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WORLD ECONOMIC FORUM

Jobs of Tomorrow: The Triple Returns of Social Jobs in the Economic Recovery

WHITE PAPER

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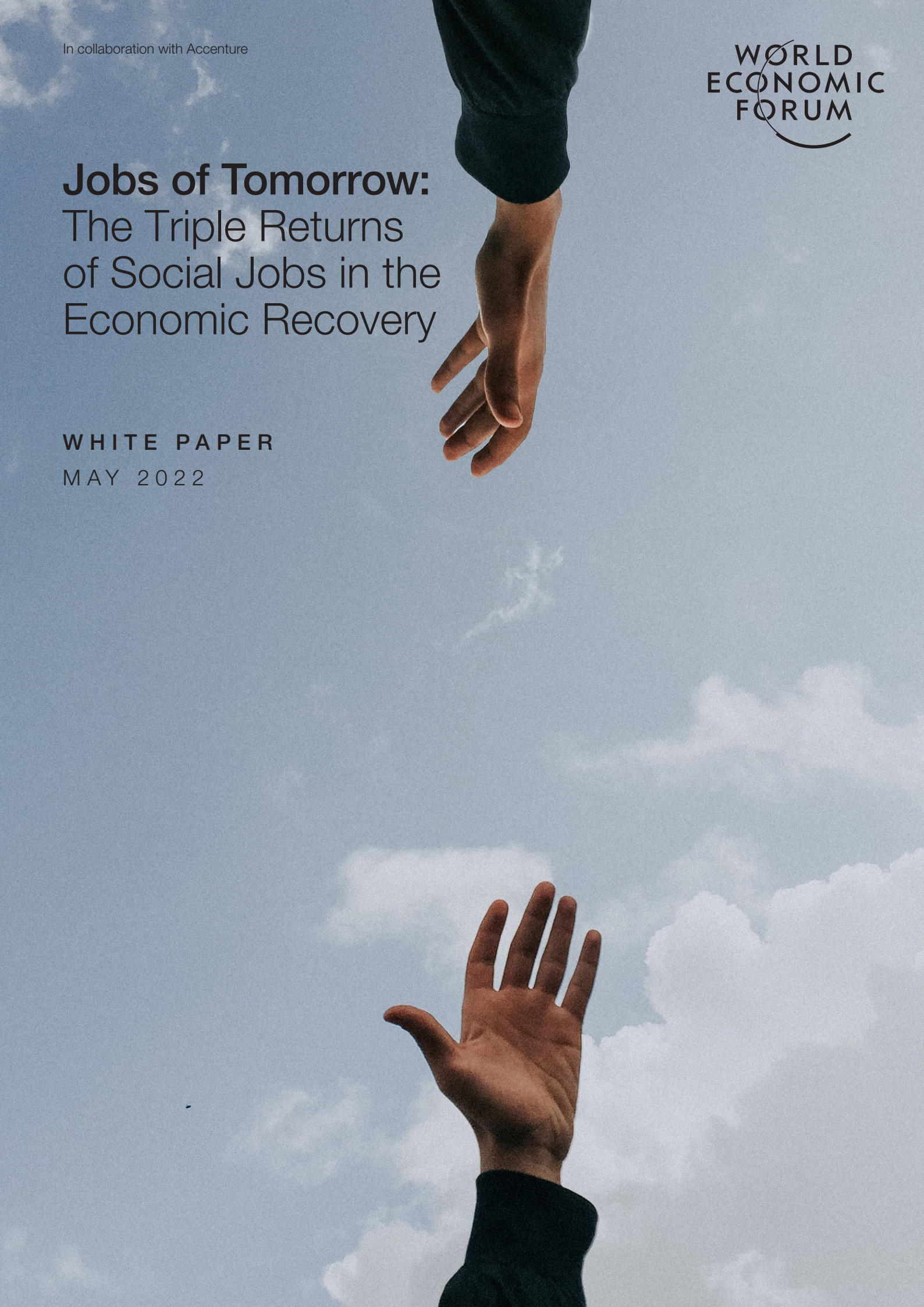

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Contents

4 **Preface**

5 **Key findings**

6 **Chapter 1: The triple returns of social jobs in the economic recovery**

6 1.1 Rising inequality and declining social mobility

6 1.2 A global social jobs shortfall

8 **Chapter 2: Investing in the Jobs of Tomorrow, today**

10 2.1 Investment pathways for social jobs

13 **Chapter 3: Generating a good jobs recovery**

14 Endotes

15 References

16 **Appendix A: Data and methodology**

19 **Contributors and Acknowledgements**

Preface

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As the world starts to recover from two pandemic years while facing an uncertain economic outlook, accelerating disruptions are translating into permanent changes to labour markets. In this context, the threat of widening inequality and stagnating wages appear ever more present.

For over half a decade, the World Economic Forum has modelled the impact of technologies on global labour markets to better understand the impact technological adoption has on jobs of yesterday and jobs of tomorrow. The *Jobs of Tomorrow* White Paper series examine proactive investments that yield a triple dividend – boosting economic activity, expanding employment opportunities and generating multiplier effects in the form of more inclusive economies and societies.

The Centre for the New Economy and Society at the World Economic Forum aims to catalyse such investment through the Jobs Consortium, a coalition of leaders and initiatives promoting productive employment, growth in the jobs of tomorrow, new standards in the workplace and better wages for all.

This White Paper series, beginning with this focus on social sector jobs, should serve as a call to action to lead an ambitious, coordinated, multi-stakeholder approach to initiate a new wave of investments into three foundational social institutions: education, healthcare and care.

We are deeply grateful to the Centre for the New Economy and Society Advisory Board members for their leadership of this agenda, as well as for the partnership of the Accenture team whose members served as core collaborators on this report.

Key findings

- The global economy is still recovering from the 2020 pandemic and faces an uncertain outlook while, globally, social inequality increases. With the global population expected to reach 8.5 billion by 2030,[1] basic services which guarantee a decent life will need to expand with population growth, in addition to filling existing shortfalls. Under-investment in social infrastructure has led to an erosion of social mobility. The prospects of those born into the lowest income brackets look bleaker among today's younger generations than in previous years.

- As policy-makers aim to balance crisis management with longer-term recovery priorities, this White Paper focuses on three foundational social institutions – education, healthcare and care – that can benefit from key investments to re-start the engine of social mobility across economies, filling unmet demand for healthcare and childcare, as well as increasing the quality of education systems.

- Such investments, applied as a case study to the United States (US) economy, would deliver growth in GDP and additional job creation in the period up to 2030. Every dollar of investment would deliver a multiplier effect of 2.3 times the initial investment.

- In the modelling exercise, a $1.3 trillion investment resulting in a $ 3.1 trillion GDP return would also create 10 million additional jobs in the social sector and close to 1 million in other sectors, totalling 11 million jobs to be created by 2030.

- Most jobs created as a result of this investment will be in teaching (4.2 million jobs), followed by personal care and service workers (1.8 million jobs) as well as healthcare professionals (0.9 million jobs).

- The associated increases in productivity, increased GDP and tighter labour markets will create an increase in real wages in parallel.

- A highly uncertain and divergent global context requires a focus on the highest return investments for the future. Social jobs create resilience and boost social mobility, preparing workers for future shocks and preparing societies for a virtuous cycle of human capital development.

- This first simulation of the potential dividends of investing in a more sustainable and equitable future will be followed by future efforts to quantify broader geographies and sectors of the economy – and will consolidate methods for policy-makers and business leaders looking to understand economic and social returns of jobs-related investments in the new economy.

1

The triple returns of social jobs in the economic recovery

1.1 Rising inequality and declining social mobility

The uncertain global economic outlook today is exacerbated by rising inequality and widening polarization impacting the most disadvantaged groups in economies across the world.
The global population of individuals living in poverty is estimated to have increased by 131 million, and 54 million people dropped out of the global middle class in 2020 compared with the period before the COVID-19 pandemic.[2]

A faltering global labour market is marked by elevated unemployment, lower labour-force participation rates, higher job insecurity and stagnating real wages, even as some economies have vast numbers of unfilled jobs. Labour-market scarring risks becoming permanent with many who left the workforce unlikely to return without new opportunities and working conditions. Unaddressed, this challenge will impact employment levels in the medium- to long- term. While the global labour market has improved since the first shock during 2021, total hours worked globally in 2022 will remain almost 2% below their pre-pandemic level, which will lead to a projected deficit of 52 million full-time jobs in 2022.[3] Investments made now to re-route economies to better social outcomes can drive employment opportunities across advanced and developing economies.

As outlined in the World Economic Forum's *Global Social Mobility Report 2020*, published just ahead of the pandemic, under-investment in social infrastructure has led to an erosion of social mobility over time. The prospects of those born into the lowest income brackets look bleaker in today's generation than in previous years. After years of growing inequality and declining social mobility, the economic and societal shocks resulting from the COVID-19 pandemic, followed by rising inflation and a cost-of-living crisis, have further revealed the inadequacies of our social infrastructure.

It is increasingly clear that the infrastructure needed to deliver on the social contract – the set of collective norms and benefits that are co-created by individuals, businesses, civil society and the state – has become outdated.[4] This trend is underpinned by a failure to invest in the upgrading of the institutions that deliver the basic provisions that ensure individuals can prosper and get support in challenging times.

As leaders face the uncertainty of policy-making in turbulent times, marked by fiscal constraints, and look for ways to revive economies and societies, the *Jobs of Tomorrow* series aims to shed light on the highest-return areas for job investment.
This White Paper looks at the potential returns of investment in broadly defined "social jobs" that would create a triple win by boosting economic activity, expanding employment opportunities and generating multiplier effects in the form of more inclusive economies and societies.

1.2 A global social jobs shortfall

As policy-makers aim to balance crisis management with longer-term recovery priorities, this white paper focuses on three foundational social institutions – education, healthcare and care – that form the key investments that can re-start the engine of social mobility across economies through enhanced education access and quality, lifelong learning opportunities, work opportunities, fair working conditions and good wages, and an effective healthcare system.

With the global population expected to reach 8.5 billion by 2030,[5] basic services which guarantee a decent life will need to expand with population growth, in addition to filling existing shortfalls. Professionals working in education, health and

care sectors – in so-called social sector jobs – already represent a large proportion of the workforce today (close to 23% of the workforce across advanced economies). Yet, there is a current shortage of workers needed, and a worsening gap is on the horizon.

Some estimates suggest that the global healthcare workforce gap is likely to reach 14.5 million workers by 2030,[6] exacerbating an existing unmet demand for health workers today.[7] In parallel, an additional 69 million teachers will need to be recruited in the coming years to reach global education targets.[8] Finally, as of 2021, the caretakers of 40% of all children, or nearly 350 million below primary school age, do not have adequate access to childcare services.[9] Where childcare does exist, it remains too costly for the average household.[10]

2

Investing in the Jobs of Tomorrow, today

A recent analysis of jobs across the United States shows that most jobs performed in 2018 did not exist in 1940 and close to 60% of jobs done in 2018 had not yet been "invented" in 1940.[11] Although less commonly measured, that analysis is likely to be mirrored in other geographies. Previous studies have also found a range of jobs that are growing because of pre-existing trends that may change the future composition of labour markets.[12]

Social jobs of today look different from the social jobs of tomorrow. Augmented with technology and improved skills, they have the potential to lift living standards for both workers and those receiving social job services. Broadly defined, social jobs include those in 1) education; 2) medical and healthcare services; 3) care and social work services; 4) personal care; well-being and care services; and 5) employment, education and training services.

In advanced economies (Figure 1A), the five largest employment sectors include education (8.9%) and medical and healthcare services (8.4%) while care and social services are the 8th largest proportion of the workforce and form an additional 5.6% of jobs. Together, all broadly defined sectors jobs make up more than 76 million jobs across the selected advanced economies included in this analysis (Australia, Japan, Germany, Spain, United Kingdom and the United States).

In emerging economies (Figure 1B), education (4.2%) already represents the fifth-largest portion of the workforce, while all other social jobs are outside of the top 10: personal care and well-being (1.5%); care and social work (1.5%); and services, care and social work (0.1%). Together, all broadly defined social jobs make up 105 million jobs across the emerging economies included in our analysis (Brazil, China, India and South Africa).

As economies recover, investment in human capital and technology in social jobs in developed and developing countries alike will be critical for ensuring higher standards, certifications, wages and returns for individuals and for society, and have the potential to transform outcomes in health, well-being and social mobility as well as creating jobs and economic growth.

Technology investment and innovation capital flows to these areas have increased in recent years. Some estimates suggest that together education and health technologies drove as much as $60 billion of venture capital investment[13] in 2020 and recent trends have seen a significant upturn in investment in healthtech. However, investment in people is needed to complement new technologies. While technology can support the delivery of core services at scale, and enable personalization, innovation in areas such as education, care and healthcare needs to be both high tech and high touch.[14]

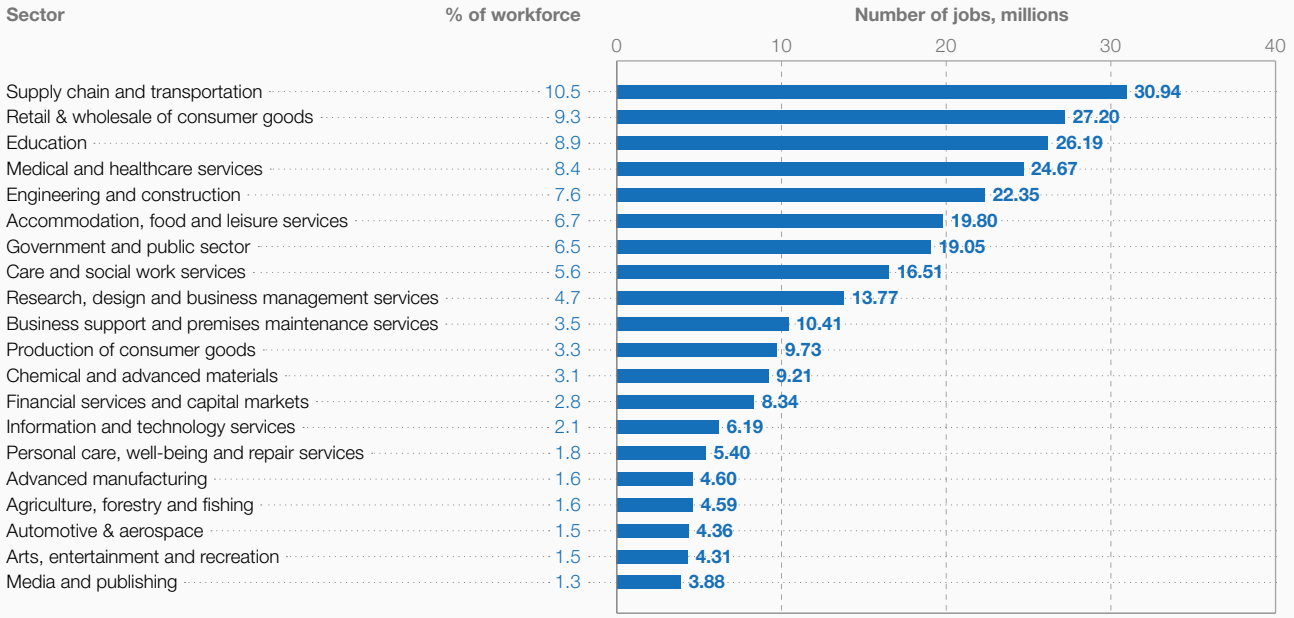
This White Paper identifies three areas for investment focused on the social transformations that can further boost job creation and economic growth, while making substantive improvements to social outcomes. Together such investments can purposefully grow those areas of the economy that are bound to have significant positive externalities.

FIGURE 1

Highest employment sectors across selected advanced and emerging economies

Number of jobs by industry and percetange of the workforce

A. Advanced economies



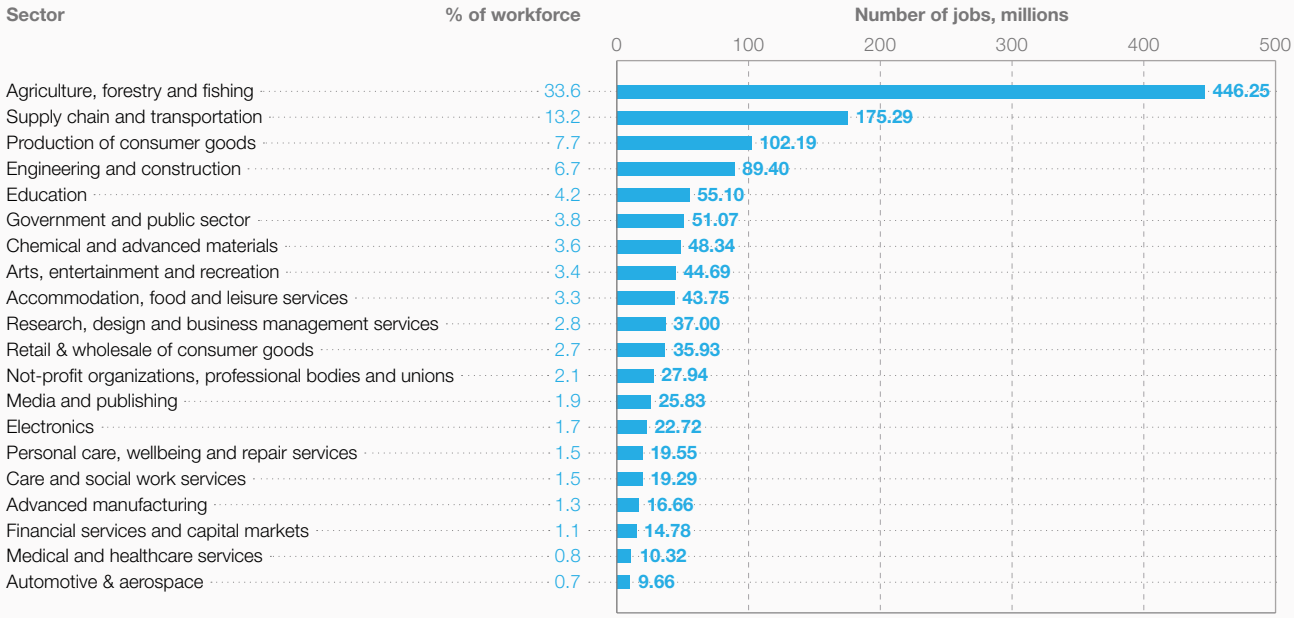
Source

Accenture Research analysis of based on national statistical offices of Australia, Japan, Germany, Spain, United Kingdom and United States.

Note

Employment data by occupation and by industry was converted to ISCO (International Standard Classification of Occupations) and ISIC (International Standard Industrial Classification) classification for international comparison analysis. Data covered employment based on availability of occupation-industry details revealed for public use.

B. Emerging economies



Source

Accenture Research Analysis of based on national statistical offices of Brazil, China, India and South Africa.

Note

Employment data by occupation and by industry was converted to ISCO (International Standard Classification of Occupations) and ISIC (International Standard Industrial Classification) classification for international comparison analysis. Data covered employment based on availability of occupation-industry details revealed for public use.

2.1 Investment pathways for social jobs and their multiplier effects

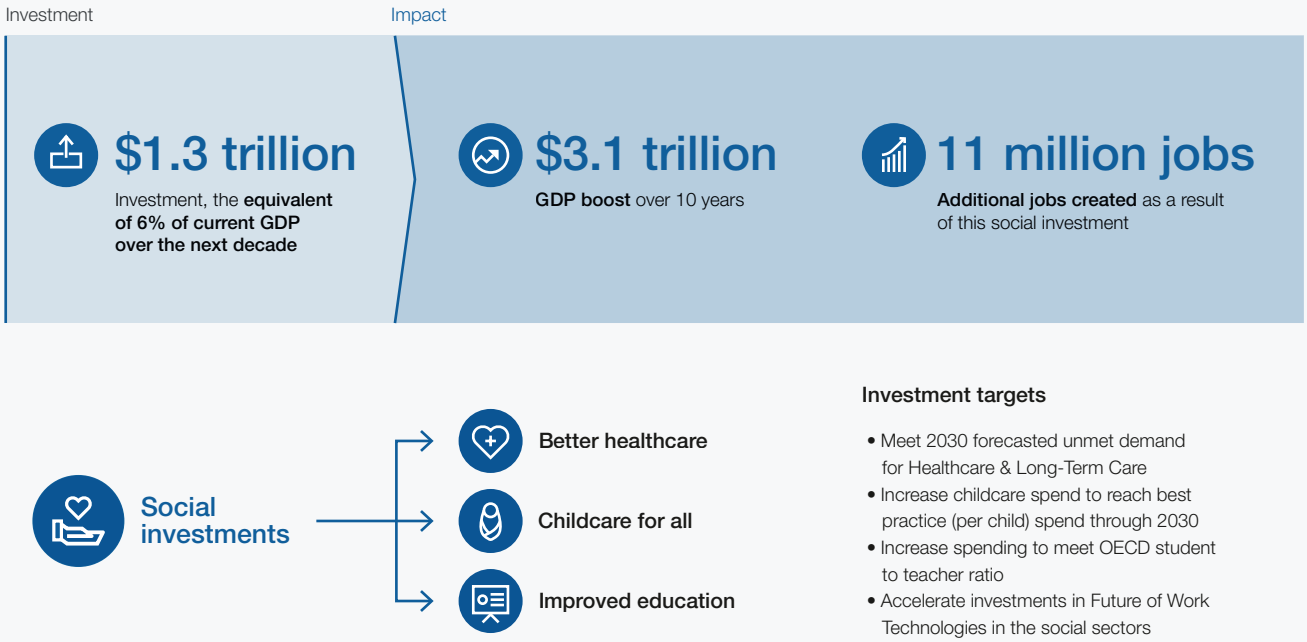
We considered social sector investments across three overarching areas: improving education, healthcare and childcare for all. We applied our modelling exercise to such investments in the US economy as a case study to illustrate what the impact of these pathways may be.

Our research finds that these investments applied to the US economy would deliver growth in GDP and additional job creation in the period up to 2030 (Figure 2). A $1.3 trillion investment in the social economy, the equivalent of 6% current US GDP over this decade would result in a $3.1 trillion dollar boost in GDP, a multiplier effect of 2.3 times the initial investment. This investment would also create 10 million additional jobs in the social sector, and close to 1 million in other sectors, totaling 11 million jobs to be created by 2030.

To forecast the impact of different investment on jobs and economic output, we used an input-output model (see Appendix A). The analysis leveraged the latest (2021) OECD data to trace possible effects from investment shocks at the country/industry level and then subsequently calculated the job multipliers to account for direct, indirect and induced job impact.

We assume three outputs from social jobs investments in the United States. First, automation and augmentation of tasks would boost productivity. Second, all investments we modelled would yield increased GDP growth. Third, social investment job creation would create tighter labour markets. Together, they would create short-term and long-term pressures resulting in increases in real wages.

FIGURE 2 **Focus, scale and impact of social investments in the United States**



Source

Accenture Research analysis based on Oxford Economics, US Bureau of Labor Statistics (BLS), IDC, OECD (2021), OECD Intercountry Input-Output Database, ILO, O'Net, FOW (future of work) technology SMEs (small and medium-sized enterprises).

Over the long run, increased GDP is expected to positively impact real wages through multiple externalities. First, aggregate employment and economic growth are correlated. For instance, from 1972 to 2015, average total real GDP grew at a rate of 2.59%, while average total real wages grew at a rate of 2.21%.[15] In sum, a growing economy tends to be associated with long-term positive impacts on real wages.

Improvement in labour productivity is the most important long-term cause of increased wages. Over the last 20 years some high-income economies have seen a trend towards decoupling hourly wage growth from productivity growth, which has arguably been accelerated by technological change and the expansion of global value chains.[16] In the short term, occupations which will experience increasing demand relative to available supply of labour as a result of these investments should expect to see real wage increases.[17]

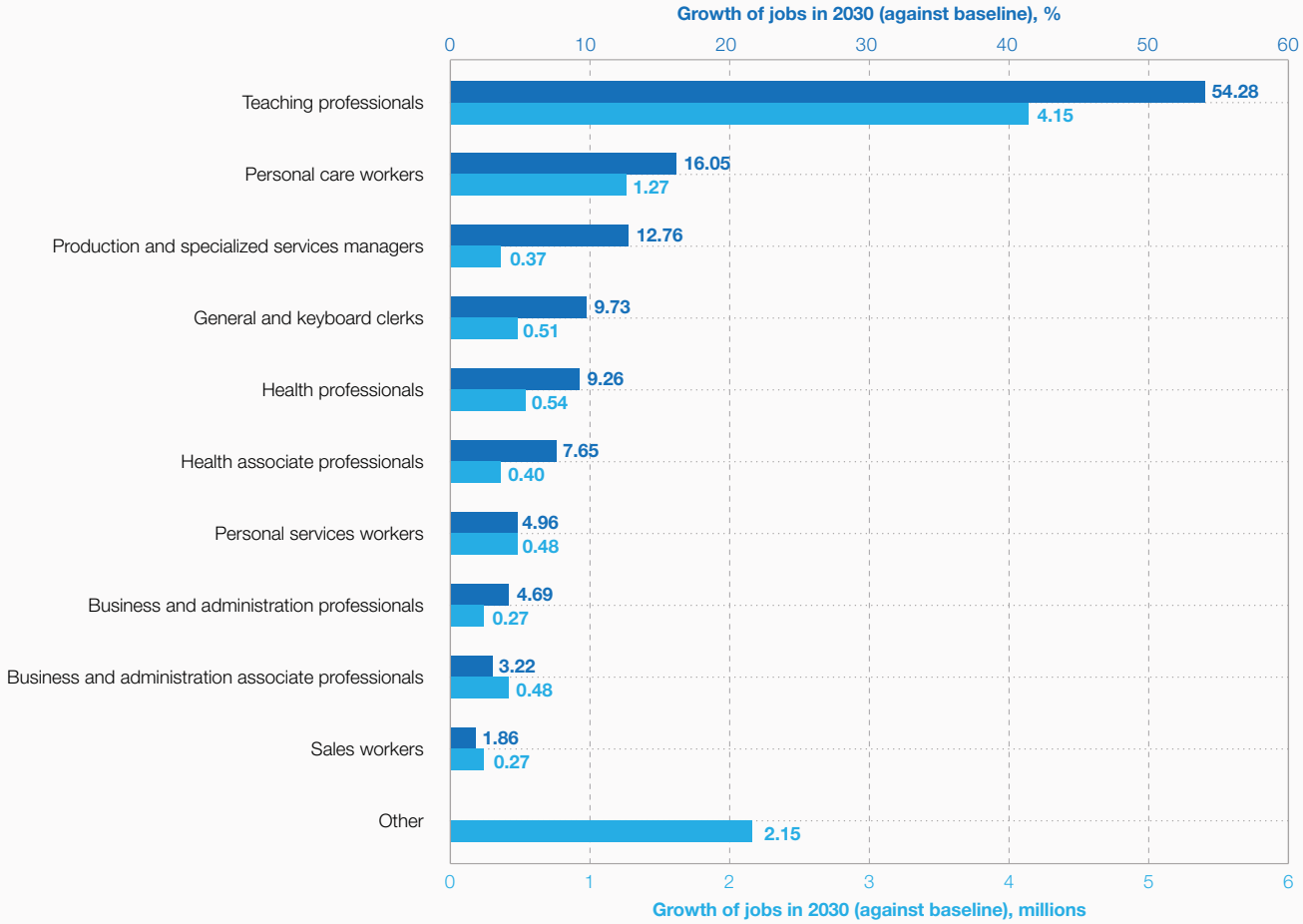
The social investments modelled in this paper are expected to create more jobs than the economy can currently meet without expanding workforce participation. At current labour-market participation and employment rates, the United States could expect a 13.5 million employee shortfall by 2030 and lead to an increase in the equilibrium price for wages. In addition, the more unemployment decreases, the more real wages increase.

In summary, the three outputs of our investments – increases in productivity, increased GDP and tighter labour markets – would each result in both short-term and long-term pressures leading to an increase in real wages.

Most jobs created in the United States as a result of such an investment would be in teaching (4.2 million jobs), followed by personal care and service workers (1.8 million jobs), as well as healthcare professionals (0.9 million jobs). However, investment in social jobs will create spillovers beyond those sectors. As presented in Figures 3A and 3B, in addition to education, healthcare and the care economy, the fastest-growing sectors in terms of job creation and value-added growth include information and technology services; arts, entertainment and recreation; as well as accommodation, food and leisure services.

FIGURE 3 **Job creation and value-added economic growth by 2030 in the United States**

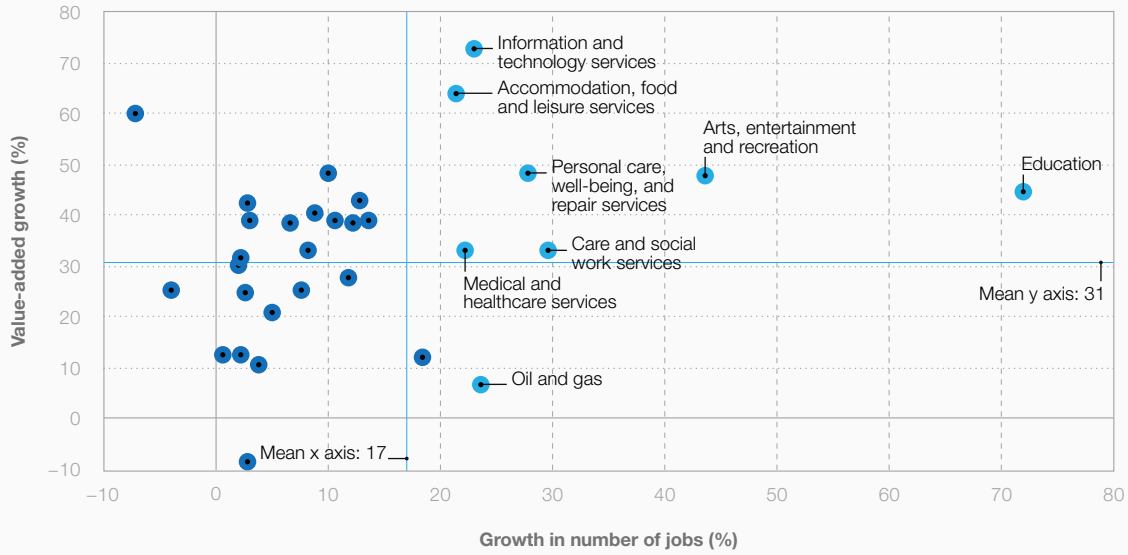
A. Employment growth by occupation due to social investment



Source

Accenture Research analysis based on Oxford Economics, US Bureau of Labor Statistics (BLS), IDC, OECD (2021), OECD Intercountry Input-Output Database, ILO, O'Net, FOW (future of work) technology SMEs (small and medium-sized enterprises).

B. Growth in number of jobs and value-added by sector



Source

Accenture Research analysis based on Oxford Economics, US Bureau of Labor Statistics (BLS), IDC, OECD (2021), OECD Intercountry Input-Output Database, ILO, O'Net, FOW (future of work) technology SMEs (small and medium-sized enterprises).

BOX 1

Selected social investment areas and their multiplier effects

Improved education

There is a crucial need to increase investments in future-proofing our education systems. The higher the student-to-teacher ratio, the more workload for teachers, which can lower the quality of education. Improvements to the student-to-teacher ratios have been shown to benefit disadvantaged students, especially in the lower grades. Each of these roles must be supplemented with additional roles in education leadership, specialists and complimentary education support roles, providing additional opportunities for job creation in the sector.[18] For the United States, investment projections were modelled on a spending increase to meet OECD student-to-teacher ratio targets and to account for anticipated retirement of teachers by 2030 given aging population dynamics.

Better healthcare

As a result of the global pandemic, we have observed how crucial efficient health systems are to improve resilience of our economies and societies. According to recent estimates, the global health financing gap will reach close to $176 billion by 2030.[19] Although healthcare is one of the highest employment sectors globally today, 83 countries still fall short of meeting the basic threshold for healthcare workers (23 skilled professionals per 10,000).[20] However, there is also a need to spend better, a crucial need to "increase, reorient and redirect" existing spending towards the goal of achieving health for all.[21] Investment projections for the United States were modelled on increased healthcare spending to address forecasted unmet demand of 8.9% in 2030.

Childcare for all

Increasing investments in providing universal access to quality and affordable childcare can act as a powerful equalizer of both opportunities for children from disadvantaged backgrounds and for women who take on a disproportionate share of unpaid care work. Improving care access and affordability has the potential to reduce gender inequity.[22] Many women remain the primary caretakers of young children, yet this limits the number of good job opportunities women can pursue to balance their caretaking responsibilities. Facilitating access to childcare for all children can address inequality at a young age, setting individuals up for a more equitable lifetime of opportunity and development, and can generate significant returns on investment.[23] Non-parental childcare has also been positively correlated to children's cognitive development and social readiness, cognitive and language development for disadvantaged children, and can narrow the gap between privileged and under-privilege children. Investment projections for the United States were modelled on an incremental increase of spending to meet the Nordic country average of $11,260 per child each year by 2030.

3

Generating a good jobs recovery

By increasing investments in the social economy, a job-rich recovery is possible with significant multiplier effects for economies and societies. Targeting investments towards a crucial social transformation will yield a triple win: significant economic benefits, acceleration of the creation of jobs of tomorrow and social benefits. These investments in the United States will create 11 million jobs through an effective social transition with a potential to create up to a $ 3.1 trillion boost to GDP, a multifold return on the $ 1.3 trillion investment needed.

A highly uncertain and divergent global context requires a focus on the highest return investments for the future. Social jobs create resilience and boost social mobility, preparing workers for future shocks and preparing societies for a virtuous cycle of human capital development.

This first simulation of the potential dividends of investing in a more sustainable and equitable future will be followed by future efforts to quantify broader geographies and sectors of the economy, and will consolidate methods for policy-makers and business leaders looking to understand returns of investments in the social economy.

We hope to inspire similar efforts at country or regional levels to better understand how accelerating those transitions can drive good job creation and foster a more inclusive, sustainable and resilient good jobs economy.

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Appendix A

Data and methodology

To forecast the impact of different investment on jobs and economic output, we used an input-output model. The analysis leveraged the latest (2021) OECD Inter-Country Input-Output Database, (http://oe.cd/icio), to trace possible effects from investment shocks at the country/industry level and then subsequently calculated the job multipliers to account for direct, indirect and induced job impact. The following section looks at how baseline and employment forecasts were constructed and the impact of Future of Work technologies on work task and productivity levels. The subsequent section then examines inputs for investment in each impact area.

Baseline GDP and employment

For GDP forecasts, the analysis used macroeconomic forecasts of GDP through to 2030 by industry from Oxford Economics, which were subsequently mapped to World Economic Forum industry groupings.

For simulating baseline demand for jobs, the analysis leveraged cross-tab employment data collected by industry and occupation in 2020 from the United States Bureau of Labor Statistics and converted the data into United Nations International Standard Industrial Classification and International Standard Classification of Occupations (ISIC-ISCO) for global comparison. To assess the demand for jobs by occupation in 2030, the analysis assumed that the same occupation structure within each industry in 2020 would exist in 2030 and used industry employment projections from Oxford Economics and the US BLS. These industries were also mapped to World Economic Forum industry groups.

Future of Work Technologies (FOW) impact on work tasks and productivity levels

To understand the impact on the demand for jobs and on productivity through 2030, this analysis identified the most critical Future of Work (FoW) technologies that would substantially impact work tasks. FOW technologies cover accelerators such as artificial intelligence (AI), robotics, augmented reality and virtual reality (AR/VR), Internet of Things (IoT) and enablers such as Cloud technology and Big Data/Analytics (For details, please see IDC's *Worldwide Future of Work Spending Guide*).

This analysis leveraged technology subject matter experts to assess the impact of FOW technologies across more than 300 typical work activities. We then used these estimates to assess work time that would be augmented or automated across more than 400 occupations, thus impacting productivity levels.

The analysis used a regression model across nearly 10,000 companies globally to quantify the relationship between productivity boost and investment into FOW technologies. The model shows that a 1% increase in investment into FOW technologies will boost productivity by two percentage points. IDC's *Worldwide Future of Work Spending Guide* (November 2021) was used to assume industry compound annual growth rate (CAGR) of FOW investment by 2030. Our model then calculated expected productivity gains from the above regression estimates. Productivity gains were then distributed between automatable and augmentable parts of work time, and automated hours were subtracted from total work time at the industry level by 2030. Taking into consideration productivity gains from FOW technologies, we re-estimated future GDP and employment growth at industry level by 2030.

Calculating job multipliers

The analysis calculates job multipliers from investments at the industry level, using the number of workers per unit of output in the factor requirements matrix in the Leontief decomposition. This was done so that the number of workers directly and indirectly involved in the production of manufacturing goods from all countries and industries can be traced. As a result, the level of household income throughout the economy will increase, and a proportion of this increased income will be re-spent on domestically produced products, which will generate induced employment effects.

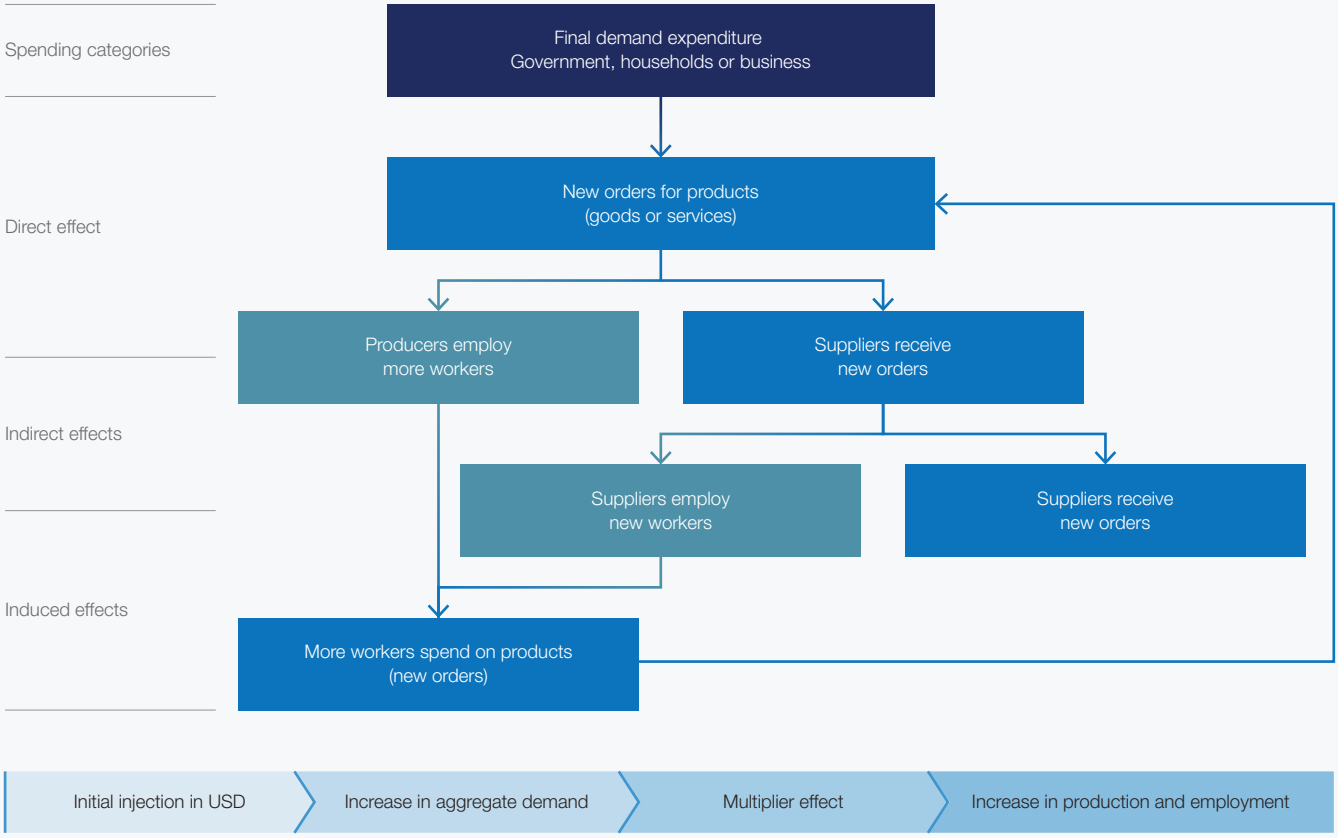
First, the analysis computed direct requirements into a matrix, taking into account the household sector. It then derives a Leontief inverse matrix of type II to show how much of each industry's output is needed – in terms of direct, indirect and induced requirements – to produce one unit of a given industry's output. Subsequently, the employment effects of type II were calculated to show the global changes in employment by industry due to change in final demand for a good produced by a specific industry in the United States. Finally, the analysis further isolated the job impact to include only jobs in the United States labour market, whether direct, indirect or induced.

Impact area and investments

The analysis builds on published research, consolation between the World Economic Forum team and Accenture, Accenture primary research and consultation with subject matter experts to determine investment opportunities and corresponding investment levels through 2030.

FIGURE A1

Multiplier effect and investment scenarios



Source

Accenture Research analysis.

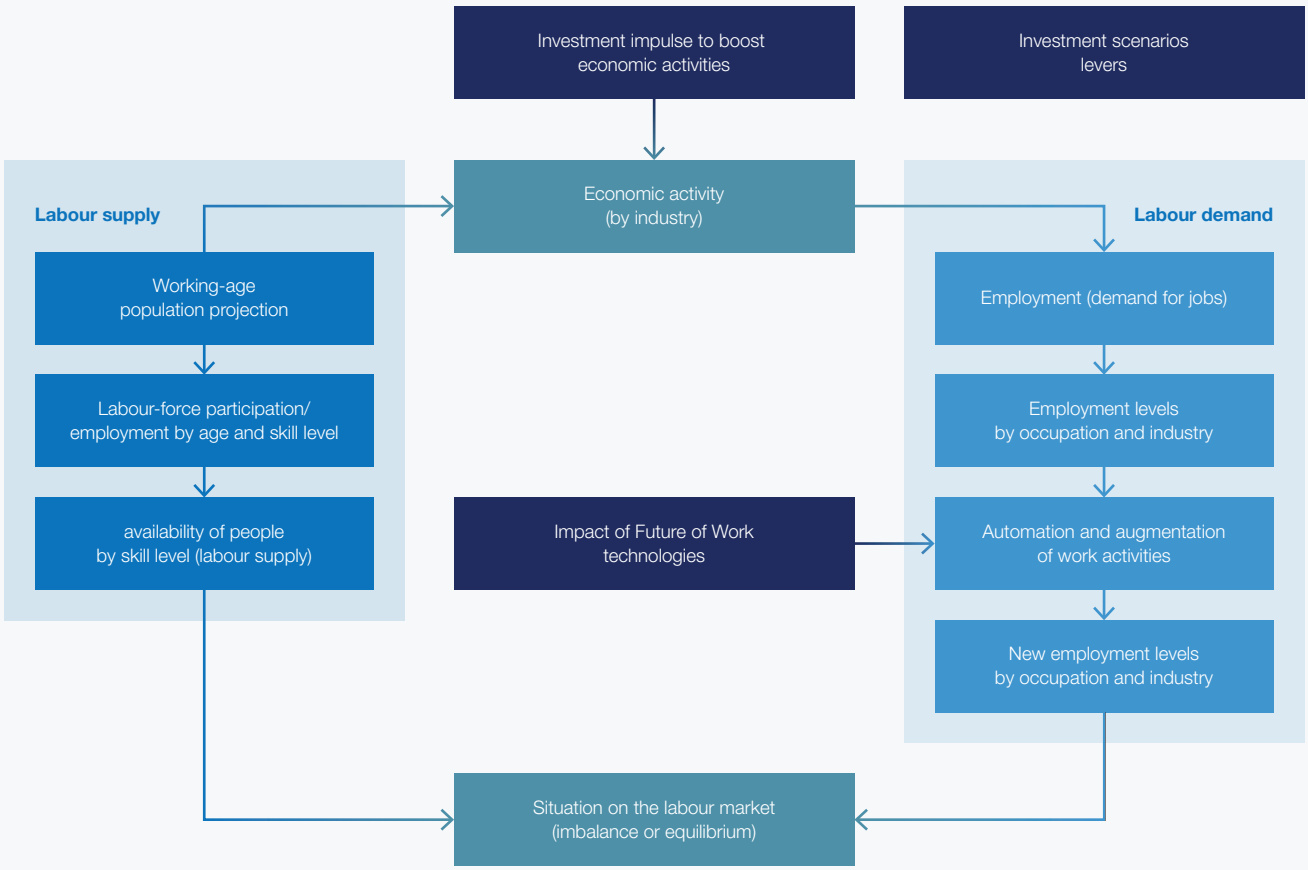
Application to social economy investments

The analysis calculated investments across three areas under the social investments – education, healthcare and childcare – to help enable improved education, better healthcare and childcare for all.

To inform healthcare and long-term investment levels, the analysis leveraged US Health Resources and Services Administration (HRSA) workforce projections (supplemented with BLS data) to determine gaps in unmet demand for healthcare and long-term care services in 2030. Based on those findings, a percentage was then applied to US healthcare gross output to address unmet demand in 2030. The model also accounted for efficiencies from the adoption of FOW technologies in enabling new delivery models.

To inform investment levels to improve accessibility of childcare services in the United States, the analysis leveraged OECD data and simulated the investment needed for the United States to gradually reach Nordic countries' average spend per child by 2030. The model then took into account population projections for children aged 5 and under through to 2030 to inform the investment needed.

FIGURE A2 | **Investment scenarios simulation**



Source

Accenture Research analysis.

To determine the investment increase in education spend by 2030, the analysis utilized OECD data to identify the student-to-teacher ratio in the United States and the OECD average. It then calculated the investment needed to meet the OECD average, considering the average teacher salary, population of school aged children and supply of teachers. This total investment was annually distributed through to 2030. Finally, the model also took into account the potential efficiencies and associated spend introduced by the adoption of future of work technologies in the education sector.

Assessing labour supply

We leveraged the ILO forecast for the US 2030 working-age population (age 15+) to create two different scenarios: 1) full employment with the same ratio of labour-force participation to working age population as today; 2) current level of employment with the same ratio of employment and labour-force participation to working-age population as today

Forecasting supply coupled with our demand projections allowed us to analyse what balance (or imbalance) would potentially exist in the US labour market in 2030.

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