OECD Global Forum on Productivity

Tapping the Productive Potential
of a Digitized World

Workshop - Berlin

15th September 2017

SUMMARY REPORT

Federal Ministry
for Economic Affairs
and Energy

GLOBAL
FORUM ON
PRODUCTIVITY

OECD
BETTER POLICIES FOR BETTER LIVES

The German Federal Ministry for Economic Affairs and Energy Workshop of the Global Forum on Productivity

"Tapping the Productive Potential of a Digitised World"

Berlin, 15 September 2017

Summary Record

Digital products and services are making their way into almost all aspects of our social and economic lives. They provide information and communication for free or in exchange for very small fees and give rise to new business models. This is happening at a time when the large industrial countries have seen their productivity growth slow down for as long as a decade. This phenomenon is often referred to as the "productivity paradox" associated with digitization. It was against this background that the Federal Ministry for Economic Affairs and Energy hosted an expert meeting on "Tapping the Productive Potential of a Digitized World" on 15 September, an event that took place under the umbrella of the OECD Global Forum on Productivity. The workshop was attended by more than 70 participants from 17 nations. This includes 16 OECD members and Argentina.

The main objective of the meeting was to foster dialogue between researchers, experts from the OECD and national authorities on the subject of the opportunities, challenges and economic policy implications of digitization, not least with regard to the role played by knowledge-based capital and regulation when it comes to driving productivity growth.

The workshop was opened by Philipp Steinberg, Director-General for Economic Policy in the Federal Ministry for Economic Affairs and Energy, who addressed key issues related to digitization and productivity growth. He said that the public debate was opposing those who take a sceptical stance on digitization to those who take an optimistic view of the development, with the first group arguing that they do not expect digitization to generate substantial productivity gains – unlike earlier technological innovations – and the second group seeing potential for productivity growth, albeit after a certain period of time. He said it was important to use economic policy to pave the way for a successful transition into a digital society and economy and to benefit from the resulting productivity gains. What was needed, he said, was investment to expand high-speed internet coverage and to enable schools, universities and providers of vocational and continuing training to impart the relevant skills. He went on to call for a regulatory framework that will enable digital innovation and new business models to be created, whilst also ensuring a level playing field and adequate protection of data and of consumer rights.

In his keynote speech entitled "The Productivity Paradox of the New Digital Economy" Bart van Ark, Vice President and Chief Economist of the Conference Board, argued that the rapid increase in investments in ICT-related assets and services had not yet translated into any visible productivity growth in the new, digital economy (mobile technologies, internet and cloud services). This, he said, was however not surprising given that the introduction and use of new technologies had often resulted in structural disruption associated with a paradigm

shift, creative destruction, and the emergence of new markets and companies, which had all led to a temporary slowdown of productivity growth. Listing the requirements for successful implementation of digital technologies, Mr van Ark mentioned a stronger uptake of digital services and innovations, better funding for knowledge-based assets such as research and development, training and management skills, and close cooperation of business and administration with science.

These issues were then further explored in a panel discussion moderated by Ms Kerstin Stromberg-Mallmann. Professor Reint E. Gropp from the Halle Institute for Economic Research (IWH) gave examples from different firms and different sectors, highlighting the massive discrepancies with regard to productivity growth. He argued that there was evidence for growing profit margins while, at the same time, only few low-productivity firms are being replaced by more productive ones which generate higher returns on the market. He also said that monopolies had the ability to stand in the way of productivity gains, although this was also dependent on the competitive environment. A key requirement for efficient factor allocation in the digital structural change, he said, was to ensure flexibility in the labour and product markets, and effectiveness when it comes to competition law.

Christian Kastrop, OECD, said he shared the view that the structural change towards new digital technologies and services, which was currently marked by creative destruction, was one of the reasons why many OECD countries are seeing their productivity gains slow down. He added that, however, if these digital technologies were successfully implemented, this would then result in a noticeable increase of productivity and that there was a tendency to underestimate these effects. He stressed that new, innovative companies, in particular, were dependent on sufficient access to venture capital in order to be able to enter their growth stage. Mr Kastrop closed by pointing out that technological progress and productivity must not be an end in themselves, but part of a holistic approach that also takes account of the effect on the social fabric and on employment. He said that the OECD was taking account of this by initiating their project on “Inclusive Growth”.

Professor Dalia Marin from the University of Munich (LMU) highlighted the fact that a slowdown in productivity growth has mainly been observed in industries producing and using ICT and that this has been the case since before the global financial and economic crisis. She said that digitization and the emergence of the platform economy have caused changes in market structure and in regards to competition. Professor Marin took a critical stance on the acquisition of productive, digital startups by large companies that then abandon the original business models developed by startups. She also pointed out that data has become a source of power in the digital age and that it could be used to create and maintain monopolies. To resolve this problem, she said, data should become portable, which would limit the power of companies whose dominance was based on having access to large amounts of data.

Eckhardt Bode from Kiel Institute of the World Economy (IfW) gave a presentation entitled “Digitalization and Productivity – Some empirical evidence and measurement issues”. He explained why he thinks that there is little evidence that the slowdown in productivity growth rates is caused by statistical mismeasurement due to which GDP growth or investments would be underestimated. In his view, the actual explanation as to why the EU is outperformed by the U.S. in terms of productivity increases is a “U.S. home bias” resulting from the greater level of economic and cultural fragmentation in Europe compared to the U.S., from stricter regulations governing the

labour and product markets in Europe, from better management skills in the U.S., and from a higher share of small and medium-sized companies in the EU, which resulted in a lack of economies of scale. Speaking about compounding effects in Germany, he mentioned a slight negative impact from the country's demographic development since the beginning of this century, the labour market reforms which had led to greater labour market participation and more moderate wages, and immigration, all of which had resulted in slower growth and few productivity gains. In contrast, he said, neither outsourcing, nor the country's weak performance on human capital development, nor a misallocation of capital as a result of the expansion of credit did explain the slowdown of productivity growth.

Alexander Schiersch from the German Institute for Economic Research (DIW), Berlin, gave a presentation on the topic "Productivity and growth effects of knowledge-based capital – New evidence from German firm-level data", in which he presented the findings of a research study commissioned by the Federal Ministry for Economic Affairs. The objective was to examine the relationship between investment in knowledge-based capital and productivity growth based on company data. According to the study, investment in knowledge-based capital includes intellectual property rights, organizational skills, training, and digital capital (software, databases). The study found that investment in knowledge-based capital is focused on only a few sectors (in particular telecommunications, ICT manufacturers and service providers, plant engineering and the automotive industry). He argued that empirical results were indicating that companies which invested in software, organizational skills and R&D experience a higher increase in total factor productivity compared to peers.

In her presentation on "The digital transformation: measurement and implications for competition and growth" Sara Calligaris, OECD, mainly discussed competition-specific questions related to digitization. She argued that company data showed that the market power of the top players in the market has increased over recent years, measured by their respective profit margins. According to her, this is particularly the case for companies offering digital products and services. She said the difference between the profit margins of these companies and firms outside the digital sector increased significantly in the period 2013/14. This, she said, suggests that there is an increasing trend towards concentration and "the-winner-takes-all" mechanisms in digital business.

In his presentation "Labour market regulation, capital intensity and productivity" Gilbert Cette, Banque de France, presented studies on the relationship between labour market regulation and capital intensity, and between the quality of capital and labour. The studies were based on sectoral data from 14 countries. According to the studies, greater regulation of the labour market leads to a smaller proportion of low-skilled workers and to higher capital intensity at the same time. However, Mr Cette explained, the structure of the invested capital is less favourable because of a lower quality of the investment, measured by the proportion of ICT and R&D expenditure. Conversely, a reduction of regulation in the labour market is associated with a higher employment rate and lower capital intensity, which, however, implies higher total factor productivity as a result of a higher ICT and R&D share.

Erik P.M. Vermeulen,Tilburg University, used his presentation entitled "Regulation Tomorrow: What Happens when Technology is Faster than the Law?" to outline regulatory challenges presented by technologies for which it is currently almost impossible to predict how they will evolve and where they will be applied in the future. Mr Vermeulen claimed that there is a mutual dependency between regulation and digitization as the former sets the

regulatory framework for digital applications such as artificial intelligence, additive manufacturing and robotics, whereas the technological advances associated with these technologies might result in a need for regulatory adjustments. He said that platform-based business models were currently experiencing a disruptive process affecting traditional markets, which needed to be addressed by new regulation. Mr Vermeulen highlighted the benefits of regulatory test beds (or so-called sandboxes) as a basis for creating adaptive, data-based regulation. According to him, numerous examples have shown that FinTech companies, for example, establish themselves mainly in countries that are pursuing a regulatory sandbox approach. Close dialogue between innovators, traditional companies and regulators is important for the success of such processes, as it not only helps to commercialize ideas, but also takes account of issues related to consumer protection and competition law.

Kai Hielscher, German Federal Ministry of Economic Affairs, Germany gave a presentation entitled "Regulatory test beds: Opening Spaces for Digital Businesses" in which he described the Ministry's current work on the concept of regulatory test beds. In the future, he said, such real-world testing environments that are limited in time and space were to be used more intensively in order to allow for practical tests of (digital) innovations to take place and to test existing or new regulatory instruments. In this way, he argued, a regulatory balance can be struck between creating rules that are conducive to innovation on the one hand and protecting consumer rights on the other. In May 2017, a project group was set up to strengthen regulatory test beds as a tool for adaptive and data-driven regulation. On the basis of a research report, several pilot projects, a dialogue process and intensive networking, the project group is currently working on the complex legal, economic, administrative and institutional requirements for regulatory test beds.

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