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# Will productivity growth come back after COVID-19?

## Putting the productivity slowdown in context for G20 countries

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**Policy makers have increasingly identified in the digitalization the key driver to move economies out of the quicksands of the productivity slowdown. However, without coping with the structural weaknesses of the global economy, this promise risks to remain a dismal illusion.**

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## INTRODUCTION: THE PRODUCTIVITY PUZZLE AND THE PROMISE OF DIGITALIZATION

By the time the COVID-19 crisis unfolded, both G20 advanced economies and some emerging countries were experiencing a secular slowdown in productivity growth. The COVID-19 crisis is now posing the threat of further worsening this pre-crisis trend, having caused massive disruptions of supply chains and demand meltdown both at the aggregate level and on specific consumption streams.

Against this background, digitalization has been recognized to be a possible driver of productivity recovery in the longer run. By freshening up traditional businesses and creating new ones, the digital transformation may raise potential productivity, eventually boosting the growth potential of all economies. According to this view, all countries, both advanced and emerging ones, have an absolute advantage in adopting digital technologies and fostering innovative investment.

## TECHNOLOGICAL PROGRESS, DEMAND FORMATION AND PRODUCTIVITY GROWTH: FROM SMITH TO KALDOR AND VERDOORN

Whilst there is little doubt about the long-run benefits of the digital transformation, not so much attention has been paid to the short and medium-run effects that digitalization may have on aggregate demand, productivity and employment. Putting it in context and linking technological progress and productivity growth with aggregate demand dynamics ought to be a key priority for policy makers.

Along these lines, empirical evidences consistently showed that – at least in the short run – productivity growth tends to be mainly driven by aggregate demand dynamics (Hein & Tarassow 2010, Deleidi et al. 2018, McKinsey Global Institute 2018, Antenucci et al. 2020). In order to satisfy demand increases, firms tend to utilize labor more intensively. More specifically, fast growth in demand and output permits the specialization and division of labor. This in turn allows relative improvements in competitiveness, raising productivity while allowing further growth in output.

This positive feedback mechanism – first acknowledged by Antonio Serra in the XVII century and later by Adam Smith while describing the simultaneous interaction between the extent of the market and the division of labor – was theoretically and empirically discussed by Verdoorn (1949), who showed that productivity tends to grow proportionally to the square root of output, and then by Kaldor (1966), who described the cumulative causation spanning from aggregate demand, output and then productivity growth. According to the Kaldor-Verdoorn Law, the faster the growth rate of aggregate demand and output, the faster will productivity grow.

The bad news is that this positive feedback loop may also work for ill. The inability (or unwillingness) of policy makers to put in place the fiscal and income policies needed to stimulate demand may result in a slowdown of economic growth, and thus of productivity, reducing competitiveness and triggering a vicious cycle of secular stagnation. Similarly, rising inequality may pose a further burden on productivity growth, by shifting resource allocation from households with high propensities to spend to more affluent households with lower spending propensities, thus depressing aggregate demand. Along these lines, the recent empirical literature has showed, first, that aggregate demand in medium-sized and large open economies tends to be wage-led (Hein & Tarassow 2010, Onaran & Galanis 2013) and, second, that higher real wages are usually associated with higher labor productivity growth (Storm and Naastepad 2012).

### AVERAGE PRODUCTIVITY GROWTH IN G20 COUNTRIES

The figure on ***page 3*** shows the dynamics of average productivity $(y)$ , calculated as the ratio of Gross Value Added $GVA$ – defined as output valued at basic prices less intermediate consumption valued at purchasers' prices in all sectors of economy in constant prices – to employment $E$, measured as number of people in work, i.e. $y=GVA/E$.

Accordingly, the annual growth rate of average productivity is approximated by the difference between the annual growth rates of gross value added and employment, as follows: $\hat{v}=\widehat{GVA}-\hat{E}$

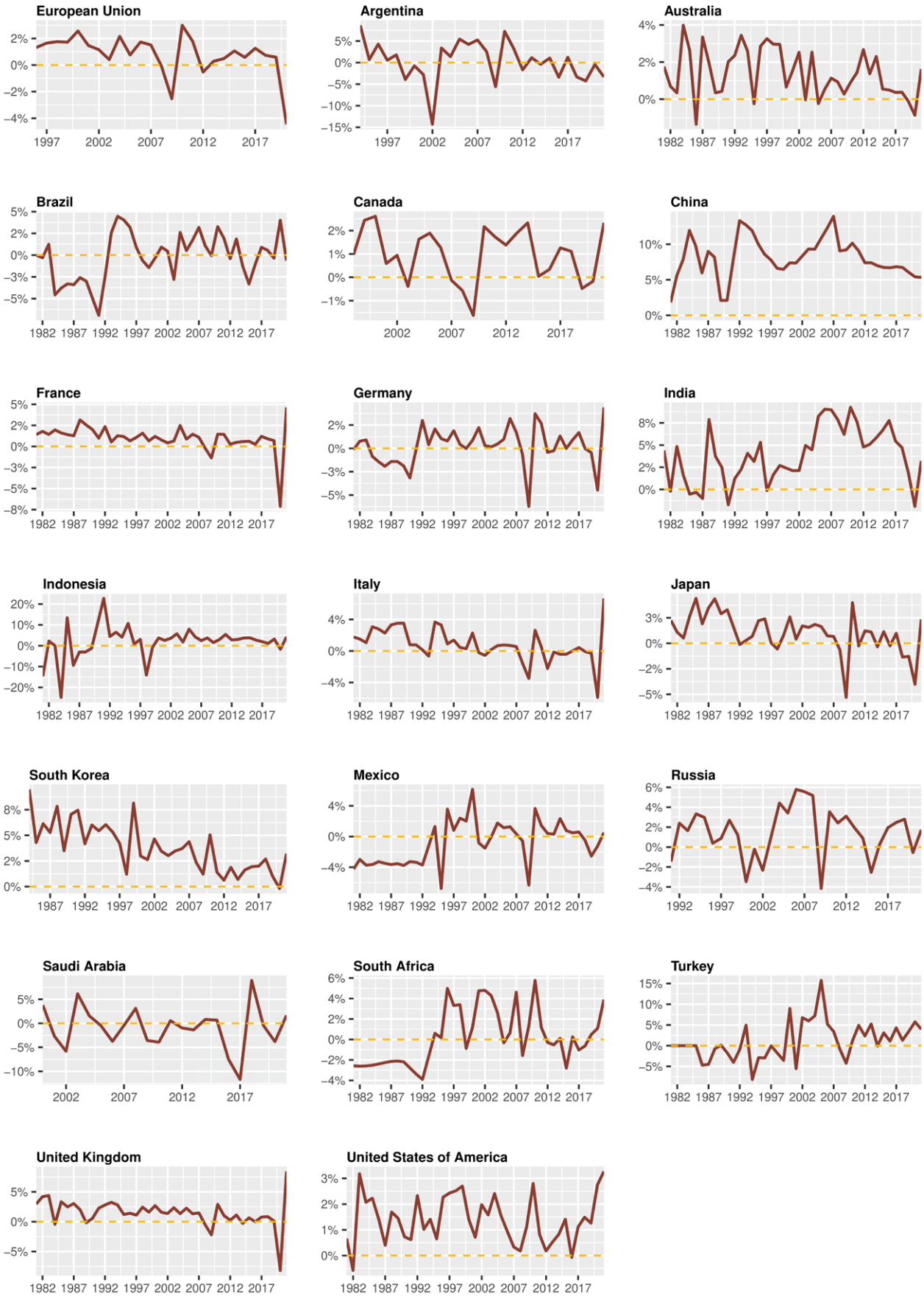
*The data are retrieved from Oxford Economics, please refer to `Bibliography and data sources'.*

## THE PRODUCTIVITY SLOWDOWN IN THE NEOLIBERAL ERA: EVIDENCE FROM G20 COUNTRIES

Since the 80s, the mechanism of cumulative causation implied by Kaldor-Verdoorn Law seems indeed to have worked for ill in most advanced capitalist economies and in some emerging ones. Rising inequality, timid fiscal and income policies, moderate growth, rising private indebtedness and labor underutilization were some of the common characteristics of the growth paths in many G20 countries.

As the figure on page 3 shows, this path was associated with a general productivity slowdown that affected not only developed countries, but also – with the exception of China and India – developing ones, which could not benefit from the positive spillovers of fast demand creation in advanced economies. This dynamics is ultimately consistent with another implication of the Kaldor-Verdoorn Law: in a context of widening economic divergences across countries, the self-reinforcing process at the basis of the Law will further exacerbate international inequality. High-in-

Figure 1: Average productivity, annual growth rates for G20 countries




*Source: author's representation, Oxford Economics data*

come countries experiencing strong demand growth would eventually see an increase in the growth rate of labor productivity, which will in turn lower prices and enhance international competitiveness, leading to higher export growth, higher demand growth, and so on. Conversely, in low-income countries, the mechanism will be exactly the opposite, driving down the economy in a spiral of weak demand and productivity growth.

The pattern was not reverted after the Global Financial Crisis of 2007-2008. Following the crisis, average yearly productivity grew by 0.8% only in G20 Advanced Economies and 2% in G20 Emerging Economies – mainly driven by the unprecedented economic growth of Asian countries.[1]

In the current context of persistent labor and capital underutilization and rising inequality both within and across countries – a context which may actually worsen in the aftermath of the COVID-19 crisis – treating digitalization as a manna from heaven that will solve the productivity slowdown may be misleading. While the digital transformation will likely raise potential output in all G20 countries, thus increasing the productivity potential, its benefits might not be fully exploited if policy makers will not face the structural weaknesses associated with insufficient demand creation both in advanced and emerging countries. Conversely, adverse effects such as technological unemployment and underemployment may arise, vanishing the economic benefits of digitalization and further eroding social cohesion.

## CONCLUSION

The mechanism of cumulative causation between aggregate demand and productivity growth described above offers a powerful alternative to the conventional way policy makers and most academic economists think about productivity and growth, solving the productivity puzzle in light of the vicious cycle triggered by slow demand creation. In order to boost productivity in the post-COVID era, solely relying on the digitalization of production processes will not be enough. The digital transformation may constitute an important step to build social cohesion by easing access to public and private services, as well as it may raise the productivity potential of all countries. However, the actual path of productivity growth needs to be fostered by reviving aggregate demand dynamics through adequate fiscal and income stimulus measures, addressing the structural threats posed by rising inequality, high private debt, rising unemployment, underemployment and inactivity.

In order to build shared prosperity for everyone, addressing these challenges and reverting the pre-crisis patterns constitute an absolute prerequisite.

**1.** The division of G20 countries in advanced and emerging follows the one adopted in the IMF Fiscal Monitor (IMF 2021, pag. 85).

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