

## Rethinking Productivity: Insights from Neuroscience

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Our brains and minds are inextricably linked to productivity. Brain health disorders, such as depression, anxiety, and neurodegeneration cost the global economy trillions of dollars each year in lost productivity. Solutions are urgently required to address this. Taking an interdisciplinary perspective, this seminar explored how the latest innovations in neuroscience can unlock insights into why productivity has been slowing down and what can be done to optimise productivity in the knowledge economy.

From an economic lens, Chiara Criscuolo, Head of the Productivity Innovation and Entrepreneurship Division at the OECD, provided some context on how productivity has slowed down since the early 2000s due to increased divergence between frontier firms and the rest struggling to keep up. The productivity gap between firms is explained by the skills of the workers who make up the firm, but one-third of it is defined by the human side, which presents a difficult challenge to measure. Understanding these factors is also key to determining the optimal amount of time people should spend teleworking from a productivity and worker satisfaction perspective. Furthermore, mental ill-health and cognitive challenges in later life may be involved in productivity losses.

Andrew S. Nevin, Chief Economist and Partner of PWC Nigeria, explained that an accurate, systematic measurement of brain capital (a construct which incorporates brain health and brain skills) - with a multidisciplinary approach involving scientists, statisticians, mathematicians, economists, psychologists - is necessary to maximize productivity. He emphasised that it is important to understand and measure not merely the outputs but also the inputs of productivity.

Husseini K Manji, the Global Head of Science for Minds for Johnson and Johnson, affirmed that cognitive and brain capital is society's greatest resource and positively associated with productivity, notably in knowledge-intensive sectors. However, negative influences such as mental illnesses and dementia can cause brain capital to deteriorate, negatively affecting productivity, including cognitive impairments that occur with mental health conditions such as depression that affect absenteeism and presenteeism. The mental health crisis caused by the COVID-19 pandemic and rising levels of cognitive decline due to ageing and dementia is slowing productivity. Investing in societal cognitive and mental health is therefore necessary to recover from the impact of the pandemic.

George Vradenburg, Convener of The Global CEO Initiative on Alzheimer's disease and Co-Chair of the Davos Alzheimer's Collaborative, addressed dementia and its prevention in more detail. The demographic trends predict the growing size of the ageing population, which will require an extension of working age to sustain the economy. However, to extend the working age without losing productivity, cognitive decline and dementia need to be addressed, as this is the fifth cause of death worldwide and will affect more than 150 million families by 2050. Therefore, to ensure productivity growth, George Vradenburg proposed that it is necessary to foster innovation in Alzheimer's disease prevention and lifelong brain health.

Andy Keller, CEO of Meadows Mental Health Policy Institute, took a deeper look at mental illnesses. The pandemic triggered a mental health crisis, increasing depression, suicide rates and substance abuse. However, our current health care systems have not been able to address this as the point of intervention on mental illnesses takes about 8 to 10 years on average to be treated. Efforts are needed to detect and intervene in mental illnesses in early onset, along with innovative mental healthcare delivery mechanisms and integrated care. The stigmatisation of mental illnesses is a barrier to intervening on time. Therefore, reframing healthcare systems to intervene early and raise awareness in schools and workplaces to erase its stigma is essential.

Taken together, the seminar proposed many novel insights into how brain capital can influence productivity. It shows how a greater appreciation for and understanding of brain-based issues can support innovative policy and investment approaches to boost productivity.