



2023 永續影響力評價報告

Sustainability Impact Valuation Report

2024.6

AUO 2023 Sustainability Impact Valuation Report

As a forward-looking technology pioneer, AUO firmly believes that the company's sustainability requires balanced development in economies, environments, and societies. We are focusing on three pillars for AUO CSR EPS: Environmental Sustainability, Inclusive Growth, and Agile Innovation, proactively toward our vision of "Go beyond CSR and create shared values". By leveraging core competitiveness to enhance resilience, we collaborate with diverse partnerships to promote inclusivity and mutual growth. Focusing on climate change and circular economy, we engage deeply with stakeholders to enhance quality education. We are also seizing new opportunities in display and smart applications for the future world, to collectively create a sustainable ecosystem.

AUO has conducted a review of the impact of value chain activities on human well-being from an outside-in perspective since 2023. Following evaluation frameworks such as the Natural Capital Protocol, Social & Human Capital Protocol, and ISO 14008:2019 on environmental impact and related considerations, combined with the currency valuation methods developed by the Impact-Weighted Accounts (IWA) and Value Balancing Alliance (VBA) in conjunction with the Harvard Business School's Impact-Weighted Accounts (IWA) and Value Balancing Alliance (VBA). AUO analyzes the economic, environmental, and social intersection issues through the Impact Pathway method from upstream supply chains, production operations to downstream products and services. Based on financial Profit and Loss (P&L) management thinking, externalities of costs (negative) or benefits (positive) are incorporated, translating changes and impacts of operational activities on stakeholders' well-being into a consistent monetary language. This establishes a sustainable impact management framework based on the Triple Bottom Line (TBL).

Internal perspective		External perspective				
Operational input/output	→	What has changed?	→	Who is affected?	→	Monetary value of impact
Resources used in operational activities (e.g., raw materials, energy, labor, etc.) and direct outcomes (e.g., pollution emissions, number of beneficiaries, energy savings, etc.)		Operational activities that indirectly lead to or contribute to changes in human well-being, such as training to enhance employees' professional skills and employability, and air pollution leading to respiratory diseases.		Stakeholders whose well-being is impacted, include internal/external employees, shareholders/investors, customers, suppliers, environment, and society.		Converting the impact of operational activities on stakeholders into a monetary value-based measurement using financial Profit and Loss (P&L) thinking is known as Impact Valuation for assessing sustainability impact.

In terms of the supply chain, AUO utilizes an Input-Output model to analyze the increase in value created by the procurement demand driving the overall industry chain supply and demand effects, as well as the employment opportunities and wage income brought to the industry chain. In light of the accompanying environmental issues, AUO conducts hotspot analysis to identify industries and regions with significant impacts, incorporating these findings into procurement strategy.

Regarding products and services, AUO focuses on three major areas: next-generation display technology, automotive solutions, and vertical domain businesses. AUO analyzes the indirect increase in value brought to customer industries during the product sales process and assesses the environmental impacts derived from product usage to disposal stages through a Life Cycle Assessment (LCA) perspective. Additionally, AUO considers the energy-saving design of products compared to last generation products in terms of energy consumption during usage, as well as the positive impact of product packaging recycling on the environment.

AUO Impact Pathway

Cause of the Impact	Material Issue for External Stakeholders	Output Metrics	Outcome	Impact Metrics	Impacted Stakeholders	
Supply Chain	Supply Chain Management	Upstream procurement spending	Drive the supply and demand in the industry to boost output value	Socio-economic development	Society	
			Generate supply chain job opportunities and salary	Career salary income	Supply chain	
			Changes in greenhouse gas concentrations leading to global warming	Carbon social cost	Environment	
			Changes in the concentration of pollutants in the atmosphere	Human health, ecosystems	Environment	
Company Operation	Sustainability Governance Operations	Business revenue	Assisting clients in achieving product success and driving economic growth	Socio-economic development	Society	
		Net profit	Providing returns to investors	Quality of life and purchasing power	Shareholder/Investor	
		Tax payment	Supporting government to expand infrastructure and enhance social welfare	Socio-economic development	Society	
		Interest and leasing expense	Enhancing the growth momentum of the economy	Quality of life and purchasing power	Society	
		Depreciation and amortization	Driving the development and application of industrial technology	Industrial technological capabilities	Supply chain	
	Technological Innovation and Market Strategy	New technology research and development	Contributing to the development and application of industrial technology	Quality of life and industrial technological capabilities	Customers/End-users	
	Talent Recruitment and Retention	Employee salary and welfare	Salary above the living wage contributing to an increased sense of well-being	Employment opportunities and purchasing power	Employees	
		Training hours and expenses	Training for acquiring professional skills and enhancing employability	Professional knowledge and skills	Employees and Society	
	Climate Change	Greenhouse gas emissions from manufacturing activities	Changes in concentrations of greenhouse gas lead to global warming	Carbon social cost	Environment	
		Use of renewable energy	Avoid greenhouse gas emissions that cause global warming	Carbon social cost	Environment	
		Energy-saving initiatives	Avoid greenhouse gas emissions that cause global warming	Carbon social cost	Environment	
	Water Resources Management	Water resource utilization	Changes in water resource storage	Human health and natural resource stock	Environment	
		Utilizing recycled water	Changes in water resource storage	Human health and natural resource stock	Environment	
		Process water recycling and utilizing	Changes in water resource storage	Human health and natural resource stock	Environment	
		Process wastewater discharged	Changes in the concentration of pollutants in the water body	Human health, ecosystem	Environment	
	Circular and Clean Production	Process air pollutant discharged	Changes in the concentration of pollutants in the atmosphere	Human health, ecosystem	Environment	
		Air pollution produced by the use of gasoline and diesel produces	Changes in the concentration of pollutants in the atmosphere	Human health, ecosystem	Environment	
		Production waste treatment	Air pollution and greenhouse gases produced by waste incineration	Carbon social cost, human health, ecosystems	Environment	
	Occupational health and safety	Occupational accidents and diseases	Impact on the physical, mental, and emotional well-being of workers and healthcare expenditure	Quality of life and consumption of social resources	Employees and Society	
		Occupational accidents of contractor	Impact on the physical, mental, and emotional well-being of workers and healthcare expenditure	Quality of life and consumption of social resources	Employees and Society	
		Number of individuals at risk of health hazards	Health risks arising from workloads	Work-life balance	Employees and Society	
		Number of individuals benefiting from health management improvements	Improvement of employees' health awareness	Work-life balance	Employees and Society	
	Social Engagement	Social contributions	Improving the quality of life in the local community	Local community relationships	Society	
	Product and services	Technological Innovation and Market Strategy	Product sales amount	Drive the supply and demand in the industry chain and boost output value	Socio-economic development	Society
		Sustainable Product	Product sales quantity	Greenhouse gas emissions generated from the use to disposal process	Carbon social cost	Customers/End-users
			Energy-saving amount of the product	Energy-saving product to minimize greenhouse gas emissions	Carbon social cost	Customers/End-users
			Renewable energy generate from solar module product	Avoid greenhouse gas emissions that cause global warming	Carbon social cost	Environment
			Customer packaging recycling amount	Avoid greenhouse gas emissions from raw material extraction	Carbon social cost	Environment

Impact Valuation Result

In 2023, AUO generated a total of TWD 250 billion in operating revenue, while tax payments, employee salaries, cash dividends, research and development investment, interest payments, lease expenses, depreciation, and amortization brought a positive impact of TWD 80.8 billion to stakeholders, promoting social and economic growth. This not only assisted customers and suppliers in achieving success and supported government welfare policies but also provided investors with attractive returns, ensured a high quality of life and purchasing power for employees, and fostered social and economic growth.

On the social front, comprehensive training programs drove the growth of employees' skills and employability, resulting in a total of TWD 2.4 billion in wage growth benefits. Investment in public welfare and charitable activities created a social value of TWD 28.06 million. Work-related accidents involving employees and contractors incurred a social cost of TWD 5.39 million. The potential cardiovascular disease risk among employees could lead to medical costs of TWD 59.34 million, but through diverse health education and care, a positive health improvement benefit of TWD 34.86 million was realized.

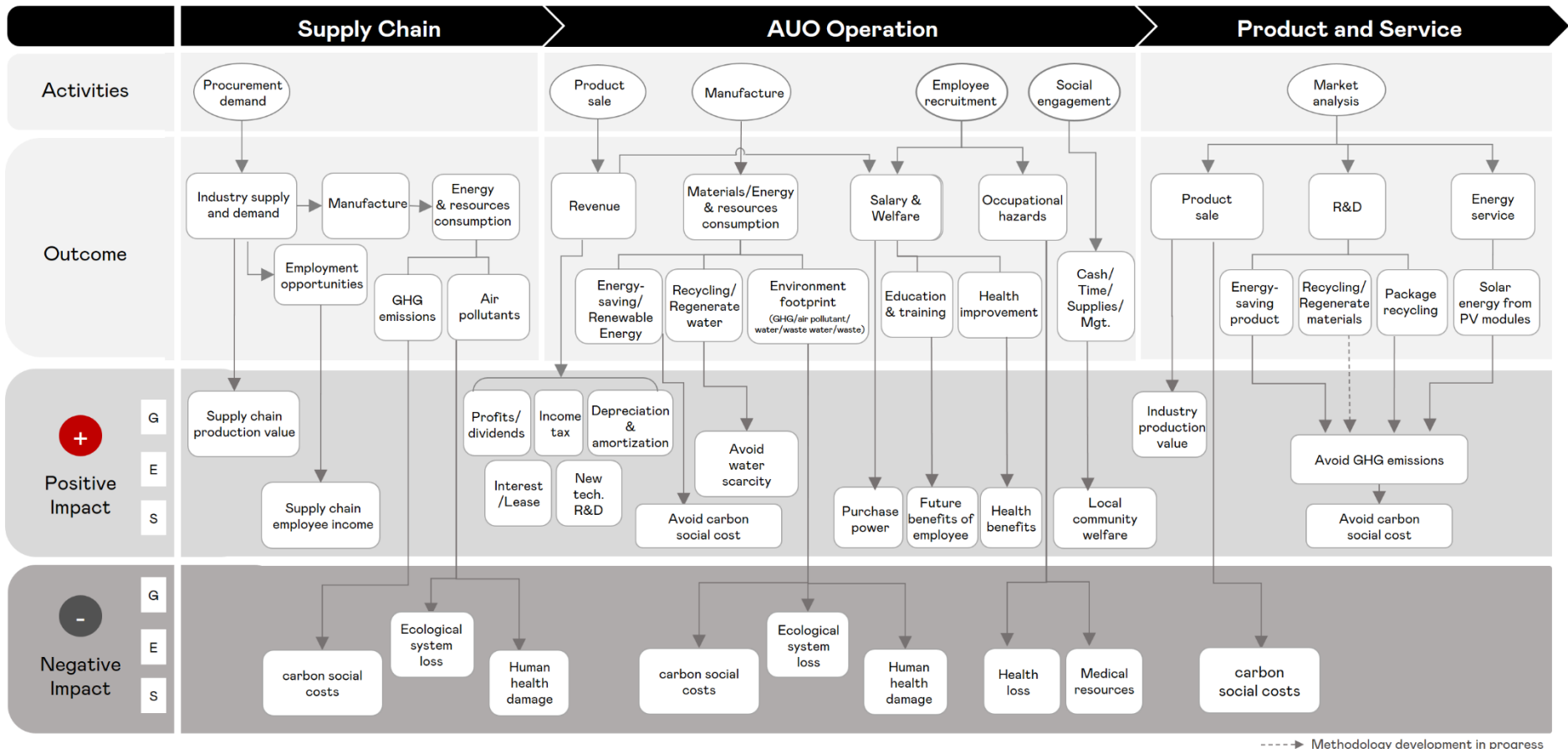
In terms of environmental impact, the environmental footprint derived from energy and resource consumption and pollutant emissions during product manufacturing results in a social cost of TWD 4.3 billion. However, promoting energy and water conservation programs, deploying renewable energy, and recycling water applications create environmental benefits amounting to 830 million in TWD. AUO launches a more proactive "3030 Energy Saving Project," setting a goal to achieve a 30% reduction in energy consumption by the year 2030 based on 2021 data. The company will continue to promote various green solutions to support the industry's transition to low carbon and enhance competitiveness.

On the value chain perspective of the supply chain, AUO has a global network of partners, including raw material suppliers, process outsourcers, waste management partners, equipment component suppliers, labor outsourcing partners, service providers, and transportation, encompassing seven major categories. The raw material suppliers include glass substrates, chemicals, polarizers, backlight modules, driver ICs, printed circuit boards, plastic components, and metal components. In 2023, AUO's procurement demand drove the supply chain to generate a production value of 461.5 billion TWD, creating 64,000 job opportunities and 22.3 billion TWD in wage income for supply chain workers. However, the environmental footprint resulting from the industrial supply and demand processes incurred a social cost of 7.1 billion TWD. In response to sustainability issues within the supply chain, AUO has set targets for suppliers to reduce carbon emissions by 20% by 2030, established an ESG Scorecard rating mechanism, and initiated various supplier guidance and cooperation projects, aiming to collaboratively create sustainable competitiveness amid the low-carbon transformation wave in the supply chain.

Regarding with the products and services, in 2023, AUO's product sales created a production value of 485 billion in TWD for customer industries. The greenhouse gas emissions generated during the product use and disposal stages resulted in a social cost of TWD 29.9 billion. AUO is accelerating the use of recycled materials and energy-efficient products and expanding their application across various sectors. They are actively extending these solutions and promoting them to customers and their applications. In 2023, innovative product energy-saving initiatives, solar module power generation, and customer packaging recycling brought about environmental benefits totaling 3 billion New Taiwan Dollars, assisting customers in achieving net-zero goals and driving industry-wide low-carbon transformation.

By adopting an impact-oriented approach, AUO seeks to understand that the pursuit of operational growth not only creates positive financial value and well-being benefits but may also have potential negative impacts on society and the environment. This helps us consider broader and more far-reaching impact dimensions in our decision-making, further exploring the risks and opportunities that sustainability issue management may bring to the company's long-term development. On the path to sustainable development, AUO will continuously break through and innovate, striving to achieve a Net Positive impact in enterprise sustainability. We hope to collaborate with stakeholders using core technical expertise to create mutually beneficial partnerships of shared prosperity and coexistence between the enterprise and society.

Sustainability Impact Strategy Map



Impact Valuable Measurement: Monetization analysis

Cause of the Impact	Coverage	Material Issue	Impact Valuation	Impact Type	(+/-)	Impact Level		Impacted Stakeholders				
						2022	2023					
Supply Chain	100%	Supply Chain Management	Boosting supply chain production value.	Indirect	Short-term	Positive(+)	●●●●●●	●●●●●●	↘	Social		
			Salary of supply chain employees	Indirect	Short-term	Positive(+)	●●●●●○	●●●●●○	↘	Supply chain		
			Supply chain derived greenhouse gas emissions	Indirect	Long-term	Negative(-)	●●●●●○	●●●●●○	↗	Environment		
			Supply chain derived air pollutants	Indirect	Long-term	Negative(-)	●●●●●○	●●●●●○	↘	Environment		
Company Operation	100%	Sustainability Governance Operations	Gross Value Added (GVA): operating revenue	Direct	Short-term	Positive(+)	●●●●●●	●●●●●●	↗	Social		
			Gross Value Added (GVA): Cash dividend	Direct	Short-term	Positive(+)	●●●●●○	●●●●●○	↗	Shareholder/ Investor		
			Gross Value Added (GVA): Tax payment	Direct	Short-term	Positive(+)	●●●●●○	●●●●●○	↘	Social		
			Gross Value Added (GVA): Interest and leasing expense	Direct	Short-term	Positive(+)	●●●●●○	●●●●●○	↗	Social		
			Gross Value Added (GVA): Depreciation and amortization	Direct	Short-term	Positive(+)	●●●●●○	●●●●●○	↗	Supply chain		
	100%	Technological Innovation and Market Strategy	Gross Value Added (GVA): New technology research and development	Direct	Long-term	Positive(+)	●●●●●○	●●●●●○	↗	Customers/ End-users		
			100%	Talent Recruitment and Retention	Social externality: Gross Value Added (GVA): Employee salary and welfare	Direct	Long-term	Positive(+)	●●●●●○	●●●●●○	↗	Employee
	87%	Climate Change			Future benefits of employees	Direct	Long-term	Positive(+)	●●●●●○	●●●●●○	↘	Employees and Society
			87%	Water Resources Management	Social cost of greenhouse gas emissions	Direct	Long-term	Negative(-)	●●●●●○	●●●●●○	↗	Environment
	Benefits of renewable energy utilization	Direct			Long-term	Positive(+)	●●○○○○	●●○○○○	↗	Environment		
	Benefits of energy-saving initiatives	Direct			Short-term	Positive(+)	●●○○○○	●●○○○○	↗	Environment		
	Social cost of water resource consumption	Direct			Short-term	Negative(-)	●●○○○○	●●○○○○	↗	Environment		
	Benefit of Utilizing recycled water	Direct			Long-term	Positive(+)	●●○○○○	●●○○○○	↗	Environment		
	87%	Circular and Clean Production	Benefit of process water recycling	Direct	Long-term	Positive(+)	●●○○○○	●●○○○○	↗	Environment		
			Social cost of wastewater discharge	Direct	Short-term	Negative(-)	●●○○○○	●●○○○○	↗	Environment		
			Social cost of air pollutants	Direct	Short-term	Negative(-)	●●○○○○	●●○○○○	↘	Environment		
			Social cost of diesel and gasoline consumption	Direct	Short-term	Negative(-)	●●○○○○	●●○○○○	↘	Environment		
			Social cost of waste disposal	Direct	Long-term	Negative(-)	●●○○○○	●●○○○○	↘	Environment		
			87%	Occupational health and safety	The social cost of occupational incidents	Direct	Short-term	Negative(-)	●○○○○○	●○○○○○	↗	Employees and Society
					The social cost of occupational incidents (contractors)	Direct	Short-term	Negative(-)	●○○○○○	●○○○○○	↘	External employees and Society
The cost of health risks of employees					Direct	Short-term	Negative(-)	●●○○○○	●●○○○○	-	Employees and Society	
Benefit of health improvement					Direct	Long-term	Positive(+)	●●○○○○	●●○○○○	-	Employees and Society	
53%			Social Engagement	Social return of investment	Direct	Long-term	Positive(+)	●●○○○○	●●○○○○	↘	Society	
	98%	Sustainable Product		Boosting customer industry output value	Direct	Short-term	Positive(+)	●●●●●●	●●●●●●	↗	Society	
Social cost of product carbon footprint			Indirect	Short-term	Negative(-)	●●●●●○	●●●●●○	↘	Customers and Environment			
Energy-saving benefits of products			Indirect	Long-term	Positive(+)	●●●●●○	●●●●●○	↗	Customers and Environment			
benefits of renewable energy contribution			Indirect	Long-term	Positive(+)	●○○○○○	●○○○○○	↘	Customers and Environment			
Benefit of package material recycling			Indirect	short-term	Positive(+)	●○○○○○	●○○○○○	↗	Customers and Environment			
Product and Services	100%	Technological Innovation and Market Strategy	Boosting customer industry output value	Direct	Short-term	Positive(+)	●●●●●●	●●●●●●	↗	Society		
	87%	Sustainable Product	Social cost of product carbon footprint	Indirect	Short-term	Negative(-)	●●●●●○	●●●●●○	↘	Customers and Environment		
	92%		Energy-saving benefits of products	Indirect	Long-term	Positive(+)	●●●●●○	●●●●●○	↗	Customers and Environment		
	8%		benefits of renewable energy contribution	Indirect	Long-term	Positive(+)	●○○○○○	●○○○○○	↘	Customers and Environment		
	87%		Benefit of package material recycling	Indirect	short-term	Positive(+)	●○○○○○	●○○○○○	↗	Customers and Environment		

Monetary value (TWD in millions)	Impact Level
100,000-1,000,000	●●●●●●
10,000-100,000	●●●●●○
1,000-10,000	●●●●○○
100-1,000	●●●○○○
10-100	●●○○○○
0-10	●○○○○○

Note:

- Coverage rate refers to the completeness of business activities covered by the activity data sources of each impact indicator. The data sources used in this report include the company's annual consolidated financial reports with a coverage rate of 100%, and data from the sustainability reports of AUO with a coverage rate of 87%. The employee health-related indicators are only statistically calculated for data in Taiwan, with a coverage rate of 53% (based on the number of employees). The data on social engagement activities includes coverage of China and Taiwan, with a coverage rate of 98% (based on the number of employees). The coverage of the sustainable product is calculated based on the revenue proportion of the main products and services sectors, with the display solutions accounting for approximately 92% and the energy services accounting for approximately 8%.
- The upstream supply chain utilizes the Input-Output Model to calculate the economic benefits derived from the supply-demand effect of the industrial chain due to procurement activities (positive), as well as the accompanying environmental issues (negative) and the employment opportunities and wage income created (positive). The references are from sources such as the Report on the Compilation of Industry-Related Statistics (Directorate General of Budget, Accounting and Statistics, 2020), the Report on the Compilation of the Green Gross Domestic Product (Directorate General of Budget, Accounting and Statistics, 2022), the Energy Balance Sheet (Energy Bureau, 2022), and the EXIOBASE 2 database.
- The Gross Value Added (GVA) is assessed as the difference between intermediate inputs and final output in the business operation process, taking into account the original inputs and public expenditure. These economic activities bring benefits to various stakeholders, including net profit, tax payments, research and development investment, employee compensation and benefits, interest and leasing costs, depreciation and amortization, among others.
- Environmental externalities are calculated using the Environmental Profit and Loss (EP&L) methodology, which takes into account the social costs of carbon, the costs of human health loss, and those of ecosystem damage from greenhouse gas, air pollution, waste, and depletion of water resources (negative), as well as the environmental benefits of promoting energy efficiency in manufacturing processes, expansion of green buildings, deployment of renewable energy and reclaimed water, and energy-efficient product design (positive). The references are from the sources including US EPA (2016), OECD (2012), and CE Delft (2018).
- Social cost of occupational accidents is calculated by considering the value of employees' willingness to pay to avoid an occupational accidents and the investment of healthcare resources derived from the occupational accident events. The reference is from UK HSE (2017).
- Gains in future salary growth resulting from employee training is an evaluation of the average annual expected value of the professional skills and knowledge acquired by employees as a result of the Company's training programs, which not only enhances productivity but also brings better employability for their future career development, and in turn affects the development of their remuneration in their careers. The reference is from the VBA (2021).
- Health risk and management involve evaluating the attribution relationship between health risks and workloads of employees who have potential factors for cardiovascular diseases such as hypertension, hyperlipidemia, hyperglycemia, and obesity. It includes the medical resource investment (negative) derived from assessing health risks and workloads, as well as the company's implementation of various plans to appropriately control the risk of cardiovascular diseases among employees (positive). The methodology is referenced from IWA (2021).
- The social investment value refers to the community investment assessment mechanism of the London Benchmark Group (LBG), which calculates the cash, material, time, and management costs involved in charitable activities to evaluate and allocate the quantitative benefits of various projects (positive).
- Considering downstream products and services involves evaluating the supply and demand relationship between product sales and the output value of customers' industries, assessing the indirectly created economic value (positive), and the environmental impacts derived (negative) or avoided (positive) during the product use stage, with sources referenced from BASF (2018) and VBA (2022).
- Taking into account the differences in economic conditions of all countries, the valuation coefficients are adjusted by Gross National Income (GNI) per capita as measured by Purchasing Power Parity (PPP) across regions and adjusted for inflation and exchange rate factors to align the time horizon to the currency values in 2021 as the base. The references are from the sources including OECD (2012) and PwC UK (2015).