smith and Grasl, 2019; Van Der Gaag and De Beer, 2015). These perspectives suggest a future of unremitting stagnation as societies face the prospect of ‘super-ageing’, with declining fertility, rising later life expectancy and a shrinking working age population supporting a growing retired population (Yamada, 2020). The aim of this paper is to review the evidence for such secular stagnation, to draw out the various implications of the hypothesis upon an increasingly ageing world and suggest an alternative framing of secular stagnation, less as ‘problem’ than a solution to otherwise unsustainable growth.

Two explanatory models have been put forward for this assumed stagnation – one that focuses upon transformation in the economy of the advanced economies, as services dominate the economy and manufacturing accounts for a declining contribution to the national product, with limited scope for increased labour productivity and returns on capital flatlining, while demand plateaus as wages and retirement incomes barely keep pace with inflation (Stiglitz, 2018). This leads to diminishing productivity, which coincides with, but is conceptually disconnected from, the

concomitant ageing of the population. The second possibility assumes a directly causal connection between demographic ageing and economic stagnation. According to this view, as the economically active population falls (due to demographic ‘super-ageing’) and the numbers of unproductive consumers rise, the capacity for further productivity growth becomes limited, alongside diminishing consumer demand, and a preference for savings over investment becomes entrenched. In this scenario, mass ageing does not merely accompany the ending of historical trends of growth; it serves as its principal cause (Rouzet, Sanchez, Renault and Roehn, 2019, p.15).

The question addressed by this paper is to explore to what extent there is support for the ‘secular stagnation’ hypothesis, and particularly the question of whether societal ageing is making future growth ever more limited. If this is the case, is it reasonable to assume that the secular stagnation arising from such societal ageing poses a problem as worrying as a future of unremitting climate crises? In considering this prospect, might there be an alternative framing of this hypothesis, namely that secular stagnation provides a necessary brake to the potentially toxic combination of inexorable growth and unavoidable inequality? But before addressing this issue, I begin by examining first the evidence of secular trends in the demography of the advanced economies (i.e., their ageing) and second evidence of a lack of growth in their economies (i.e., stagnation of GDP) over recent decades. In the next section, I turn to the empirical literature analysing the nature of the inter-relationship between these two trends. In the final part, I reconsider what the thesis of secular stagnation implies for the future of ageing societies. I consider whether the evidence thus far gathered in support of the secular stagnation hypothesis represents the kind of demographic catastrophe that might match the predicted climate crisis. In so doing, I suggest that the impact of societal ageing might prove a necessary future brake upon unending growth and rising inequality such as has been a prominent feature of the last three decades.

Secular trends in the demography of ageing

The United Nation's recent estimates of population change indicate that the population of the world is ageing, with the most evident signs occurring across Europe and parts of East Asia. Figures 1, 2 and 3 indicate these trends for the world, Europe and East Asia, up to 2020¹.

Insert Figure 1 here

For much of the twentieth century, the world's population grew steadily, with the number of young people and people of working age increasing at the fastest rates. Since 2000, however, the rise in the numbers of people aged 65 and over has increased at a rate ten times (72%) that of young people (7.1%) and more than twice that of people of working age (33.3%). Future UN projections suggest that within two decades, outside of Africa, there will be no further overall population growth. The so-called demographic dividend of a growing pool of labour risks turning into a demographic burden (Van Der Gaag and De Beer, 2015).

For the advanced economies, the transformation is beginning. As Figure 2 illustrates, population growth across Europe has ceased. While the working age population continued to grow throughout the 20th century, since 2010 it has started shrinking. The rise in the number of young people already peaked by 1970 and has been in decline ever since. The so-called demographic dividend, represented by the growing size of the working age population is slowing down across much of the world; in Europe, it has already come to a stop. It is now doing so in East Asia (see Figure 3).

Insert Figures 2 and 3 here

¹ The UN includes the Russian Federation as part of the European region; while the East Asian region consists of China (including Hong Kong, Macau and Taiwan), North and South Korea and Japan.

By 2020, the East Asian region (which includes two of the world's most populous countries, China and Japan) was witnessing an end to its 'demographic dividend'. The working age population of the region had ceased growing, the population aged under 15 years was declining and the over 65s population was rising. UN population forecasts for this region suggest that within another decade, demographic growth will be at an end, as is the case already in Europe (UN, 2019).

In short, the population in most of the advanced economies seems likely to become increasingly split between a relatively stagnant or shrinking working age population whose labour must sustain a growing post-work community of retired and semi-retired men and women whose consumption needs (whether realised through post-work affluence or age associated transfers) will continue to grow. This leads to a consideration of how this reflects trends in the economy, in levels of consumption and productivity over the same period – and thus whether there is at least superficial evidence of changes in the economic growth of today's advanced economies mirroring their demographic ageing.

Secular trends in economic growth

If the basic method of calculating age's chronological structure has scarcely ever changed, enumerating economic growth is both a more recent practice and one still fraught with contested interpretations for evaluating the national economy. As already noted, the existence of 'secular stagnation' is itself widely disputed, with major disagreements between such eminent US economists as Larry Summers and Joseph Stiglitz (Summers, 2018; Stiglitz, 2018). Central to these disputes is the idea that as economies 'mature', the returns on investment lessen, populations, wage rates and consumer demand stabilise, and economic growth gradually comes to a near halt. The assumption of a parallelism between economic and population growth reflects a theory that, as Backhouse and Boianovsky have noted, was widely assumed by a range of early economic thinkers, from Thomas

Malthus and Adam Smith to David Ricardo and Karl Marx (Backhouse and Boianovsky, 2016, p.948).

It was given a clearer, more modern form when Alvin Hansen, writing in the wake of the Great Depression of the 1920s, foresaw a virtual cessation of population growth and limited new investments that, without deliberate intervention, would lead to a collapse in new capital formation, and with neither expansion of the population nor in resources, no or at most only slow economic growth – that is ‘stagnation’ of the US economy (Hansen, 1939). Then came the war and in its aftermath, the massive expansion of the US economy the impact of which swept across the developed world. There would be no more talk of stagnation, at least until the second major crisis affecting the US economy and its wider globalised hinterland – the Great Recession of 2007/8 (Backhouse and Boianovsky, 2016). It was at this point that Larry Summers resurrected Hansen’s thesis to describe what he saw as a similar lack of spring back from the recession evident in the advanced economies (Summers, 2013; 2014).

Throughout the ensuing debate, there has been a degree of ambiguity both in what is meant by ‘stagnation’ and what sort of indicators might best capture it, leading some to consider it “the economist’s Rorschach test...meaning different things to different people” (Teulings and Baldwin, 2014, p.3). Economic growth arises primarily through the three major factors of production, labour, capital and land (materials). If there is near full employment and zero population growth, increased labour productivity can only arise through technological investment and innovation. Increased productivity arising through capital requires there to be growth in investment, relative to savings. The absence or slowing down of growth in total factor productivity (TFP – i.e., the ratio of the value of what is produced divided by the costs of the labour and capital put into production) also implies stagnation and there is little doubt that productivity growth in the advanced economies has been stalling for some decades now (see Figure 2.2, in Jackson, 2017, p.45) .

The distinction between growth in gross domestic product (GDP) and growth in total factor productivity (TFP), between real (adjusted for changing prices) versus nominal (unadjusted) GDP, and between nationally standardised versus internationally standardised gross income, termed purchasing price parity (PPP) become important distinctions in determining exactly how growth - or stagnation – is measured. This is especially so as the rise of what has been termed ‘fictitious capital’ – capital that is orientated away from productive activities towards financial ones – accounts for an increasing percentage of the gross domestic product of the advanced economies (Durand, 2017, p.75). Thus, while labour productivity has stalled since the 1970s, the financial sector ‘has grown in a strong and continuous fashion’ over the same period, arguably leading to an asymmetry of growth benefitting asset holders much more than those reliant upon earnings (Durand, 2017, p.82).

Capturing secular trends within this broad time frame, say, from 1975 to 2020, introduces a further factor, namely the precise time frame over which growth or stagnation is to be measured. Growth or stagnation can be measured in years, in decades or in even longer periods, lasting over a century. Given these complexities and contingencies, it is hardly surprising that attempts over the last decade to test the ‘stagnation’ hypothesis empirically have not resulted in converging findings. One recent study, for example, that was based on US data, chose to measure stagnation through indices of labour and multifactor [TFP] productivity rather than ‘real GDP’ (Borsato, 2021, p.5) arguing that the former constitute ‘the key drivers of economic growth [and] changes in living standards’ (op.cit., p.5) while real GDP is too volatile and ‘pro-cyclical’ a measure to provide reliable data on trends. Using almost a century’s worth of data on US TFP, this author found that growth in US productivity fell from above 2% per annum up to the 1950s, dropped to 1.7% in the period 1950-1972, and reached a low of 0.5% in the period during and after the Great Recession (2007-2018). In contrast, Borsato noted that figures for real per capita GDP have been ‘almost trendless since the late nineteenth century’ (Borsato, 2021, p.10). In short different indicators of ‘growth’ produce different

perspectives on whether there has or has not been evidence of secular stagnation in the US economy, over recent decades – and hence whether there is something to explain.

In contrast to the USA, much stronger evidence of secular economic stagnation has been witnessed in Japan, for some time now (Eberstadt, 2012; Zielenziger, 2006). For almost three decades, the Japanese economy has found itself seemingly stuck, with low growth in GDP, in real wages and in labour productivity. Drawing upon data presented in a recent review of the Japanese economy since the mid twentieth century (Akram, 2019) Figure 4 below indicates this pattern of growth and stagnation in Japan's real per capita GDP and labour productivity alongside changes in the size of the adult workforce.

Insert Figure 4 here

If Japan provides some of the clearest evidence of secular stagnation, Europe might be considered more likely to follow, at least as compared with the USA, where fertility remains higher, there is more net in-migration, and the population is assumed to keep growing for some decades yet.

However, there are fewer studies of secular stagnation in Europe, perhaps because the origins of the secular stagnation hypothesis and its recent revival have come from US economists (Hansen, 1939; Summers, 2014; 2016).

At the same time, concern over 'weak economic activity in the EU' has been evident since at least the turn of the century (Pichelmann and Roeger, 2004) and much hope was pinned on the structural reforms proposed in Lisbon that were intended to boost employment and innovation and liberalise markets (Commission of the European Communities, 2007). Since the recession and even before, there has however been at best only weak growth in real wages and productivity (Arsov and Evans, 2018) and despite the re-launch of the 'Lisbon strategy' of promoting labour and product market reform, Europe seems to fulfil many of the features of secular stagnation, leading some to argue that for Europe secular stagnation is now 'the new economic reality' (Praet, 2017) .

Comparing rates of growth in annual GDP per capita, over the period from 1980 to 2020, between the European Union and Japan, supports this view that both economies have shown a stunted pattern of growth since at least 1990 (see Figure 5).

Insert Figure 5 here

The place of ageing in the new ‘secular stagnation’ hypothesis

Framing the slowing of growth across advanced economies as ‘secular stagnation’ has led to a number of hypotheses to account for the phenomenon. Each in turn highlights a different set of potential determinants, from those embedded within endogenous macroeconomic systems involving rates of savings, investment, interest and total factor productivity to those that seek an explanation couched in terms of ‘external’ structural factors, such as the effects of growing wealth and income inequalities, the dominance of capital versus labour in creating surplus, as well as demographic changes altering the ratio of production and consumption, savings and investment and labour productivity (Arsov and Ravimohan, 2020; Di Bucchiano, 2020; Eggertsson, Mehrota and Robbins, 2019; Gordon, 2012;2015; Michau, 2018; Petach and Tavani, 2020; Storm, 2017).

Some have argued that underlying all these econometric formulations of secular stagnation is the old idea that the economy reflects a society’s ‘reproductive fitness’ (Cooper, 2019; McClanahan, 2019). This intimate ‘organicist’ connection, McClanahan argues, has persisted down the centuries linking the corporeal with the economic, even as the precise formulation that is offered varies (McClanahan 2019). Production and reproduction, desire and demand, vigour and exhaustion serve as more than mere metaphors in economic thinking; they provide a common cultural trope that gives the secular stagnation hypothesis much of its dystopian fascination.

Recent attempts to formalise a demographic theory of economic stagnation fall into two broad groups. The first emphasises changes in the structure of the population (falling fertility, rising

longevity, the declining proportion of available labour in the population and the changing balance between production (reflected in both capital and labour productivity) and consumption (reflected in the spending down of savings in later life as well as increasing transfers between the working and non-working populations). The second focus upon the erosion of the surplus created by capital and labour because of the rising consumer demands of an expanding class of older retirees. While the latter group prioritise the impact of lowering support ratios (that is the number of ‘workers’ supporting the number of retirees) the former are concerned with the fall in fertility beyond the rate needed to maintain the size of the population and thus the decreasing availability of labour.

Traditionally, economic growth has been seen to reflect growth in the availability of labour, land (raw materials) and investment capital. In Hansen’s original account of US secular stagnation, he saw the absence of population growth as the critical factor in slowing future growth, leading to declining profits, with consequent reductions in investment and eventual stagnation (Hansen, 1939) . The population of the USA soon started increasing again and in the period from 1950 to 1975, economic growth surged at a rate faster than ever before. In the aftermath of the Great Recession of 2007/8, the spectre of demographic decline was resurrected as a critical factor accounting for what some saw as another period of stagnation in economic growth in the weak ‘bounce back’ evident in the post-recession economy.

One strand of research examining the revised secular stagnation hypothesis has been to examine the effects of population ageing on economic growth. In one review of such studies, (Nagarajan, Teixeira and Silva, 2016) the authors reported on 25 studies that had conducted an empirical analysis of this relationship. The results they found were mixed, in large part depending upon the mechanisms chosen by the researchers to measure the relationship and their method of analysis. Viewed as the ‘loss’ of human capital (reflected by the support ratio of workers to pensioners) there was little relationship; viewed in terms of changes in consumption and savings, the relationship was positive and when viewed in terms of increasing social expenditure, it was negative

(Nagarajan, Teixeira and Silva, 2016, p.28). A more recent review also found ambivalent results, with the nature of the relationship between growth and ageing depending upon the countries studied, their levels of domestic productivity, the type of demographic change being explored (e.g., increases in life expectancy, size of the working age population, etc.) and the pattern of public social expenditure of the countries concerned (Kozlovskiy, Pasichnyi, Lavrov, Ivanyuta, and Nelytaliuk, 2020).

An analysis of OECD and non-OECD countries also found no association between ageing and lower GDP per capita, at least since the 1990s, which is commonly viewed as the period when the adverse effects of ageing began to have an impact (at least in the advanced economies of the world). In fact, the authors found evidence that demographic ageing may increase economic growth (Acemoglu and Restrepo, 2017, p.174). The reason for such counter-intuitive findings, they suggested, arises from the association between a country's investment in automation and its rate of demographic ageing. As the proportion of a country's 'working age' to 'older age groups' falls, so investment in the non-labour components of production rises, particularly as reflected in the use of industrial robotics (Acemoglu and Restrepo, 2017, p.179). The engines of economic growth, they implied, no longer reside in the productivity of labour (however achieved) but in technological developments of the productive process. Given the declining contribution of labour and the increasing significance of automation, change in the ratio of the productive component to the unproductive segment of the population ceases to play the significant role it once did (Acemoglu and Restrepo, 2019, p.27).

On the other hand, in one of the few studies focusing upon ageing and growth in 'middle income' countries, Rahman, Ismail and Ridzuan (2020) found that, after including a variety of other mediating factors influencing growth, there was a persistent negative relationship between population ageing and growth. Similar results were found in a study of 18 higher income European countries, in which projected trends in their age structure and economies, calculated for the next twenty years,

indicated ‘a lower long-run potential growth rate’ associated with greater demographic ageing (Favero and Galasso, 2015, p.24). These authors also noted that policies that emphasise structural reforms designed to stimulate growth, such as labour market liberalisation are less likely to be implemented as such policies are generally opposed by middle aged and older people (though supported by younger people), implying that population ageing not only places constraints on economic growth, but also places constraints on policies designed to counteract stagnation (Favero and Galasso, 2015, p.23).

Given the complexity introduced by conducting international studies, especially where the range of countries, their economies, welfare systems and demographic structures differ considerably, some authors have focused instead upon examining intra-national trends in economic growth and ageing. In one study, focusing upon Bangladesh as a low-income country, the authors found a clear significantly positive relationship between the growth in the over 65 population and economic growth, as measured by per capita GDP (Mamun, Rahman and Khanam, 2020, p.23). These authors argued that by including fixed capital formation in their model of growth, it was possible that despite the ageing of the population, so long as capital investments continue to yield greater productivity, and social spending on later life remains relatively low, low-income countries like Bangladesh are unlikely to face secular stagnation in the near to medium future. In the contrasting high-income country that is the USA, researchers examined the relationship between the size of the over sixty population in each of the states of the USA and the state’s real GDP growth, over the period .

Finally, there is the question of period effects. If part of the variation from one country to another is both the extent of population ageing (moving, say, from 8% to 12% of the population being over 65, compared with a move from 15% to 20% over 65) and the period when such ageing took place (say 1990 to 2004 compared with 2006 to 2020), the impact may vary because the financial conditions at the time may change, either promoting or deferring greater capital deepening and rising or falling interest rates (Eggertsson, Lancastre and Summers, 2019). In considering the

apparent positive impact on growth of population ageing noted by Cutler et al (1990) and reinforced by the more recent study of Acemoglu and Restrepo (2017), these authors examined data on GDP per capita from over 150 countries, organised into two periods within the broader timespan from 1990 to 2016. They found that for the period prior to the Great Recession, 1990 to 2008, the relationship between ageing and per capita GDP was positive, but after 2008 it became negative (Eggertsson, Lancastrre and Summers, 2019, p.328). The explanation these authors offer is that, as Cutler and others had argued, so long as there is a positive return on capital, ageing (and the consequent reduction in labour supply) will be associated with capital deepening. As zero levels of real interest are reached, however, as they were after 2008, at least for some, mostly the advanced economies, ageing no longer is associated with capital deepening. Instead, savings accumulate while investment falls. At this point, the authors argue, secular stagnation kicks in, the relationship between capital deepening and ageing goes into reverse and, without major policy changes, they predict, stagnation will become endemic. This is the case facing most of the advanced economies, constrained as they are by the 'zero lower bound' nominal interest rate.

The future of ageing societies: stagnation, decline or sustainable low growth?

The secular stagnation hypothesis predicts that the ageing of populations may no longer deliver the 'demographic dividend' it once did, becoming instead a 'demographic burden' upon present and future ageing societies (van der Gaag and Beer, 2015). Faced with persistent low to zero real interest rates (King and Low, 2014), the decline in the labour force can no longer be compensated by capital deepening. Instead, investment declines and excess savings build up a stagnant pool of unemployed cash. In consequence, productivity in the advanced economies seem destined to flatline. The days when economists of ageing such as David Cutler could argue that the decline in the labour force will stimulate a rise in greater technological innovation and capital

deepening are no longer accepted as the rosy financial future of ageing societies (Cutler, Poterba, Sheiner and Summers, 1990).

The lack of real growth in the returns on labour, and the overall fall in the relative size of the working age population does not represent stagnation in everyone's standards of living, however. Those earning the most, whose labour provides the highest returns and places them in the top one percent of earners seem likely to escape this otherwise gloomy scenario. Indeed, they are likely to build up a surplus more than sufficient to sustain a rich retirement, should they choose to retire, or a satisfying pattern of semi-retirement guaranteeing an income that derives as much from rents and the return on capital as it does from their protected part-time salaries. But it is this very inequality that writers such as Gordon have argued foster the low rate of growth that societal ageing and the concomitant decline in the size of the working age population initiate (Gordon, 2012, Figure 6, p.19). In the absence of broad-based growth, secular stagnation threatens to become an endemic feature of the advanced economies, cementing both income and wealth inequalities that in turn limit the scope for maintaining let alone expanding levels of social spending. It is the growth of inequality, rather than the lack of growth per se, that most threatens social well-being.

These pictures have been drawn primarily from analyses of Europe and North America. The East Asian economies – notably those of China, Japan and South Korea – seem to present even greater challenges, because their rate of ageing is or will soon be even faster than that of the economies of 'the West' (i.e., Australasia, Europe and North America). They too demonstrate similar widespread inequalities in income and wealth (Feng, 2011, p.3; Jain-Chandra, Kinda, Kochhar, Piao and Schauer, 2019, p.20). Japan is already a 'super-ageing' society, whose economy has been 'stagnating' for several decades now (Akram, 2019). Its population is in absolute decline and its government intent upon a strategy to stimulate the economy based upon further automatization extending beyond increased productivity to the technological enhancement of social reproduction (Deguchi et al., 2020). China is itself on the brink of moving from a 'not yet aged' to a 'super-

ageing' society and South Korea is heading in a similar direction. Over the course of the first two decades of the 21st century, real GDP per capita growth has been estimated at 0.5% in Japan; for China, over the same period, 7.5% and 3.1% for South Korea (macrotrends, 2021). Figure 6 illustrates this picture of low or falling rates of nominal growth in GDP per capita for Japan, and for China and South Korea who are beginning to show such a slowdown in the most recent decade.

Insert Figure 6 here

According to the World Bank's most recent forecasts, labour productivity growth of the advanced economies has halved since the 1980s and shows little signs of recovery following the recent shock of the Great Recession (World Bank, 2020, p.7). Even if, as some have argued (e.g., Acemoglu and Restrepo, 2017; 2019), the rising numbers of people over retirement age serves to stimulate companies to improve falling productivity by pushing automation further, and invest in greater robotization, such effects are unlikely to sustain continuing growth as the possibility for ever further 'capital deepening' stalls as interest rates reach their zero lower bound (Eggertsson, Lancastre and Summers, 2019).

Such considerations present several policy issues. If there are limits to gains in productivity arising from the third technological revolution (i.e., the widespread use of information and communication technology, AI and roboticization) and constraints on effecting changes in investments and savings arising from the impossibility of further lowering interest rates – and hence making capital for investment more appealing. This comes to the heart of the secular stagnation hypothesis as put forward by Summers – namely the failure to raise productivity to its earlier rates of growth because of both falling levels of labour and near zero rates of interest effectively blocking off both routes to enhance productivity (increased labour and capital investment). Several studies already referred to (Aksoy, Basso, Grasl and Smith, 2019; Eggertsson, Lancastre and Summers,

2019; Ferrero, Gross and Neri, 2019) have provided evidence in support of this thesis (that increased ageing leads to reduced output growth, higher savings and lower interest rates) across the OECD, in Europe and in the USA.

Arguably this points to a more vicious circle, as longer retirements demand more savings (at national and household levels) with the prospect of neither greater returns on labour (higher wages) nor on savings (low interest rates), in effect realising the metaphorical allegory linking age decline, population decline and economic decline – the demography as destiny writ large. And yet, even as Japan has led the way in becoming a ‘super-ageing’ society, it has not ceased being the fifth largest economy in the world. Standards of living have not fallen; indeed, by many counts they have continued to improve. How might this best be understood? Perhaps the thesis overestimates the deterministic impact of demography? Perhaps other factors within the economy have exercised more of an impact on growth than population ageing?

Returning to Gordon’s ‘six headwinds’ model of the factors constraining growth, is it possible that the ‘subtraction’ from growth he attributed to ageing is in fact even smaller than his estimation, and that the other factors (income and wealth inequality, national debt repayments, globalisation, diminishing returns on human capital, and energy costs) are more influential? As noted in the introduction of this paper, not every account of secular stagnation has been framed in terms of demography. While it is not the intention here to outline all the macroeconomic models that have been proposed to account for stagnation in national economies, since the post-war period of growth (1945-1974) there have been considerable fluctuations in economic growth, from booms, bubbles and busts to serial stagflation, each of which have generated their own explanations.

In other words, the existence of periods of low or limited growth does not automatically require some meta-hypothesis that patterns of economic growth, recession and stagnation share some common underlying factor, whether that is the inherent flaws in capitalist economies or an assumed organic link between reproductive and productive human activity. The ageing of the advanced

economies clearly poses several challenges not least of which is the best means of securing the material well-being of all age groups. But arguably policies designed to increase productivity – whether by further deregulation of labour, the progressive removal of trade barriers or by the expansion of financial products and services – are unlikely to achieve a fairer distribution of resources and hence the growth of a common good.

Conclusion

Across the advanced economies there has been a slowdown in labour productivity, declining interest rates and a relative lack of growth in national income (Arsov and Ravimohan, 2016; Del Negro, Giannone, Giannone and Tambalotti, 2019; Fritz, Gries and Feng, 2019; Goodhart and Pradhan, 2017). These trends have revived interest in what during the 1930s was termed ‘secular stagnation’ – the inherent failure of economies to ‘grow back to growth’ in the face of stalling demographic growth (Backhouse and Boianovsky, 2016). A variety of accounts have been given for this revised hypothesis, from those focusing upon the structural features of the economies embedded within most developed countries which are regarded as more or less ‘population-neutral’ to those that underline the critical role played by demographic changes, foremost of which are declining fertility and increasing longevity – causing the ageing and eventual shrinking of the population.

The idea of an organic link between demographic and economic change is an old one, based on the notion that a thriving economy goes hand in hand with a growing population. Moving beyond these somewhat allegorical views, with their implicit connection between an ageing population and a shrinking economy, the aim of this paper has been to explore the many contemporary attempts to tease out the substance to this relationship between demography and growth within the world’s advanced economies and to consider the various implications of these findings. While there is considerable evidence supporting an association between demographic ageing and declining rates of

return, reduced capital formation, stagnant total factor productivity and low patterns of growth in real GDP, there is considerable disagreement over how this association has come about and what it means. Broadly speaking, two conflicting positions can be identified, one that favours an incidental role for ageing, giving primacy to macroeconomic forces of demand, while the other favours a combination of ‘headwinds’ pushing down growth, including demographic ageing as one of the more important determining factors.

Regarding this latter position, societal ageing is seen to limit growth through several means, first on the supply side, by reducing the availability of human capital – that is the availability of labour; second by the greater propensity of an ageing population to consume rather than save, thus reducing the availability of investment; and third, by the fall in labour income taxes, and greater push toward social expenditure on age-related health and welfare expenditure rather than the kind of infrastructure investments that propel growth (Teixeira, Nagarajan and Silva, 2017, pp.909-910). Studies such as those by Teixeira and her colleagues illustrate how societal ageing induces an initial ‘demographic dividend’ by increasing the ratio of adults to children and thus growing labour productivity, greater savings and greater investment, in a virtuous cycle, but which eventually leads to the ‘demographic burden’ that is now facing ‘post-maturity’ economies, such as those in East Asia, Europe, and North America (cf. van der Gaag and Beer, 2015). Some recent studies have added further ‘estimations’ of the negative impact of ageing through the indirect calculation of input innovation as a stimulus for total factor productivity, based on the proportion of ‘young’ workers to the total workforce (cf. Aksoy, Basso, Smith and Garzl, 2019).

Against such demographic determinacy, are those who claim a more indirect role for societal ageing, for example through the influence of older voters on the policy choices open to government, rather than any direct effect of ageing on labour force productivity (Favero and Galasso, 2015). Their argument states that deregulation of labour markets and product development together with increased investment in human capital could raise overall total factor productivity and benefit younger workers

through higher pay. Such policies however are opposed by older workers and retirement age people whose preferences are for macroeconomic policy adjustments favouring greater returns on capital (e.g., rising house prices) and greater expenditure on health maintenance and welfare (Favero and Galasso, 2015, p.25). For these writers, the dilemma posed by societal ageing is not so much the constraints this imposes on labour, but the conflicting interests and policy preferences favoured and represented by older versus younger generations.

Explorations of secular stagnation are not all framed around the ageing or super ageing of societies. Writers such as Cooper argue that the emphasis upon societal ageing, what she calls ‘demographic catastrophism’ represents a redeployment of some of the older theories accounting for economic growth and decline, which serve to mask, or at least fail to recognise the other underlying structural problems of late capitalist development – namely its rising levels of inequality that hinders a wider and more sustainable pattern of growth (Cooper, 2019, p.337). Others argue that the cause for slow growth is the accumulation of excessive debt which has had the effect of firms and households alike focusing upon paying off debts rather than consuming or investing more (Rogoff, 2016), while organisations such as the OECD have offered theoretical and empirical evidence that growing income and wealth inequalities within the advanced economies are the major brake upon economic growth (OECD, 2015). Finally, some see the matter of stagnation not so much as a problem to be solved but as a necessary re-adjustment to rebalance ‘Earth’s human-carrying capacity’ (Gotmark, Cafaro and O’Sullivan, 2018). Tim Jackson’s book, *Prosperity without Growth*, is an example of this re-thinking of a macroeconomics for a ‘post-growth’ society (Jackson, 2017, pp.159 ff).

Whatever the causal mechanisms involved, the advanced economies of East Asia, Europe and North America are likely to continue to age, and to continue to grow more slowly than before. Other countries yet to age will no doubt continue to benefit from their own delayed ‘demographic dividends but the days of endless growth – of economies and of populations – and the fears engendered by such growth may have passed into history. It would be a shame if they were only to be replaced by yet

another form of demographic apocalypse – that of shrinkage and stagnation. Current forecasts remain positive – in the sense that despite the anticipated slowing of both the European, US and Japanese economies, and to a degree, China, sustainable growth is anticipated for the emerging economies of developing world (Jorgenson and Vu, 2017).

Societal ageing can be seen not so much as a demographic catastrophe looming ahead, but a necessary stimulus, reframing the nature and pattern of future growth and human prosperity. Rather than seeking to restore previous levels of growth that were part of the ascent of the now developed economies, an alternative policy in today's ageing societies may be to focus more upon redistributing income, wealth and the benefits of growth, so that all generations receive a fairer share of the likely more limited growth their societies can anticipate (cf. Jackson and Victor, 2016). At the same time, successive generations in the world's developing economies may be better positioned to benefit from the 'demographic dividend' previously enjoyed by their peers in the developed world, whilst avoiding some of the more unfortunate consequences of growth – for example by investing in 'growth with equity' and ensuring equal investment in both human and material infrastructure (Lee and Lee, 2018).

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