**The Least
Developed Countries
Report 2025**

Chapter II

Services in the structural transformation process of least developed countries

United Nations

A. Structural transformation pathways for the least developed countries

The populations of the least developed countries (LDCs) are growing rapidly. At the same time, structural economic challenges persist, making it difficult for these countries to fully leverage their growing labour forces. Hence, going forward, LDCs face the dual challenge of generating more and better jobs for their growing working-age populations and accelerating economic growth to reduce poverty and improve living standards. A critical question is whether — and how — LDCs can harness the growing role of services to tackle the dual challenge.

1. Introduction

Structural transformation refers to the reallocation of economic activity from low-productivity sectors, such as subsistence agriculture, to higher-productivity sectors, including manufacturing and services. Such productivity-enhancing structural change can also take place within these broad sectors: for instance, when labour moves from lower-productivity services such as retail to higher-productivity services such as finance. This process is fundamental to economic development, as it facilitates productivity gains, employment creation, growth in real incomes and overall economic diversification. In the context of LDCs, structural transformation is particularly critical, due to the pressing need for inclusive and sustained economic growth. Many LDCs remain heavily reliant on traditional, small-scale agriculture, a sector characterized by low productivity, vulnerability to climate shocks, and limited capacity for income generation. Consequently, shifting economic activity towards higher value added sectors is essential to fostering resilient and sustainable development. In line with this, the Doha Programme of Action for the Least Developed Countries underscores the critical role of structural transformation in the development process of the LDCs.[1]

Historically, the industrialization pathway has been central to structural transformation, with manufacturing serving as the primary driver of economic modernization. The manufacturing sector traditionally offered economies of scale, opportunities for technological learning, and higher labour productivity compared with agriculture and traditional services. In many successful development experiences, such as the East Asian economies of China and the Republic of Korea, industrialization facilitated rapid productivity growth, job creation and technological upgrading. One key advantage of the manufacturing sector is that it typically employs a significantly greater share of low-skilled workers than does the services sector (Hallward-Driemeier and Nayyar, 2018; UNCTAD, 2018). This feature is especially

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[1] The term "structural transformation" appears 15 times across the Doha Programme of Action for the Least Developed Countries for the Decade 2022–2031.

critical in LDCs where a large portion of the workforce lacks higher education.[2] Another significant benefit of manufacturing is that manufactured goods are tradeable, meaning growth is not constrained by the size of the domestic market, which is small in many LDCs. Furthermore, it has been argued that there is unconditional convergence in manufacturing (Rodrik, 2013), meaning that it tends to catch up with advanced economies regardless of domestic policies, institutions or initial conditions. However, recent analysis has challenged the empirical validity of the latter point and found that, while aggregate labour productivity has converged across countries, productivity in agriculture and services has converged only slowly, and manufacturing has actually experienced divergence (Herrendorf et al., 2022). One contributing factor appears to be differing dynamics between formal and informal production, the latter being particularly prevalent in LDCs. Taken together, the literature indicates that sectoral convergence is sensitive to data coverage and economic composition, and services can be an important means of convergence.

A growing body of research has highlighted the phenomenon of premature deindustrialization (Rodrik, 2016; UNCTAD, 2016), a trend where economies deindustrialize at lower levels of income compared with historical patterns observed in advanced economies. Labour-saving innovation and technological change, such as automation, have been shown to lead to a declining demand for low-skilled workers in manufacturing (Acemoglu and Restrepo, 2019). If there are limits to the substitutability of low-skilled workers for skilled labour and capital, this technological change, originating largely in advanced economies, could also lower the absorptive capacity of the manufacturing sector in developing countries (Rodrik, 2022). Such a trend would have significant implications for LDCs, as it raises concerns about the viability of traditional industrialization as a development strategy.

Despite the recognized importance of structural transformation, many LDCs have struggled to leverage structural change to boost development (section II.B). The persistent dominance of agriculture and informal services in employment patterns underscores the slow pace and limited impact of transformation in these economies. This highlights the need to explore a broader set of development pathways – including both manufacturing and services – tailored to each country's unique context, capabilities and opportunities.

In recent years, there has been growing recognition of the potential role of the services sector in driving structural transformation. Services differ from goods in important ways and span a wide spectrum of activities (box II.1). The expansion of services – particularly in high value added areas such as information technology, finance and business services – offers new opportunities to achieve economic diversification and productivity growth. However, the challenge remains to ensure that the services sector develops in a way that supports broader economic transformation and employment generation, rather than reinforcing patterns of informality, low productivity and inequality.

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[2] In the average LDC, 75 per cent of the labour force have basic or less than basic education. Simple average based on labour force surveys and household surveys from various years for 39 LDCs with available data in ILOSTAT; the latest available year for each country was used. Education levels are classified according to the 2011 version of the International Standard Classification of Education (ISCED). Less than basic means no schooling or only early childhood education; basic includes primary and lower secondary education.

Box II.1.
What are services?

The term "goods and services" is frequently used in statistical frameworks of national accounts and international trade. While the distinction between goods and services appears intuitively clear, an exact definition is not trivial. The 2025 edition of the System of National Accounts states that goods are "physical, produced objects, over which ownership rights can be established and whose ownership can be transferred", while services are "the result of a production activity that changes the conditions of the consuming units or facilitates the exchange of products or financial assets" (United Nations et al., 2025).

There are some products where these definitions do not yield a clear-cut distinction. For instance, so-called knowledge-capturing products such as software or music are often treated as services in statistical frameworks when delivered digitally, although they can also be classified as goods when distributed on physical media.

Goods and services can be delivered or consumed together, such as when dining at a restaurant. In this scenario, both tangible goods (food and beverages) and intangible services (such as preparation of the food and service by the waitstaff) are provided. Services can be consumed directly by consumers, but also be used as an input by businesses, such as when logistical or financial services are provided to an industrial firm.

There are different ways to categorize services. For instance, services can be divided into market services, such as retail trade and financial services, and non-market services, such as public administration and education. Another categorization is based on the intensity of knowledge required: knowledge-intensive services such as information technology, professional services, and research and development; and less knowledge-intensive services such as personal care and maintenance services. Producer services and consumer services are another categorization, where producer services support business operations, and consumer services are directly provided to individuals and households. A further distinction is made between traded services, which can be delivered across borders (e.g. consulting), and non-traded services, which are location-bound (e.g. local transport). However, digitalization increasingly blurs these boundaries, enabling some traditionally non-traded services to be delivered remotely. In the fourth revision of the International Standard Industrial Classification of All Economic Activities (ISIC), services sectors cover sections G to U (United Nations, 2008), as outlined in the table below.

In addition to these categorizations, it is important to distinguish between classification systems based on the nature of economic activity, such as ISIC, and those based on the nature of transactions, such as the balance of payments framework. While ISIC is used to classify productive activities within an economy – such as gross domestic product (GDP), employment, and productivity, which are the focus of chapter II – the balance of payments framework is designed to record all cross-border economic transactions, including trade in goods and services, income flows and financial transfers. A discussion of the balance of payments classification, as it applies to international trade in services, is introduced in chapter III, where the focus shifts from structural change within economies to external trade flows.

Services span a wide spectrum of activities across all areas of the economy

ISIC, Revision 4, services sectors

Section	Description
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	Activities of extraterritorial organizations and bodies

Source: UNCTAD.

As LDCs navigate the structural transformation process, understanding how services can offer additional avenues for growth is critical. This chapter highlights the dual challenge of employment generation and growth acceleration faced by LDCs, providing a critical lens through which structural transformation pathways need to be assessed. It explores the evolving landscape of services in LDCs, and analyses the opportunities and challenges associated with services-led structural change. In this chapter, "services-led" refers to a process in which the expansion and upgrading of services sectors – such as transport, finance, and information and communications technology (ICT) – play a central role in driving economic growth and structural transformation. Crucially, this approach is not viewed as an alternative to industrialization, but as a complementary pathway that works in close synergy with manufacturing and other productive sectors. By enhancing productivity, enabling value addition and supporting the competitiveness of goods-producing industries, services can reinforce and accelerate broader development goals. From this analysis, the chapter draws policy recommendations for harnessing the full potential of services for development. By doing so, it contributes to the ongoing debate on the pathways to structural transformation in LDCs and the role of services in shaping the future of these economies.

2. The dual challenge ahead: Generate employment and accelerate economic growth

Despite a gradual decline in fertility rates, population growth in LDCs remains steep, due to demographic momentum, high birth rates relative to global averages and improved child survival rates. Consequently, LDCs face immense challenges in generating sufficient employment to meet the needs of their expanding populations. The population of the current 44 LDCs has increased from 315 million in 1970 to an estimated 1.22 billion in 2025,[3] which corresponds to an average annual growth rate of 2.5 per cent over this period. By 2050, the LDC population is expected to reach 1.95 billion (figure II.1), an increase of 60 per cent within 25 years.

Furthermore, the young demographics of LDCs will drive rapid growth in their working-age populations (15–64 years of age), projected to rise by 76 per cent, from 702 million in 2025 to 1.23 billion in 2050 – at which point it will make up 20 per cent of the global working-age population.[4] At current labour force participation rates,[5] LDC economies will face an average of 13.2 million new job seekers per year from 2025 through 2050.[6] The largest projected average annual increases in the labour force are in the Democratic Republic of the Congo (1.9 million), Ethiopia (1.8 million), and the United Republic of Tanzania (1.4 million).

LDCs will face **13.2 million new job seekers** per year from 2025 to 2050

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[3] Population data used for calculations in this chapter are from the UNCTADstat database.
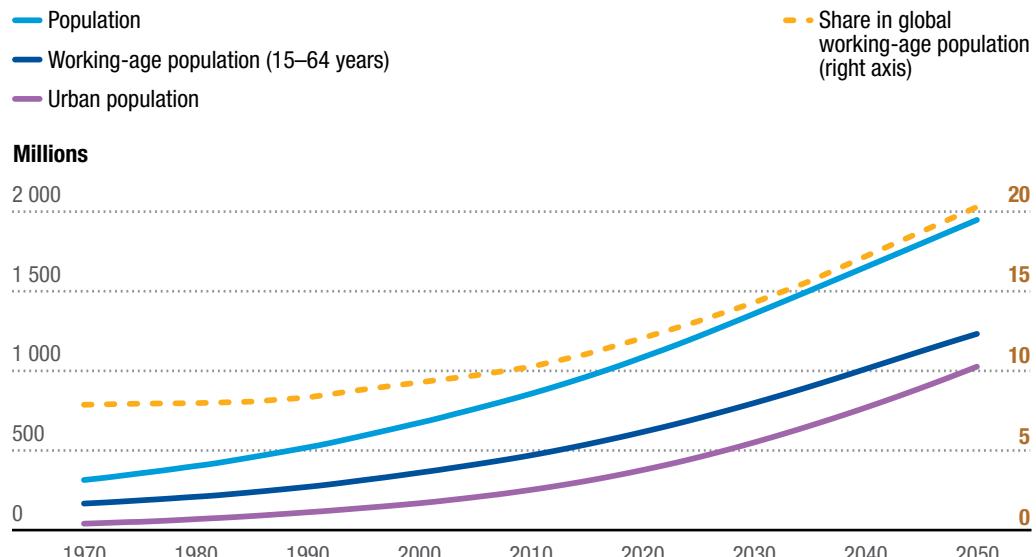
[4] See annex table II.A1 for data for all LDCs.

[5] The labour force participation rate is defined as the proportion of the population 15–64 years of age that is employed or actively seeking employment.

[6] Calculation based on country-specific labour participation rates for 2025 from ILOSTAT and population data from the UNCTADstat database. Labour force participation rates of Kiribati and Tuvalu are missing.

Figure II.1.
The least developed countries face demographic pressures

- Population
- Working-age population (15–64 years)
- Urban population
- Share in global working-age population (right axis)

Millions

Source: UNCTAD calculations based on the UNCTADstat database (accessed 10 March 2025).

Informal employment continues to be persistent and widespread in LDCs

In addition to the growth of the population and labour force in LDCs, urbanization introduces further socioeconomic dimensions. The share of the urban population in LDCs has almost tripled, from 12.9 per cent in 1970 to 37.6 per cent in 2025, and is expected to rise to 52.7 per cent in 2050. This means that, between 2025 and 2050, an additional 570 million people will live in cities in LDCs. While urban areas in LDCs are expanding, they are not always creating jobs at the necessary scale. In 2020, the median urban unemployment rate in LDCs was 10.3 per cent, more than three times the rural unemployment rate of 2.8 per cent,[7][8] suggesting urban–rural duality in labour market outcomes, consistent with the Harris-Todaro model, which predicts that migration may continue despite urban unemployment, due to perceived higher expected incomes in cities (Harris and Todaro, 1970).

In 2020, urban unemployment was higher for 38 out of 42 LDCs for which there were data, and in 8 LDCs, the spread between urban and rural unemployment rates was larger than 10 percentage points.[9] Many urban migrants end up in informal, low-productivity employment (UNCTAD, 2014), and urban infrastructure struggles to keep pace with population growth. Without growth in the number of decent jobs in cities, LDCs risk experiencing rising urban unemployment and social instability (UNCTAD, 2013). Urban unemployment has a significant gender dimension, with women often facing higher joblessness than men, due to structural barriers and social norms. Youth unemployment is also notably high in urban areas, driven by factors such as limited entry-level opportunities, skills mismatches and barriers to labour market entry. In 2020, for example, the female urban unemployment rate exceeded that of men in 35 out of 42 LDCs with available data, while

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[7] However, lower rural unemployment figures mask underemployment, particularly in subsistence agriculture, which is a common feature in many LDCs.

[8] Calculation based on ILOSTAT modelled estimates.

[9] These are Angola, the Democratic Republic of the Congo, Eritrea, Haiti, Nepal, Somalia, South Sudan and Timor-Leste.

the unemployment rate of urban youth (15–24 years of age) exceeded that of rural youth in 39 out of 42 LDCs with available data.

Informal employment – including self-employed workers, unpaid family labour and employees in unregistered firms – continues to be persistent and widespread in LDCs. The median share of informal employment (Sustainable Development Goal indicator 8.3.1) in LDCs is 89.5 per cent.[10] This presents a challenge, as informal firms are generally small, less productive and less likely to grow or innovate compared with formal firms (La Porta and Shleifer, 2014; UNCTAD, 2018). This means that, while the informal sector provides a safety net for those excluded from formal jobs, the persistence of large informal sectors in LDCs limits overall development by constraining productivity growth and the expansion of employment. Moreover, the combination of widespread informality and urbanization that fails to generate sufficient decent jobs weakens a country's fiscal capacity. Informal firms and workers typically operate outside the purview of the tax system, making it difficult for Governments to generate domestic revenue. For instance, according to Organisation for Economic Cooperation and Development (OECD) data for 24 LDCs, the average tax-to-GDP ratio in 2022 was just 14.6 per cent, compared with 19.5 per cent in other (non-LDC) developing economies (ODEs) and 34.9 per cent in developed economies.[11] This revenue shortfall undermines the ability of authorities to invest in housing, transport, sanitation and public utilities, which are essential for sustainable urban development.

Hence, a critical challenge for LDCs consists in the expansion of the quantity and quality of employment opportunities for their increasing labour forces and growing cities, in the absence of which a large share of new labour market entrants in LDCs will be forced into informal, low-productivity employment, exacerbating poverty and inequality. The persistently high working poverty rates in many LDCs (table II.1) underscore the urgent need not just for more jobs, but for better-quality employment that offers higher wages and improved working conditions.

A second key challenge for LDCs is to accelerate economic growth to address widespread poverty and meet development objectives. Current growth rates in LDCs remain far below the 7 per cent annual per capita real GDP growth called for in Target 8.1 (Sustainable Economic Growth) of Sustainable Development Goal 8 (Decent Work and Economic Growth). In 2024, none of the LDCs met the 7 per cent target, and the average per capita growth rate in LDCs corresponded to just 1 per cent. Sluggish output growth, together with rapid population growth, led to negative per capita GDP growth rates in 12 out of 44 LDCs in 2024. LDCs are also falling behind ODEs in terms of GDP per capita. From 1990 to 2024, the average GDP per capita in LDCs fell relative to that of ODEs, decreasing from 27.6 per cent to 17.0 per cent of the ODE average (figure II.2). The persistent gap in economic performance between LDCs and ODEs highlights the urgent need to boost growth in the former.

> **LDCs face the dual challenge** of generating more and better jobs while ensuring sustained economic growth

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[10] Calculation based on ILOSTAT data available for 34 LDCs. See annex table II.A2 for data for all available LDCs.

[11] Calculation based on OECD revenue statistics.

Table II.1.
Millions work yet remain poor in the least developed countries
Percentage of employed people living below $2.15 purchasing power parity (PPP) per day, 2024

Country	Working poverty rate
Angola	31.5
Bangladesh	2.6
Benin	9.2
Burkina Faso	23.9
Burundi	58.1
Cambodia	14.1
Central African Republic (the)	65.7
Chad	29.2
Comoros (the)	14.8
Democratic Republic of the Congo (the)	72.8
Eritrea	31.2
Ethiopia	14.3
Gambia (the)	12.3
Guinea	12.6
Guinea-Bissau	21.6
Haiti	31.2
Lao People's Democratic Republic (the)	6.0
Lesotho	25.1
Liberia	27.5
Madagascar	77.6
Malawi	67.9
Mali	22.0
Mauritania	3.0
Mozambique	70.2
Myanmar	2.8
Nepal	0.2
Niger (the)	42.0
Rwanda	32.5
Senegal	10.4
Sierra Leone	27.3
Solomon Islands	30.7
Somalia	63.2
Timor-Leste	16.0
Togo	14.9
Uganda	35.3
United Republic of Tanzania (the)	39.8
Yemen	48.2
Zambia	59.9
LDC average	**30.7**

Source: UNCTAD based on ILOSTAT modelled estimates (accessed 18 July 2025).
Note: Data for Afghanistan, Djibouti, Kiribati, South Sudan, the Sudan and Tuvalu are missing.

In summary, LDCs face the dual challenge of generating employment at an unprecedented scale while ensuring sustained economic growth to eradicate poverty. The need for employment-intensive growth in the LDCs is not new, and has been discussed in a previous edition of this report (UNCTAD, 2013). The following sections analyse how and to what extent the services sector can contribute to addressing the dual challenge, highlighting its potential to foster both employment generation and economic growth in LDCs.

Figure II.2.

The least developed countries are falling behind in terms of output per capita

GDP per capita (Dollars at constant 2015 prices), 1990–2024
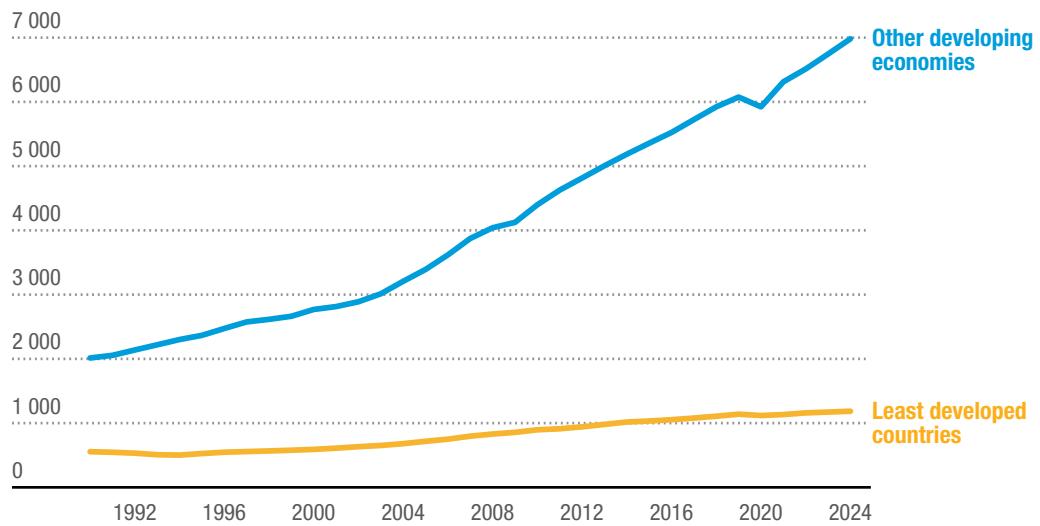
Source: UNCTAD calculations based on the UNCTADstat database (accessed 18 July 2025).

B. The role of services in structural transformation pathways

Recent employment and output trends show the growing importance of the services sector in LDC economies. However, the rise of services in LDCs has generated employment primarily in low-productivity and less knowledge-intensive services segments. At the same time, there are increasing links between manufacturing and services, and no indication of a deindustrialization of the global economy. Hence, a broad-based, balanced policy approach appears advisable that aims at developing services alongside manufacturing and strengthening linkages between sectors.

1. The rise of services in the least developed countries

The structural composition of economies undergoes change along their development trajectories. This change can be analysed through the lens of value added and employment,[12] key indicators that reveal the extent to which economic activity is reallocated across sectors, and how this reallocation contributes to productivity and economic growth. This section examines trends in sectoral shifts of value added and employment, and highlights why structural change patterns observed in LDCs have so far failed to address the dual challenge outlined in section II.A.

Since 1970, the change in the composition of value added in the average LDC has been characterized by a decrease in the weight of the agriculture sector and an increase in the weight of the services sector, while the share of manufacturing has remained virtually unchanged (figure II.3). In 2023, services was the largest contributor to value added, accounting for an average share of 48.9 per cent of GDP, followed by agriculture with 24.4 per cent, manufacturing with 10.9 per cent, mining and utilities with 9.3 per cent, and construction with 6.1 per cent. In other words, structural change in LDCs has favoured services growth rather than industrialization.

There are, of course, exceptions to this general trend (figure II.4). These notably include Bangladesh, Cambodia, Haiti and Myanmar, whose shares of GDP provided by manufacturing in 2023 were 23.1 per cent, 27.7 per cent, 25.2 per cent and 25.8 per cent, respectively. However, the manufacturing sector in all these countries is heavily concentrated in the garments and textiles sector.[13]

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[12] Structural change can also be examined through shifts in the composition of foreign trade – particularly exports – as discussed in chapter III.

[13] This concentration is particularly strong in the export sector. The share of textiles and clothing (divisions 65 and 84 of the fourth revision of the Standard International Trade Classification) in total exports of manufactured goods in 2023 for Bangladesh, Cambodia, Haiti and Myanmar was 92.8 per cent, 52.1 per cent, 90.4 per cent and 60.6 per cent, respectively, according to data from the UNCTADstat database.

Figure II.3.
Rise of services instead of industrialization in the least developed countries

Value added by economic activity (percentage of GDP), 1970–2023
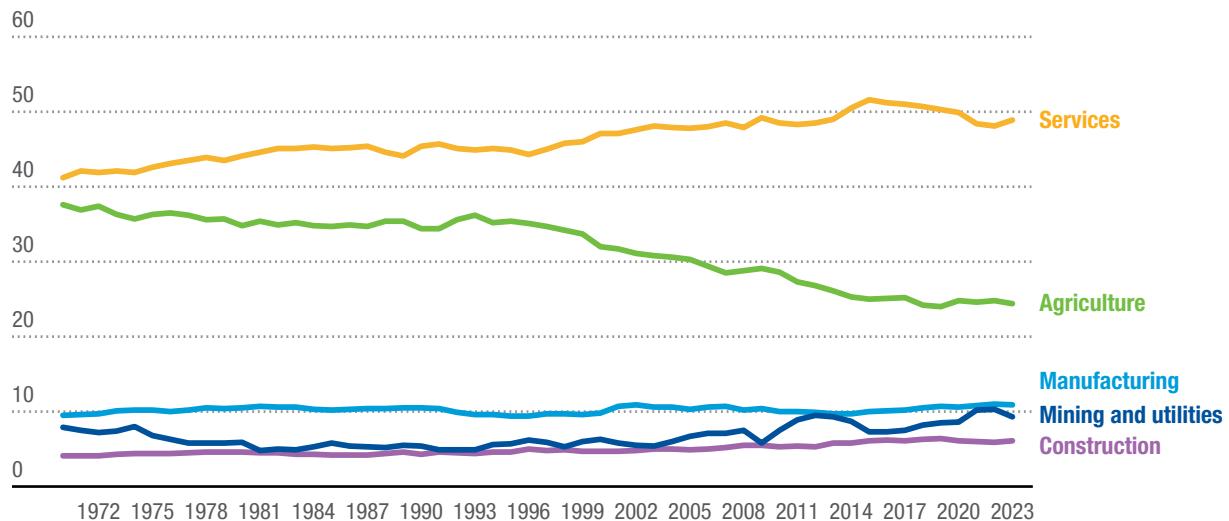
Source: UNCTAD calculations based on the UNCTADstat database (accessed 22 July 2025).
Note: Group simple averages.

This narrow specialization limits broader industrial diversification and makes these economies more vulnerable to sector-specific shocks, such as changes in global demand, trade policies or input costs. For seven other LDCs, the manufacturing share in output in 2023 was in the range of 15 to 20 per cent. In 39 out of 44 LDCs, the services sector was the largest contributor to GDP, while in 4 it was the agriculture sector, and in 1 the mining and utilities sector.
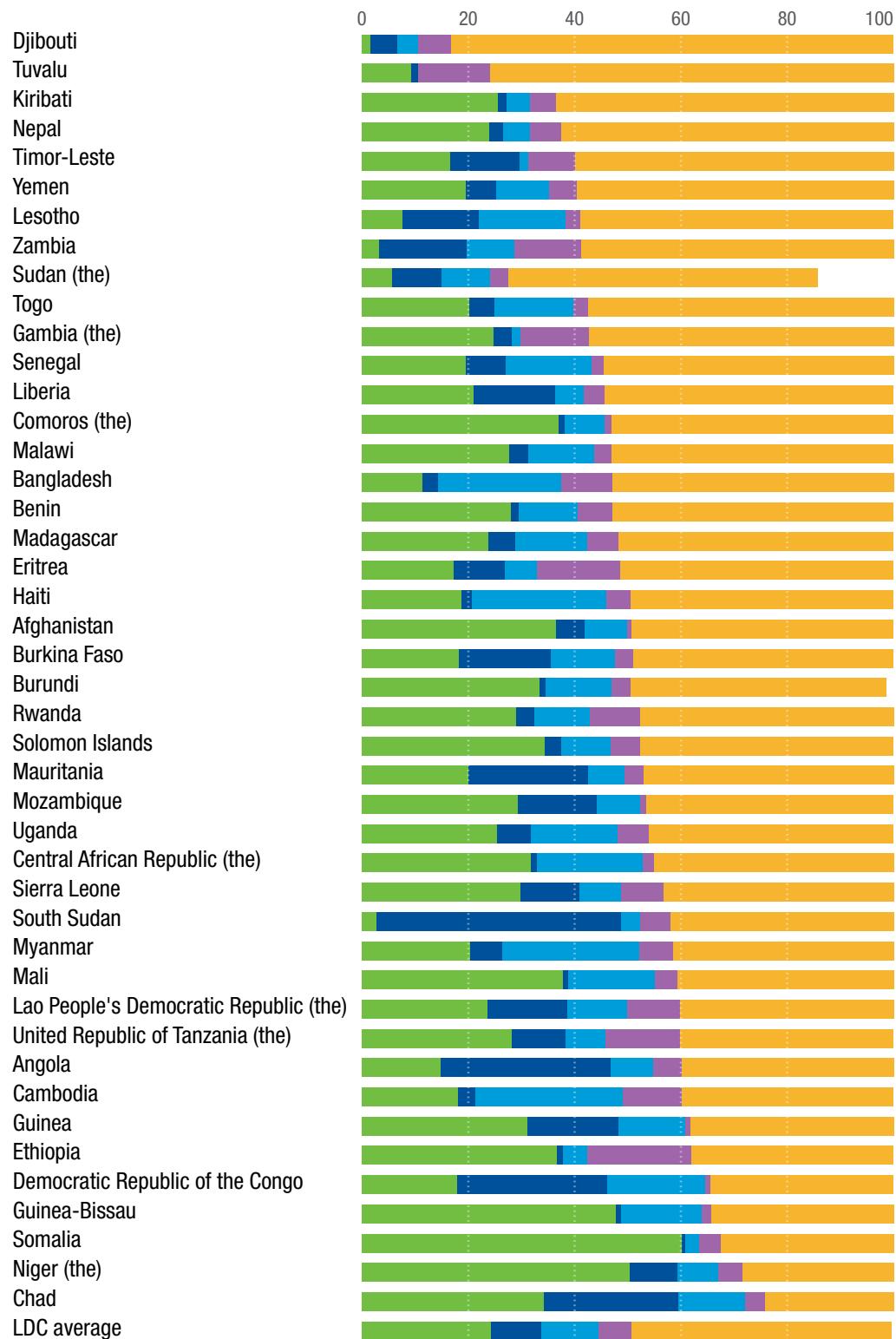

Structural change has favoured services growth over industrialization

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Figure II.4
Services make up the largest share of gross domestic product in most least developed countries

Value added by economic activity (percentage of GDP), 2023

Agriculture · Mining and utilities · Manufacturing · Construction · Services

Djibouti
Tuvalu
Kiribati
Nepal
Timor-Leste
Yemen
Lesotho
Zambia
Sudan (the)
Togo
Gambia (the)
Senegal
Liberia
Comoros (the)
Malawi
Bangladesh
Benin
Madagascar
Eritrea
Haiti
Afghanistan
Burkina Faso
Burundi
Rwanda
Solomon Islands
Mauritania
Mozambique
Uganda
Central African Republic (the)
Sierra Leone
South Sudan
Myanmar
Mali
Lao People's Democratic Republic (the)
United Republic of Tanzania (the)
Angola
Cambodia
Guinea
Ethiopia
Democratic Republic of the Congo
Guinea-Bissau
Somalia
Niger (the)
Chad
LDC average

Source: UNCTAD calculations based on the UNCTADstat database (accessed 22 July 2025).

Average employment shares in LDCs have mirrored the trend in value added shares, with a consistent decrease of the share of agriculture accompanied by an increase of the share of services, while the share of manufacturing has stagnated (figure II.5). A major contrast with the evolution of output is that, despite this shift, agriculture remains the largest employer in the average LDC, accounting for 48.6 per cent of employment in 2023. The services sector follows with 38.4 per cent, manufacturing with 7.4 per cent, construction with 4.0 per cent, and mining and utilities with 1.7 per cent. The last figure underscores the limits of the extractives sector to contribute to addressing the employment challenge in LDCs, the majority of which are commodity-dependent developing countries (UNCTAD, 2023).

As is the case with value added shares, average employment shares mask substantial differences between individual LDCs. In 2023, the share of services in total employment in LDCs ranged from 11.9 per cent in Burundi[14] to 92.9 per cent in Djibouti, and the share of manufacturing ranged from less than 1 per cent in Djibouti to 22.9 per cent in Lesotho (figure II.6). The high services employment share in Djibouti is clearly linked to its role as a logistics hub and the importance of its port and related infrastructure (chapter IV), combined with a low share of arable land, which limits agricultural activity. Similar reasons may explain the relatively high services employment shares in Yemen (60.2 per cent) and Somalia (56.1), the LDCs with the second and third highest levels, respectively. LDCs with relatively low shares of services (below 30 per cent) include agrarian economies such as Burundi and Madagascar, but also LDCs with large extractives industries such as Chad, the Niger and South Sudan. Among the 42 LDCs with available data, the services sector was the largest employer in 18 countries, whereas agriculture remained the dominant source of employment in the remaining 24 countries.

Figure II.5.
Services employment is on the rise in least developed countries
Employment by sector (percentage), 1991–2023
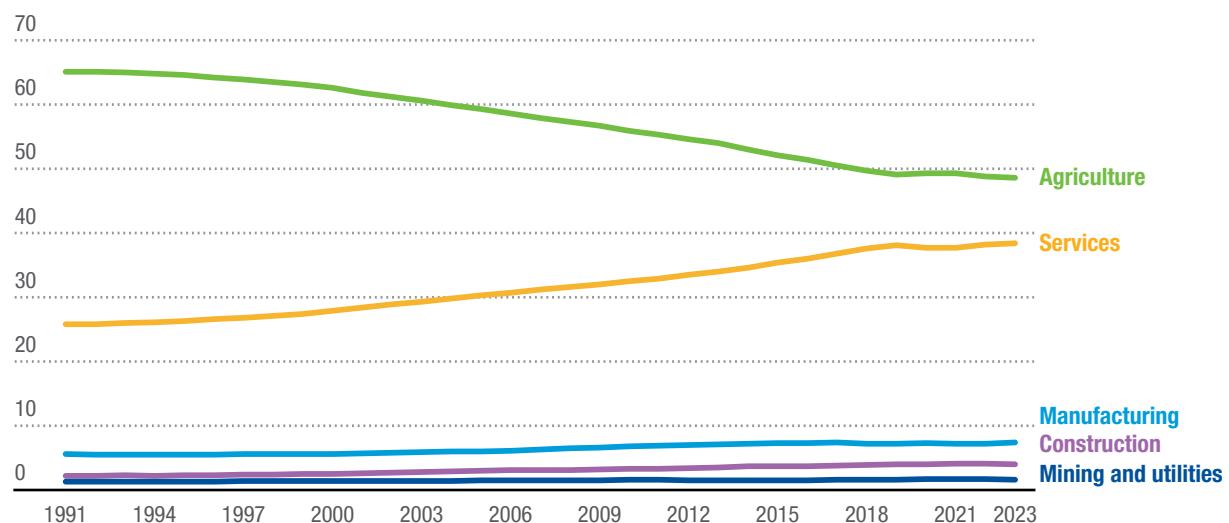
Source: UNCTAD calculations based on ILOSTAT modelled estimates (accessed 24 March 2025).
Note: Group simple averages. Data for Kiribati and Tuvalu are missing. Data for the Sudan are missing for 2023.

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14 Burundi is an outliner among LDCs, with Madagascar having the second lowest employment share in services at 20.5 per cent.
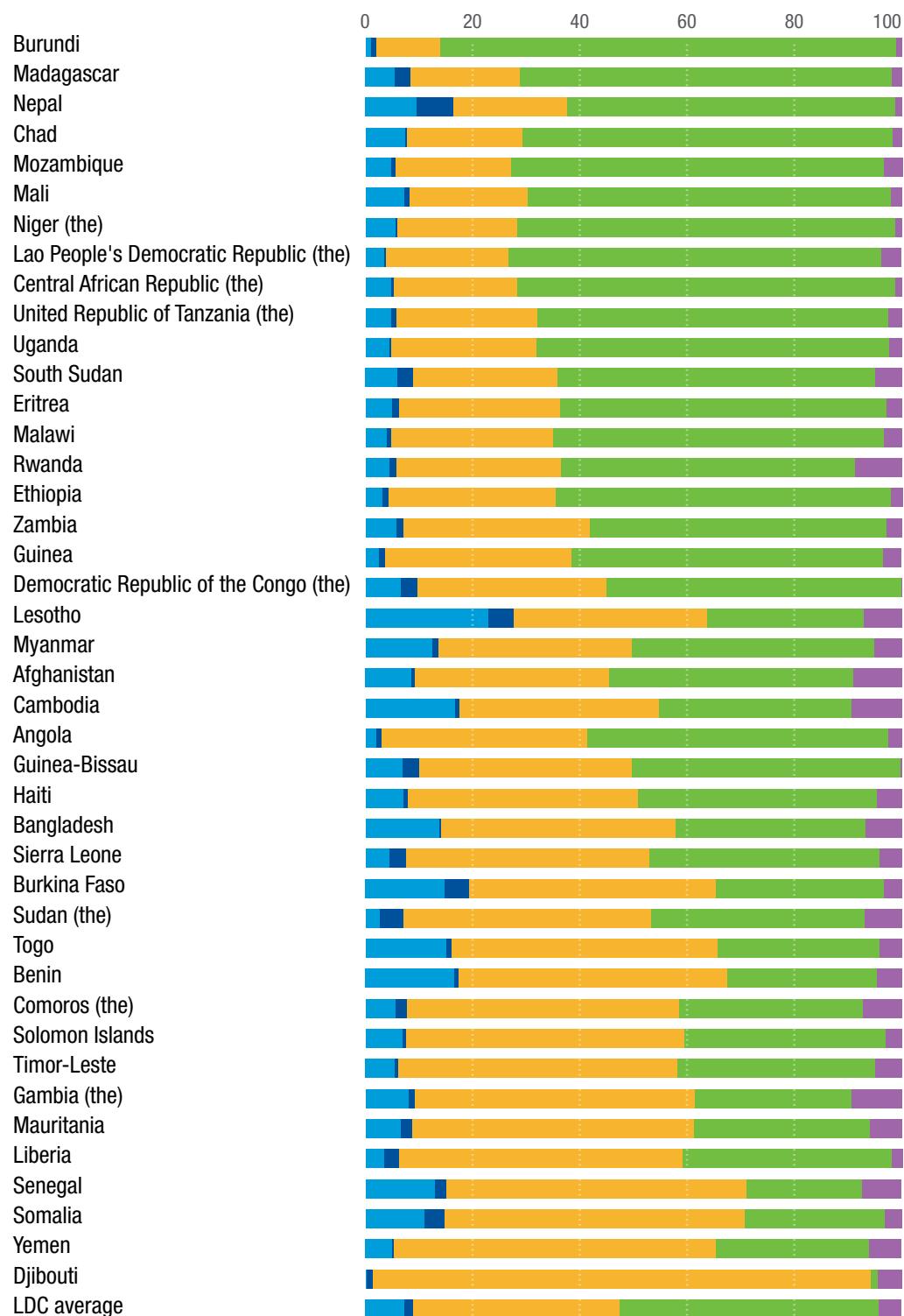
Figure II.6.
Agriculture remains a larger employer than services in the majority of least developed countries

Employment by economic activity (percentage of total employment), 2023

■ Manufacturing ■ Mining and utilities ■ Services ■ Agriculture ■ Construction

Employment patterns differ significantly between LDCs as a group, ODEs and developed economies (table II.2). In the average developed economy, the services sector is the largest employer, accounting for a share of 70.7 per cent in 2023, followed by manufacturing with 13.6 per cent and agriculture with 6.4 per cent. In ODEs, the services sector is also the largest employer, with an average share of 60.7 per cent in 2023, followed by agriculture with 18.3 per cent and manufacturing with 10.0 per cent. In the average ODE, the employment share of the manufacturing sector has slightly declined, from 12.6 per cent in 1991 to 10.0 per cent in 2023, while the opposite is the case for the average LDC, where the share of manufacturing has increased, albeit from a low base, from 5.6 per cent in 1991 to 7.4 per cent in 2023.

> **Table II.2.**
> **Employment patterns differ between least developed countries and other country groups**
> Shares in total employment (percentage), 1991–2023

	Agriculture			Manufacturing			Services		
	1991	**2010**	**2023**	**1991**	**2010**	**2023**	**1991**	**2010**	**2023**
Least developed countries	65.1	55.9	48.6	5.6	6.8	7.4	25.8	32.5	38.4
Other developing economies	29.4	22.6	18.3	12.6	10.4	10.0	49.1	56.5	60.7
Developed economies	13.9	8.7	6.4	21.5	14.6	13.6	55.3	66.9	70.7

Source: UNCTAD calculations based on ILOSTAT modelled estimates (accessed 24 March 2025).

Beyond broad sectoral comparisons, there are significant differences between LDCs, ODEs and developed economies when it comes to the distribution of employment across services subsectors. In this context, it is important to note, however, that the available data – ILOSTAT modelled estimates – on subsectoral services employment often aggregates a diverse range of economic activities and occupations with varying levels of complexity. Consequently, identical subsectoral employment shares can result from different distributions of employment within subsectors. These variations can lead to discrepancies in key indicators such as productivity. Table II.3 [15] summarizes the sectoral disaggregation of services employment data available in ILOSTAT modelled estimates, and categorizes services into knowledge-intensive, less knowledge-intensive, and non-market sectors, following the classifications in Sorbe et al. (2018) and UNCTAD (2020). In this classification, trade, accommodation and food services, and other personal services are considered less knowledge-intensive, while transport and communication, financial services and business services are categorized as knowledge-intensive. Public administration, education and health – typically provided largely by the public sector – are classified as non-market services.

Services span a diverse range of **activities and occupations**

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[15] For clarity and efficiency, the short descriptions in table II.3 are used to refer to (groups of) services subsectors throughout the chapter, unless stated otherwise.

> **Table II.3.**
> **Services span a wide spectrum of activities across all areas of the economy**

Short description	Sections (ISIC, Revision 4)	Knowledge intensity
Transport and communication	H and J	Knowledge-intensive
Financial services	K	Knowledge-intensive
Business services	L, M and N	Knowledge-intensive
Trade services	G	Less knowledge-intensive
Accommodation and food services	I	Less knowledge-intensive
Other services	R, S, T and U	Less knowledge-intensive
Public administration	O	Non-market services
Education	P	Non-market services
Health	Q	Non-market services

Source: UNCTAD with knowledge intensity groupings according to Sorbe et al. (2018).
Note: Sorbe et al. (2018) is a study on OECD countries for which separate data for ISIC section H (transport and storage) and section J (information and communication) are available. There, section H is classified as less knowledge-intensive and J as knowledge-intensive. However, ILOSTAT modelled estimates include only the aggregated category H + J, which here is classified as knowledge-intensive, following the approach in UNCTAD (2020).

Services employment is concentrated in a narrow set of sectors in LDCs

As a general point, figure II.7 highlights that the services sector in LDCs is more concentrated than in other country groups. The Herfindahl–Hirschman Index for the distribution of employment across services sectors is 0.21 for LDCs, 0.14 for ODEs and 0.13 for developed economies.[16] Therefore, the services sector in LDCs is more concentrated than in other country groups, reflecting limited diversification.

The largest services subsector in all country groups is trade services (section G of ISIC). However, while this sector employed 38.9 per cent of service workers in the average LDC in 2023, the share was substantially lower in ODEs and developed economies, with average shares of 26 per cent and 18.8 per cent, respectively.

In the subsectors transport and communication (ISIC sections H and J), LDCs and ODEs had an identical employment share of 10.9 per cent on average, while developed economies had a somewhat larger share of 13.2 per cent. The point regarding subsectoral employment distribution must be restated here, as this subsector encompasses a wide range of occupations, from basic roles such as taxi drivers to highly specialized positions such as software engineers.

When it comes to services employment shares in accommodation and food services (ISIC section I), there are no large differences between country groups. In LDCs, this subsector employed 6.1 per cent of services workers on average in 2023, while the average shares for ODEs

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[16] The Herfindahl–Hirschman Index is calculated by summing the squared employment shares of all services sectors, where each share is expressed as a proportion of the total; higher Herfindahl–Hirschman Index values indicate higher concentration in fewer subsectors. An alternative measure of concentration would be the coefficient of variation that expresses the standard deviation of services employment shares as a percentage of their mean; higher coefficient of variation values indicate higher concentration. The coefficient of variation for LDCs, ODEs and developed economies is 96 per cent, 53 per cent and 39 per cent, respectively.

and developed economies were 8.7 per cent and 6.7 per cent, respectively.

While the financial services subsector (ISIC section K) is a minor employer in all country groups, its average share is substantially larger in ODEs (3.1 per cent) and developed economies (4.2 per cent) than in LDCs, with 1.6 per cent.

Business services (ISIC sections L, M and N) features particularly strong disparities between LDCs and other country groups. In LDCs, this subsector employed 5.5 per cent of service workers on average in 2023, while the average shares for ODEs and developed economies were 9.7 per cent and 14.2 per cent, respectively.

Public administration (ISIC section O) employed an average of 6.9 per cent of service workers in LDCs in 2023, while the average shares in ODEs (11.3 per cent) and developed economies (9.4 per cent) were substantially larger.

The average share of education (ISIC section P) in services employment is similar across country groups, with 9.4 per cent in LDCs, 10.6 per cent in ODEs and 11.5 per cent in developed economies. Here it should be noted that, while the range of activities in this subsector is circumscribed more narrowly than in other services subsectors, it encompasses primary, secondary and higher education, so that differences in the subsectoral distribution of activities across educational levels can give rise to differences in productivity, wage levels and skill compositions.

In health services (ISIC section Q), there are large differences across country groups, with an average share of 3.6 per cent in LDCs, but 6.7 per cent in ODEs and 14.6 per cent in developed economies.

Other services (ISIC sections R, S, T and U), includes the creative economy and sports, but also various repair activities, activities of membership organizations such as trade unions, activities of households as employers of domestic personnel, and personal services such as cleaning and hairdressing. This subsector was the second largest services employer in the average of LDCs, with a share of 17.2 per cent, but was substantially smaller in the average of ODEs (13.1 per cent) and developed economies (7.4 per cent).

In summary, trade services are the largest employer of services in LDCs, accounting for an average share of 38.9 per cent of services employment in 2023. This subsector is classified as less knowledge-intensive, and is characterized by low average education levels: 77.1 per cent of workers in trade services have only basic or less-than-basic education. The subsector is also highly gendered – in 2023, 45.5 per cent of all female services workers in LDCs were concentrated in trade services, compared with 32.6 per cent of men. These patterns indicate the prevalence of low-productivity, informal employment in this subsector, which, coupled with comparatively small employment shares in more knowledge-intensive activities, constrains the potential contribution of services to structural transformation and long-term growth in LDCs unless specific actions are taken (discussed in the final section of this chapter).

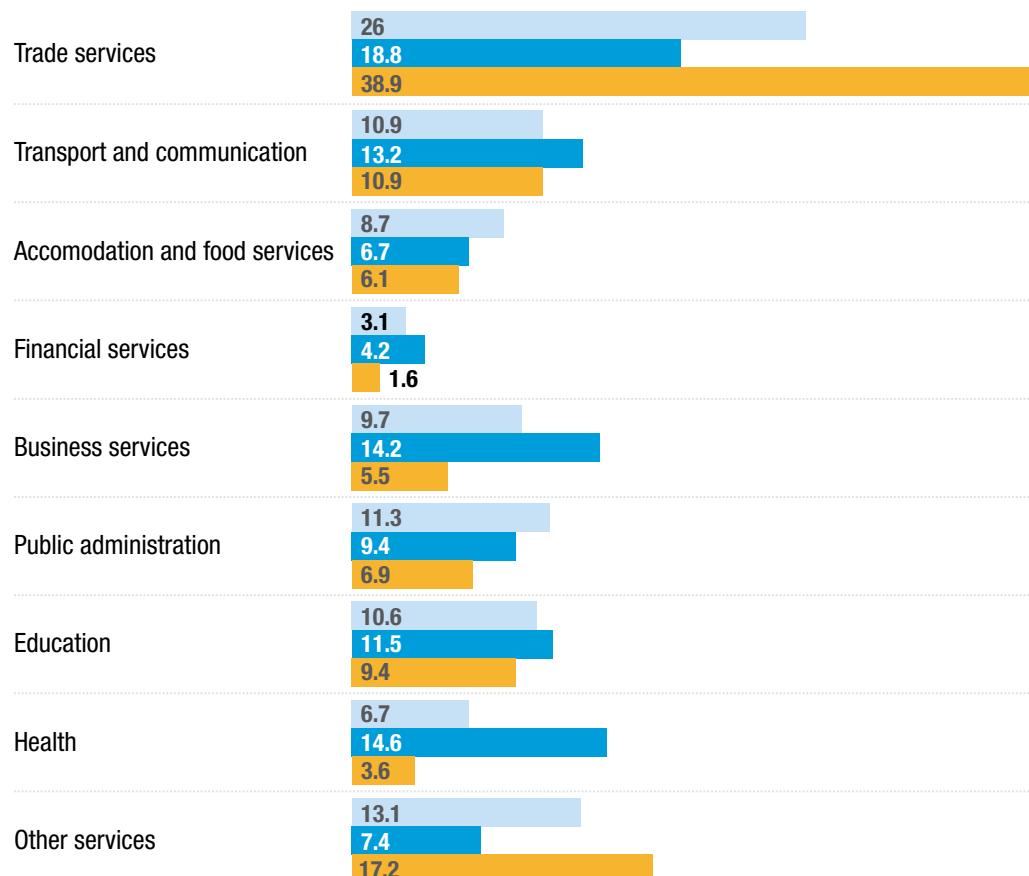**Women in LDCs** face greater concentration in services employment

Figure II.7.

The services sector is highly concentrated in least developed countries

Employment by services subsector (percentage of total services employment), 2023

Other developing economies
Developed economies
Least developed countries

Sector	Other developing economies	Developed economies	Least developed countries
Trade services	26	18.8	38.9
Transport and communication	10.9	13.2	10.9
Accomodation and food services	8.7	6.7	6.1
Financial services	3.1	4.2	1.6
Business services	9.7	14.2	5.5
Public administration	11.3	9.4	6.9
Education	10.6	11.5	9.4
Health	6.7	14.6	3.6
Other services	13.1	7.4	17.2

Source: UNCTAD calculations based on ILOSTAT database (accessed 24 March 2025).
Note: Simple group averages.

Differences in relative employment shares between country groups also translate into differences at the level of knowledge intensity. Again, there are substantial differences between LDCs and other country groups. In LDCs, less knowledge-intensive sectors employ the bulk of service workers, with an average share of 62.1 per cent in 2023 (figure II.8), which is much higher than in ODEs (47.7 per cent) and developed economies (33.0 per cent). The opposite is the case for knowledge-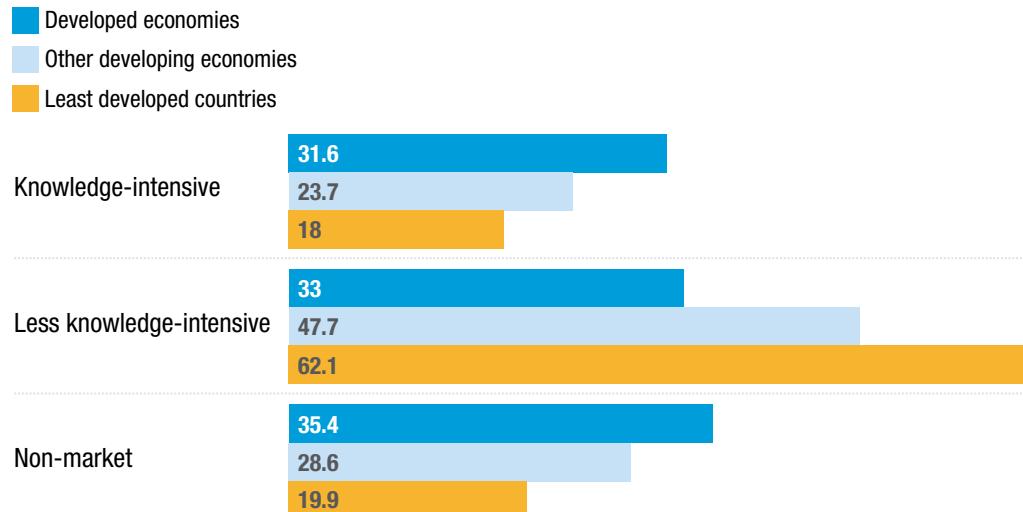intensive services sectors, which only account for a share of 18.0 per cent in LDCs, but 23.7 per cent in ODEs and 31.6 per cent in developed economies. These service employment patterns are strongly gendered, with 77.5 per cent of female service workers in the average LDC employed in less knowledge-intensive sectors in 2023, compared with 50.0 per cent of male service workers, and just 6.8 per cent of female service workers in knowledge-intensive services compared with 26.6 per cent of male service workers.

Figure II.8.
Less knowledge-intensive sectors employ the bulk of service workers in least developed countries

Employment by knowledge intensity (percentage of total services employment), 2023

Legend:
- Developed economies
- Other developing economies
- Least developed countries

Knowledge-intensive
- 31.6
- 23.7
- 18

Less knowledge-intensive
- 33
- 47.7
- 62.1

Non-market
- 35.4
- 28.6
- 19.9

Source: UNCTAD calculations based on ILOSTAT database (accessed 24 March 2025).
Note: A definition of the sector classifications is provided in table II.3.

Overall, in LDCs, the share of service workers is lower than in other country groups in sectors that are indicative of modern economic activities, such as financial services and business services, and services sectors that contribute to human capital (health and education). On the contrary, the two largest service subsectors – trade services[17] and other services – which jointly account for an average share of 56 per cent of service employment in LDCs, while also encompassing a spectrum of activities, are more suggestive of low productivity "traditional" services occupations, such as in retail trade. As a consequence, the bulk of service workers in LDCs is employed in less-knowledge intensive services sectors.

An analysis of average education levels across services sectors reinforces this pattern and highlights clear disparities between country groups (table II.4).

In trade services – the largest services sector in LDCs – an average of 34.5 per cent of workers have less than basic education, and 42.6 per cent have only basic education. In contrast, just 18.1 per cent have intermediate education and only 6.2 per cent possess advanced education. In ODEs, by comparison, a significantly higher share of workers in trade services hold intermediate (39.5 per cent) and advanced (15.3 per cent) qualifications. A similar trend is observed in other services – the second largest services sector in LDCs – where 34.6 per cent of workers have less than basic education and 44.2 per cent have only basic education. Only 18.9 per cent of workers in this sector in LDCs have intermediate education and 6.9 per cent have advanced education. In contrast, ODEs display a considerably higher proportion of workers with post-basic education levels in these sectors. The smallest educational gap between LDCs and ODEs is found in financial

[17] An analysis of a global harmonized household survey database shows that, in developing countries, the share of workers with no or only primary education is highest in trade services and in accommodation and food services (Nayyar et al., 2021).

services and the education sector, where the share of workers with intermediate and advanced education is more comparable.

In LDCs, women employed in the two largest services subsectors – trade and other services – tend to have lower education levels than their male counterparts. In trade services, 83.6 per cent of female workers have only basic or less than basic education, compared with 73.7 per cent of men. In other services, the gap is similar: 85.6 per cent of women have no more than basic education, versus 78.4 per cent of men. These figures highlight not only women's higher concentration in trade services and other services, but also their relatively lower educational attainment within those services sectors.

> **Table II.4.**
> **There are substantial differences in workers' education levels across services sectors and country groups**
> Share of employment (percentage) by education level, various years

Sector	Country group	Education level			
		Less than basic	Basic	Intermediate	Advanced
Trade services	Least developed countries	34.5	42.6	18.1	6.2
	Other developing economies	12.1	36.4	39.5	15.3
	Developed economies	0.9	15.4	57.1	28.4
Transport and communication	Least developed countries	27.4	45.4	20.0	9.7
	Other developing economies	10.3	33.7	40.1	21.4
	Developed economies	0.7	10.3	46.7	44.0
Accommodation and food services	Least developed countries	36.3	43.3	23.0	8.2
	Other developing economies	12.7	38.2	41.1	14.3
	Developed economies	1.1	21.2	59.7	20.1
Financial services	Least developed countries	12.7	21.3	31.4	56.2
	Other developing economies	2.7	13.7	35.2	58.6
	Developed economies	0.5	3.5	28.8	69.5
Business services	Least developed countries	25.5	32.1	27.3	27.6
	Other developing economies	6.2	27.1	35.0	35.8
	Developed economies	0.7	9.1	35.2	56.5
Public administration	Least developed countries	14.3	28.4	33.2	27.6
	Other developing economies	6.3	22.7	36.9	39.7
	Developed economies	0.5	5.8	37.3	57.7
Education	Least developed countries	8.6	12.8	36.2	45.8
	Other developing economies	3.6	11.0	26.5	63.3
	Developed economies	0.2	4.3	22.7	73.4
Health	Least developed countries	14.6	21.3	31.4	37.9
	Other developing economies	5.1	18.3	33.6	48.3
	Developed economies	0.5	8.0	40.7	52.1
Other services	Least developed countries	34.6	44.2	18.9	6.9
	Other developing economies	15.5	40.6	35.4	15.1
	Developed economies	2.0	13.3	48.2	39.3

Source: UNCTAD calculations based on ILOSTAT database (accessed 24 March 2025).
Note: Group simple averages. Data are based on labour force surveys and household surveys from various years; the latest available year for each country was used. There are data for 34 LDCS, 74 ODEs and 44 developed economies. Education levels are classified according to the 2011 version of the International Standard Classification of Education. Less than basic means no schooling or only early childhood education; basic includes primary and lower secondary education; intermediate includes upper secondary education and post-secondary non-tertiary education; and advanced includes short-cycle tertiary education, bachelor's, master's and doctoral levels.

Informality is another critical aspect, as it is particularly widespread in the services sector of urban areas in LDCs. Survey data for nine available LDCs among the World Bank Informal Sector Enterprise Surveys, which are representative at city level, show that the bulk of informal establishments in urban areas are in the retail sector (table II.5). Furthermore, the small size of informal establishments is striking across sectors, but in particular in retail trade. For instance, in the 23 cities shown in table II.5, one-person establishments made up an average of 56 per cent of retail businesses – higher than in other services (47 per cent) and manufacturing (50 per cent). This indicates that a substantial share of the urban informal economy in LDCs is composed of independent vendors operating at a small scale, often in low-capital, low-margin activities. This has important implications for the overall productivity of the services sector in LDCs, as discussed in the following section. Furthermore, in 15 of the 23 cities shown in table II.5, the majority of informal retail workers were women. This is in line with an International Labour Organization report that shows that women tend to be overrepresented in informal employment in trade services, which includes retail (International Labour Organization, 2023).

Retail trade represents the bulk of the urban informal economy in LDCs

> **Table II.5.**
> **Retail trade represents the bulk of the informal economy in cities in least developed countries**
> Share of informal establishments (percentage) and average number of workers, various years

Country/city	Retail		Other services		Manufacturing	
	Share	Average number of workers	Share	Average number of workers	Share	Average number of workers
Bangladesh						
Chittagong	71.1	1.3	17.4	1.7	11.5	1.7
Cox's Bazar	66.2	1.9	14.0	2.3	19.9	2.0
Dhaka	79.8	1.4	12.6	2.2	7.6	2.3
Cambodia						
Battambang	73.1	1.6	25.3	1.4	1.6	2.0
Phnom Penh	71.2	1.3	27.0	1.2	1.7	1.5
Siem Reap	67.3	1.7	31.2	1.6	1.5	2.0
Sihanoukville	68.2	1.1	31.0	1.2	0.8	3.0
Central African Republic (the)						
Bangui	74.8	1.3	13.3	1.8	11.9	1.6
Berberati	75.9	1.3	5.1	1.5	19.0	1.3
Lao People's Democratic Republic (the)						
Pakse	77.3		12.5		10.2	
Vientiane	68.1	2.0	14.3	2.0	17.6	4.8

Country/city	Retail		Other services		Manufacturing	
	Share	**Average number of workers**	**Share**	**Average number of workers**	**Share**	**Average number of workers**
Mozambique						
Beira	79.5	1.1	16.7	2.8	3.8	
Maputo	82.2	2.3	11.2	2.0	6.7	3.5
Nampula	69.1	1.7	9.8	1.3	21.1	1.5
Somalia						
Bosaso	63.3	1.6	8.3	2.1	28.4	1.8
Mogadishu	65.2	1.8	4.7	3.3	30.1	2.1
Sudan (the)						
Khartoum	63.5	1.5	10.3	4.4	26.2	1.8
Omdurman	61.0	1.5	21.7	2.0	17.3	2.0
Port Sudan	56.0	1.5	24.1	2.0	19.8	1.6
United Republic of Tanzania (the)						
Dar es Salaam	79.2	1.4	13.7	1.4	7.2	1.5
Zambia						
Kitwe	84.7	2.5	10.4	3.5	4.9	3.3
Lusaka	78.7	1.5	12.2	1.7	9.1	1.9
Ndola	68.6	1.9	10.6	1.9	20.8	2.1
Average of included cities	**71.5**	**1.6**	**15.5**	**2.1**	**13.0**	**2.1**

Source: UNCTAD calculations based on World Bank Informal Sector Enterprise Surveys database, available at https://www.enterprisesurveys.org/en/enterprisesurveys (accessed 02 April 2025).
Note: Average number of workers corresponds to the survey item "average number of workers during a regular month (last year)".

2. Services and labour productivity trends in least developed countries

Labour productivity refers to the amount of output produced per unit of labour, typically measured as output per worker or output per hour worked. Since labour productivity is closely related to GDP per capita – the latter is the product of the former and the employment-to-population ratio[18] – enhancing labour productivity is crucial for economic growth and the improvement of living standards in LDCs. This significance is highlighted in the Sustainable Development Goals framework, specifically target 8.2, which aims to "achieve higher levels of economic productivity through diversification, technological upgrading and innovation, with a focus on high value-added and labour-intensive sectors". Indicator 8.2.1 measures the annual growth rate of real GDP per employed person, i.e. labour productivity.

Labour productivity has three determinants. First, capital intensity, measured as the capital-to-labour ratio, reflects the extent to which workers are equipped with physical assets such as tools, machinery and equipment. A higher capital intensity generally enhances productivity by enabling workers to perform tasks more efficiently, reduce manual effort and leverage advanced technologies. Second, human capital – encompassing workers' education, skills and health – plays a crucial role in determining labour productivity. A healthier and more educated and skilled workforce is better able to perform tasks efficiently, adapt to new technologies and contribute to innovation. Investment in

education and vocational training, alongside improvements in healthcare and working conditions, can enhance human capital and, in turn, labour productivity. Third, total factor productivity (TFP), also known as the Solow residual, captures efficiency gains that cannot be attributed to capital or labour inputs. TFP reflects advancements in technology, improvements in managerial practices and organizational processes, as well as institutional factors such as governance and regulatory efficiency.

Over the past three decades, labour productivity in LDCs has not increased at the speed required to drive meaningful GDP per capita growth and development. In the period 1991–2024, the median real labour productivity measured in constant prices and using purchasing power parities (PPPs)[19] in LDCs increased from $5,430 to $8,579, which corresponds to a compound annual growth rate of 1.4 per cent (figure II.9). In 2024, the labour productivity level in the median ODE was more than 5 times higher ($45,134) while it was more than 11 times higher in the median developed economy ($100,487). It is important to note that labour productivity levels differ substantially across LDCs. In 2024, this spectrum ranged from $1,916 in Burundi to $40,163 in Djibouti. Moreover, labour productivity growth in LDCs was more volatile than in ODEs and developed economies, with the average standard deviation of annual growth rates at 5.4 per cent, compared with 5.0 per cent and 3.4 per cent, respectively. Such volatility may reflect heightened vulnerability to external shocks, such as commodity price swings or global demand fluctuations, as well as weaker institutional and structural capacities to sustain steady productivity gains over time.

> Labour productivity in LDCs has not increased at the speed required to drive meaningful growth

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[18] Measured at $\frac{GDP}{population} = \frac{GDP}{L} \times \frac{L}{population}$, where L equals employment and $\frac{GDP}{L}$ equals labour productivity.

[19] As countries measure GDP in domestic currencies, cross-country comparisons of GDP and GDP-based quantities such as labour productivity require currency conversions. PPPs are better suited than nominal exchange rates in such cross-country comparisons, as they correct for price differences between countries. This is particularly important when countries at different stages of development are compared, as higher-income countries tend to have higher price levels than lower-income countries do.

> **Figure II.9.**
> **Labour productivity is not growing at the required speed in least developed countries**

GDP per worker (constant 2021 international dollars at PPP), 1991–2024
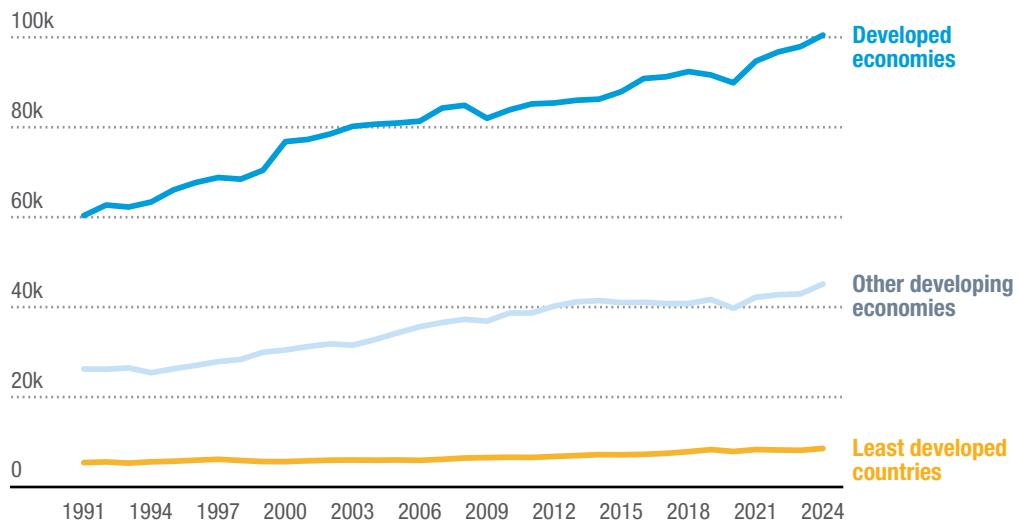
Source: UNCTAD calculations based on ILOSTAT modelled estimates.
Note: Group medians. Data for Kiribati and Tuvalu are missing.

Intrasectoral productivity gains are necessary given the large gap between productivity levels in LDCs and other economies

Economy-wide (or aggregate) labour productivity is determined by both the productivity levels in and employment distribution across different sectors. It is thus calculated as the weighted sum of sectoral labour productivity levels, where each sector's contribution is determined by its share of total employment. Hence, economy-wide labour productivity growth can result from productivity gains within individual sectors, as well as from productivity-enhancing structural change, which occurs when labour shifts from lower-productivity sectors to higher-productivity ones.[20]

Both channels of productivity growth are crucial for LDCs. On the one hand, intrasectoral productivity gains are necessary and possible in view of the large gap between productivity levels in LDCs and ODEs and developed economies. The persistently high working poverty rates in many LDCs can only be overcome if there is productivity growth within sectors, enabling higher wages and improved working conditions. In this context, it has been shown that firms with higher labour productivity pay higher wages (Berlingieri et al., 2018). On the other hand, structural change is crucial for labour productivity growth in LDCs, as their economies feature substantial differences in productivity levels across sectors. In particular, in many LDCs, agriculture is the least productive sector, but employs large shares of the labour force (section II.B.1).

It is important to note that cross-country differences in aggregate labour productivity levels do not imply uniform productivity gaps across sectors. For instance, it is possible that a country's manufacturing sector is far behind the global productivity leaders, but that its services sectors are much closer to the frontier. Such differences are relevant, as they indicate the potential for within-sector growth in specific sectors.

....

[20] If labour moves from higher-productivity sectors to lower-productivity sectors, structural change can also have a negative effect on economy-wide labour productivity.

A detailed comparison of sectoral labour productivity levels between LDCs and other country groups is challenging, due to data limitations, particularly the absence of appropriate sector-specific PPP conversion factors.[21] However, recently, the Productivity Level database (Inklaar et al., 2023) of the Groningen Growth and Development Centre (GGDC) has been updated to include relative prices at sectoral level, including for 12 LDCs,[22] 33 ODEs and 39 developed economies. While this data set covers only about a third of the 44 current LDCs, it can be used to generate rough estimates of the gaps of differences in sectoral labour productivity levels between LDCs and other country groups, and illustrate the role of services sectors in this context.[23]

Table II.6 shows median labour productivity levels across services subsectors and other sectors of the economy for LDCs and other country groups, which highlights three important points with respect to the potential of services to address the dual challenge.

First, among all services subsectors, the largest gap between current labour productivity levels in LDCs and ODEs is in financial services. This contrasts with the relatively small educational gap in the same sector, suggesting that differences in the quality of education, as well as factors beyond education – such as technology, infrastructure or regulatory environment – play a significant role in driving productivity differences. Moreover, the financial services sector is, by far, the smallest in terms of employment shares across country groups, thus limiting the sector's potential for employment generation and as a driver of economy-wide productivity growth.

Second, among all services subsectors, the productivity gap between LDCs and developed economies is widest in trade services, highlighting the sector's considerable long-term potential for productivity growth. Since trade services also represent the largest source of employment within the services sector in LDCs, improvements here could generate significant aggregate productivity gains, thereby contributing to the growth dimension of the dual challenge. However, because trade services account for a higher share of services sector employment in LDCs compared with ODEs and developed economies, the scope for further employment expansion within the sector may be limited. Instead, the sizeable productivity gap suggests untapped potential for within-sector transformation. This could be achieved not only through productivity gains at the firm level, but also via intrasectoral structural change – namely, a shift in employment and output toward higher-productivity segments such as wholesale trade, and away from lower-productivity segments such as retail and repair services.

Third, the productivity gap between LDCs and developed economies is greater in manufacturing than in any services sector, pointing to substantial long-term growth potential in the sector. As LDCs currently exhibit a lower share of employment in manufacturing compared with ODEs and developed economies, the sector holds promise, not only for driving productivity gains, but also for expanding employment, particularly in labour-intensive, value added areas such as agroprocessing or light manufacturing.

....

[21] Most available PPP estimates are designed for aggregate price levels and consumer purchasing power, rather than sector-specific producer price differences. This makes it difficult to accurately compare productivity across industries, as sectoral cost structures may vary widely between countries. For example, a country with low consumer prices may still have high manufacturing input costs.

[22] These are Bangladesh, Cambodia, Ethiopia, the Lao People's Democratic Republic, Malawi, Myanmar, Nepal, Rwanda, Senegal, the United Republic of Tanzania, Uganda and Zambia.

[23] There are four differences in how ISIC Revision 4 (United Nations, 2008) codes are grouped into sectors between this data set and the employment data presented in table II.3. First, in the Productivity Level database, trade services also include accommodation and food services. Second, the Productivity Level database treats real estate as a stand-alone sector. Third, the Productivity Level database includes information and communication in business services, rather than grouping it with transport services. Fourth, the Productivity Level database groups public administration, education and health as government services.

> **Table II.6.**
> **Labour productivity levels and growth potential vary across services sectors**
> Value added per worker (constant international dollars, PPP adjusted), 2017

Sector	Least developed countries	Other developing economies	Developed economies	Multiplier to other developing economies	Multiplier to developed economies
Services					
Trade services	6 288	16 616	56 903	2.6	9.0
Transport services	16 188	44 481	50 094	2.7	3.1
Business services	30 219	45 067	65 082	1.5	2.2
Financial services	31 084	102 382	167 570	3.3	5.4
Other services	8 799	24 266	45 781	2.8	5.2
Government services	26 480	56 931	94 829	2.1	3.6
Other sectors					
Agriculture	675	4 640	33 890	6.9	50.2
Mining	4 597	56 058	76 573	12.2	16.7
Utilities	33 336	118 673	93 885	3.6	2.8
Manufacturing	5 613	15 728	66 159	2.8	11.8
Construction	69 187	127 686	198 234	1.8	2.9

Source: UNCTAD calculations based on Groningen Growth and Development Centre Productivity Level database, available at https://www.rug.nl/ggdc/productivity/pld/releases/pld-2023 (accessed 19 March 2025).
Note: Group medians. Real estate is not included due to missing data points and outliers.

To assess sectoral labour productivity trends over time and across countries, a comparison between growth rates rather than levels can be used, which is generally easier and more reliable, because growth rates are measured as percentage changes and do not require currency conversions or PPP adjustments.

The following analysis is based on data in the GGDC/United Nations University-WIDER Economic Transformation Database (ETD) (Kruse et al., 2023), which contains data on value added at constant prices and persons employed for 12 sectors for the period 1990–2018. The data set covers 51 countries, among which are 15 LDCs,[24] including all 12 LDCs that are also in the Groningen Growth and Development Centre Productivity Level database, 33 ODEs and 3 developed economies.

It employs the same sectoral grouping as the Productivity Level database.

Over the period 1990–2018, the compound annual growth rate of aggregate labour productivity growth rates of LDCs included in ETD was 3.3 per cent, and thus larger than in the average ODE, at 2.1 per cent. These growth rates differ from those based on the ILOSTAT data shown in figure II.10, primarily due to the fact that they are based on a smaller country sample, including 15 rather than 42 LDCs. Also, the period covered by ETD data is shorter than in figure II.10.

Cross-checking the data sets by calculating labour productivity growth rates for the 15 LDCs and time period available in ETD based on ILOSTAT data yields a compound annual growth rate of 3.2 per cent, indicating a reasonable degree of consistency across data sets.

....

24 These are the 12 LDCs listed in footnote 21 plus Burkina Faso, Lesotho and Mozambique.

It must be noted that the LDCs included in ETD are those with higher average productivity growth in the past three decades. For instance, the compound annual growth rate of the 27 LDCs included in ILOSTAT but not ETD was 0.44 per cent in the period 1990–2018, thus substantially below the 3.3 per cent of the 15 LDCs included in ETD. A similar pattern is observed among ODEs, where those included in ETD had a higher compound annual productivity growth rate of 2.1 per cent, compared with just 1.4 per cent for those included in ILOSTAT but not in ETD. Hence, the comparisons between LDCs and ODEs shown in table II.7 should be seen as a comparison of the better performers in each group.

For the analysis of sector labour productivity trends, the period 2010–2018 is considered, as many countries, especially LDCs, had extremely low employment levels in key services sectors such as finance and business at the beginning of the time series in 1990, which would bias growth rates if the entire time series were considered. First, an analysis of sectoral labour productivity growth in the period 2010–2018 reveals that the labour productivity in trade services, the subsector employing the largest share of service workers in LDCs, grew at a compound annual growth rate of only 0.1 per cent – i.e. almost stagnated – and was slower than in agriculture and manufacturing (table II.7). Also, trade services productivity growth was substantially higher in ODEs, at 1.9 per cent. Second, among market services, labour productivity growth was fastest in business services and financial services, highlighting the potential of these sectors to generate value added and decent jobs. Growth in other services in LDCs was 1.0 per cent, only a third of the 3.1 per cent recorded in ODEs. And growth in transport services was slightly negative, at 0.2 per cent in LDCs, while it grew at 1.5 per cent in ODEs.

These trends underscore several key points. First, a sole focus on services-led development may not be sufficient to drive overall productivity growth, particularly if employment expansion is concentrated in low-productivity services sectors, as is currently the case in many LDCs. Second, the slow productivity growth in these sectors suggests the need for targeted policies to enhance efficiency, skills development and technological adoption. Third, the healthy productivity growth rates in financial services and business services in LDCs, which are close to the average productivity growth rates observed in ODEs, underscore the potential of these sectors as catalysts for higher value added, better-quality jobs and knowledge spillovers, provided that LDCs can expand access to these sectors and strengthen the skills and infrastructure they require. Fourth, the stark differences in productivity growth between LDCs and ODEs across the same services subsectors indicate that international competitiveness and integration into higher-value segments are lagging in many LDCs, but also suggest opportunities for future growth. Fifth, the divergence between employment and productivity growth across sectors highlights the importance of a balanced development strategy that fosters both structural transformation and productivity improvements across industries.

Data suggest substantive productivity dispersion among services firms in LDCs

➤ **Table II.7.**
Labour productivity growth rates vary across services sectors
Compound annual growth rates, 2010–2018

Sector	Least developed countries	Other developing economies
Services		
Trade services	0.1	1.9
Transport services	-0.2	1.5
Business services	1.2	1.4
Financial services	2.2	2.6
Other services	1.0	3.1
Government services	1.8	1.5
Other sectors		
Agriculture	3.0	2.6
Mining	0.0	1.4
Utilities	2.7	1.9
Manufacturing	1.2	1.5
Construction	2.3	1.2

Source: UNCTAD calculations based on ETD, available at https://www.rug.nl/ggdc/structuralchange/etd/ (accessed 20 March 2025).
Note: Group simple averages. Real estate is not included due to outliers. Developed economies are not shown as there are only three developing economies in the data set.

The persistently low levels of labour productivity and sluggish intrasectoral productivity growth in services sectors that employ the bulk of service workers in LDCs underscore deeper structural challenges. A closer examination of the three core drivers of productivity growth – human capital, capital intensity and total factor productivity (TFP) – reveals that LDCs face significant shortfalls across all dimensions (table II.8). Understanding the specific constraints within each of these areas is critical to identifying effective policy levers for accelerating productivity and supporting sustained economic development.

Taken together, the three indicators presented in table II.8 provide complementary evidence that LDCs continue to face persistent human capital constraints. LDCs lag in terms of education and health, which is hardly surprising, as these are among the criteria used to define the LDC category. Consequently, there is a substantial gap between LDCs and ODEs in the Human Assets Index, which is a composite index including both health and education indicators. The human capital index from the Penn World Tables, which accounts for average years of schooling and estimated returns to education, underscores these discrepancies. The World Bank's human capital index – a composite index that evaluates the future productivity of a child born today by assessing health and education outcomes, including survival rates, schooling years and learning quality – also highlights the substantial gap between LDCs and ODEs. Moreover, a recent study confirms the existence of significant gaps in basic skills and student achievements across countries, with LDCs scoring substantially lower than ODEs[25] (Gust et al., 2024).

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[25] UNCTAD calculation based on data included in Gust et al. (2024).

> **Table II.8.**
> **There is room for improvement across labour productivity drivers in least developed countries**

Human capital index, capital-to-employment and TFP, various years

		Least developed countries	Other developing economies	Developed economies
Human capital	**Human Assets Index** (2024 triennial review data set)	59.6	88.0	
	Human capital index (2019, Penn World Table)	1.75	2.70	3.42
	Human capital index (2020, World Bank)	0.40	0.55	0.72
Capital stock per employed person (2023, constant 2021 dollars, PPP-adjusted)		24 864	183 833	524 717
Total factor productivity level at current PPPs (2019, United States of America=1)		0.36	0.64	0.77

Source: UNCTAD calculations based on United Nations Committee for Development Policy Secretariat, Triennial review data set 2000–2024, available at https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-data-retrieval.html (accessed 3 December 2025); Penn World Table version 11.0, available at https://www.rug.nl/ggdc/productivity/pwt/ (accessed 19 March 2025); and World Bank World Development Indicators database (accessed 19 March 2025).

Note: Group simple averages for human capital and TFP, group medians for capital stock per employed person. Country coverage varies by indicator. The Human Assets Index is a composite indicator combining health metrics (such as under-5 mortality, maternal mortality and undernourishment) with education metrics (such as secondary enrolment and adult literacy). The Penn World Table's Human Capital Index is constructed from average years of schooling and estimated returns to education. The World Bank's Human Capital Index estimates the productivity of a child born today based on education quality and health indicators. While the Human Assets Index highlights deficits in foundational human assets, the Penn World Table index captures the quantitative schooling gap, and the World Bank index shows how quality and health shortfalls limit future productivity.

There is ample empirical evidence of the link between human capital and capital per worker, on the one hand, and growth on the other (Barro, 1991; Mankiw et al., 1992; Rossi, 2020). Human capital and capital per worker account for a substantial share of labour productivity differences across countries (Hall and Jones, 1999). Several studies have focused on skills and other workforce-related indicators, finding a robust relationship between cognitive skills and growth (Hanushek and Woessmann, 2012), and establishing that skill-intensive industries grow faster in terms of value added and employment in countries with a more skilled labour force (Ciccone and Papaioannou, 2009). A recent literature review that also includes replications with updated data series finds that human capital is an important determinant of income differences between countries (Rossi, 2020).

The gap in capital intensity between LDCs and ODEs is particularly striking. While in 2023 the average capital stock per employed person in LDCs was $24,864, the figure for the average ODE was more than seven times higher at $183,833. The gap between LDCs and developed economies is even larger, with the latter having a capital intensity more than 20 times larger than the former.

Average TFP values show that productivity differences exist between LDCs and other country groups beyond those explained by factor intensities. As is the case for capital per worker, the gap between LDCs and ODEs is larger than between ODEs and developed economies. Such TFP differences have been shown to account for a substantial portion of cross-country income variations (Jones, 2016). Numerous studies have examined cross-country differences in TFP, arguing that a technology–skill mismatch, which limits the ability of countries to fully benefit from technological advances, may be a key factor behind cross-country productivity differences (Acemoglu and Zilibotti, 2001), and finding that misallocation of resources such as capital and labour within firms lowers TFP (Hsieh and Klenow, 2009). Digital technology adoption, on the other hand, has been found to raise TFP (Cusolito et al., 2020).

One factor contributing to slower productivity growth in services within LDCs could be firm size. There is a rich empirical literature that establishes a link between firm size and productivity across different contexts (Berlingieri et al., 2018; OECD, 2025; UNCTAD, 2018). In a contribution particularly relevant to the LDC context, single-person establishments tend to be less efficient than larger ones, potentially because they are often created as a form of subsistence by individuals unable to find employment in the job market (Liedholm and Mead, 1987). In a study on African manufacturing sectors, large firms were found to have higher productivity levels and were more likely to survive (Van Biesebroeck, 2005). A broad study based on World Bank Enterprise Survey data shows that large firms tend to have higher levels of labour productivity than small and medium-sized enterprises, mostly due to their higher capital-to-labour ratio, but partially also driven by higher TFP (Ciani et al., 2020). Furthermore, firm data from LDCs reveal a significant positive correlation between firm size and labour productivity growth (UNCTAD, 2018).

> In LDCs, the largest services sectors **tend to be made up of the smallest firms**

These findings would imply that sectors in which a higher share of labour is employed in small firms would feature lower labour productivity growth. The International Labour Organization Labour Force Survey data available for 29 LDCs indicate that this is the case. On average, the employment distribution across firm sizes in LDCs is skewed towards smaller firms in services sectors with the largest employment shares (figure II.10). For instance, trade services, the largest services sector in LDCs, has the highest proportion of firms with 1-4 employees (82 per cent). In contrast, while 11 per cent of employment in manufacturing falls into the category of firms with more than 50 employees, this is true for only 1 per cent of employment in trade services firms. This confirms findings of a previous study, including both formal and informal firms, that shows that services firms are smaller than manufacturing firms across countries and development stages (Bento and Restuccia, 2017). There is also evidence suggesting that the skill intensity is lower in small firms than in large firms, and positively associated with GDP per capita (Gottlieb et al., 2024).

Another factor impacting productivity differences across countries, sectors and firms is technology and innovation. The link between technology adoption and productivity has been demonstrated in numerous studies. For instance, the adoption of digital technologies has been shown to be associated with productivity at the firm level, including for services (Gal et al., 2019). The rise of digital infrastructure and technologies has been shown to have enhanced TFP in the Chinese services sector (Cao et al., 2024). A recent survey of the literature on the impact of the use of artificial intelligence on labour productivity and TFP finds that, in particular, firms with more skilled workforces and firms in services could enhance productivity through the use of artificial intelligence (UNCTAD, 2025a).
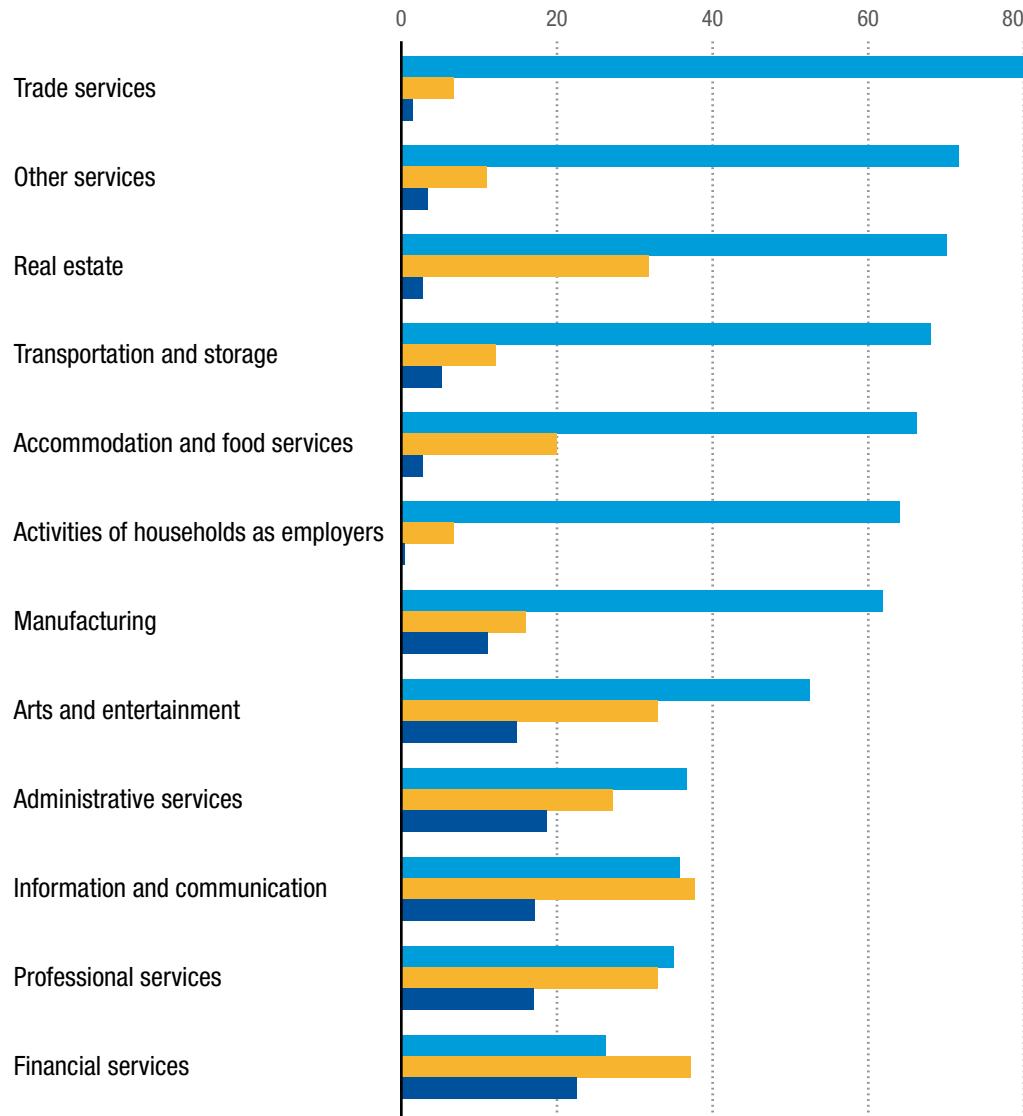
Figure II.10.
The bulk of service workers in least developed countries is employed by small firms
Employment by sector and firm size

■ 1-4 persons   ■ 5-49 persons   ■ 50+ persons

Trade services	
Other services	
Real estate	
Transportation and storage	
Accommodation and food services	
Activities of households as employers	
Manufacturing	
Arts and entertainment	
Administrative services	
Information and communication	
Professional services	
Financial services	

Source: UNCTAD calculations based on ILOSTAT Labour Force Statistics database (accessed 24 March 2025).
Note: Simple averages for 29 LDCs for which labour force survey data are available in ISIC Revision 4 (United Nations, 2008). Data are for the latest available year for each country. The percentages do not add up to 100 as not all survey participants state firm size.

LDCs lag in ICT, as shown by the ICT score of the Productive Capacities Index, which estimates the accessibility and integration of communications systems within the population, based on fixed-line and mobile phones users, Internet accessibility and server security (figure II.11). This gap poses a significant challenge to their ability to harness technology and innovation for productivity improvements.

Figure II.11.
Least developed countries lag in technology development and readiness
ICT score of the Productive Capacities Index, 2024
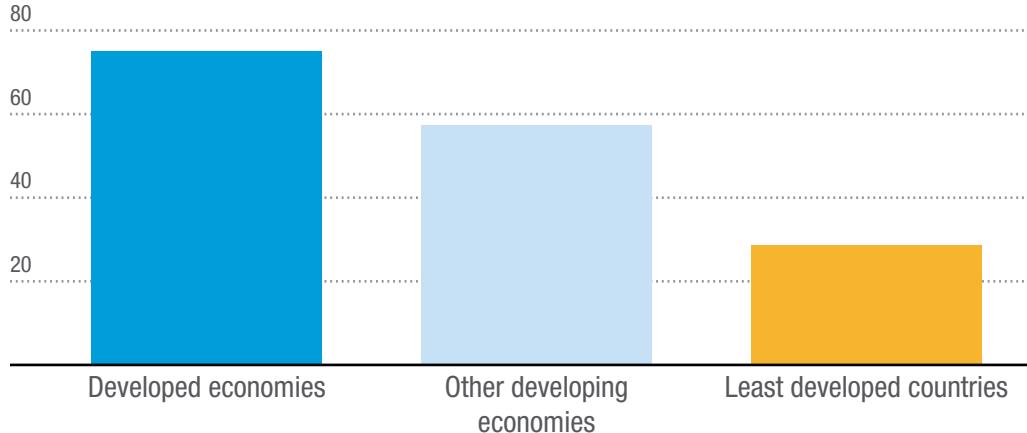
Source: UNCTAD calculations based on UNCTADstat database (accessed 3 December 2025).

3. Potential and limits for services development in least developed countries

To evaluate the potential of the services sector in enabling LDCs to address the dual challenge of creating more and better jobs while accelerating per capita GDP growth, it is essential to consider emerging trends in the global economy. Equally important is an in-depth understanding of how services interact with and support other sectors through productive linkages, which can amplify development outcomes across the broader economic landscape.

Services in the global economy

LDC employment patterns have followed a trend similar to the global economy. While the share of agriculture in global employment has followed a downward trend over the past three decades, the share of the services sector increased (figure II.12). The share of the manufacturing sector has remained roughly constant, standing at 14.1 per cent in 2023. These figures are consistent with a recent study (Lautier, 2024). Hence, the rise of services was not accompanied with deindustrialization of

the global economy (UNCTAD, 2016).

Furthermore, an analysis of employment shares in the global services economy reveals a notable persistence in its composition (figure II.13). The largest services subsector, trade services, accounted for 27.4 per cent of all services sector workers worldwide in 2023. Between 1991 and 2023, the average annual change in employment share across all services subsectors ranged from -0.1 to +0.14 percentage points, indicating relative stability in their contributions. Over this period, the most significant increase occurred in business services, which rose from 5.4 per cent to 9.9 per cent of total services employment. Conversely, the largest decline was observed in public administration, where the share dropped from 10.9 per cent to 7.7 per cent.

Overall, employment in the global services economy remains concentrated in subsectors with relatively low labour productivity, such as trade services. In contrast, subsectors characterized by high labour productivity, such as financial services, represent a much smaller proportion of total services employment (3.2 per cent of service workers in 2023).
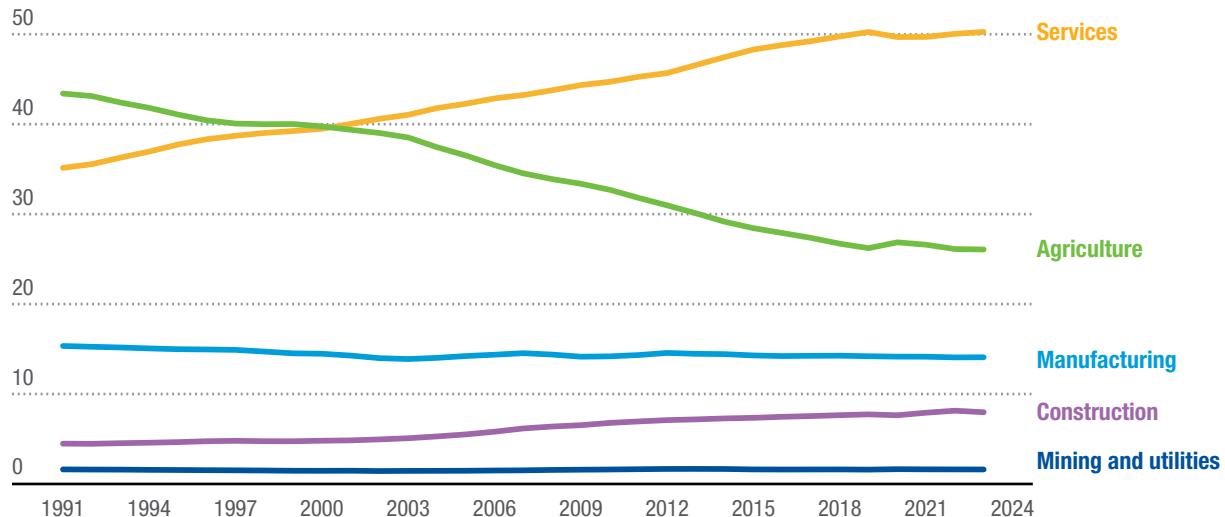
The global economy is not deindustrializing

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> **Figure II.12.**
> **Rise of services but stable manufacturing employment in the global economy**
> Shares in total employment (percentage), 1991–2023

Source: UNCTAD calculations based on ILOSTAT modelled estimates.

As shown in the previous section, this pattern is particularly pronounced in LDCs, where lower-productivity services sectors tend to generate large numbers of jobs, while high-productivity services activities do not absorb large numbers of workers.
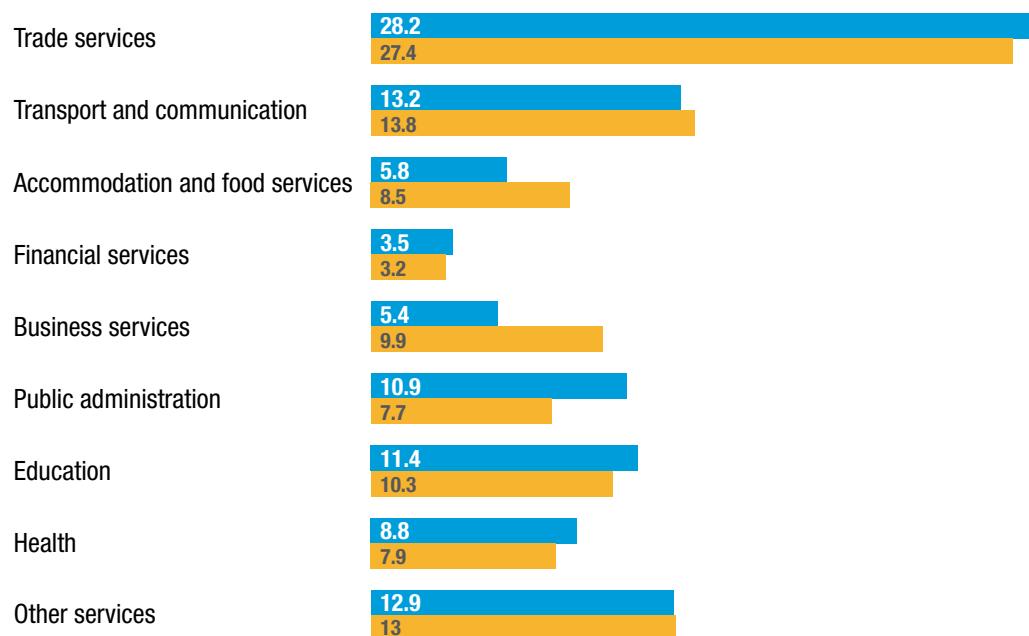
> **Figure II.13.**
> **There is persistence in the composition of the global services economy**
> Shares in services employment (percentage), 1991–2023

	1991	2023
Trade services	28.2	27.4
Transport and communication	13.2	13.8
Accommodation and food services	5.8	8.5
Financial services	3.5	3.2
Business services	5.4	9.9
Public administration	10.9	7.7
Education	11.4	10.3
Health	8.8	7.9
Other services	12.9	13

Source: UNCTAD calculations based on ILOSTAT modelled estimates.

Services linkages across productive sectors

Services such as healthcare, education and entertainment can be consumed by individuals, providing immediate value and enhancing quality of life. In addition to direct consumption, services also play a crucial role as inputs in production and delivery processes along the value chains of other sectors, including manufacturing (box II.2). Moreover, services can directly enhance productivity across the economy by strengthening human capital, such as through education and health services.

> **Box II.2.**
> **The servicification of manufacturing**

The manufacturing sector has experienced a significant transformation in recent decades, characterized by the increasing integration of services – a phenomenon known as "servicification". This trend reflects a shift from traditional manufacturing models focused solely on product fabrication to more complex systems where services play a pivotal role throughout the production process. Servicification refers to the growing importance and incorporation of services in manufacturing activities. It encompasses various dimensions – including input services such as research and development, design, logistics and information technology – that are utilized during the manufacturing process; in-house services produced and consumed within manufacturing firms such as maintenance, quality control and administrative support; and bundled services sold alongside manufactured goods, including after-sales support, training and consultancy (Miroudot and Cadestin, 2017). This integration signifies that manufacturing firms increasingly rely on both external and internal services to enhance efficiency, innovation and customer satisfaction.

Several factors have contributed to the rise of servicification. Technological advancements in ICTs have enabled more efficient integration of services into manufacturing processes. The fragmentation of production across borders, facilitated by global value chains, necessitates services such as logistics, coordination and quality assurance to manage complex supply chains. Increasing consumer expectations for customized solutions and comprehensive support have prompted manufacturers to offer bundled services with their products. Additionally, firms use services to differentiate their offerings, adding value beyond the physical product to gain a competitive edge.

Services and manufacturing are mutually reinforcing: while manufacturing growth spurs demand for services inputs, advances in these services, in particular knowledge-intensive ones, enhance manufacturing productivity, driving co-evolution between the two sectors.

The integration of services into manufacturing has several implications. Firms that adopt servicification strategies often experience improved profitability, employment growth and sales expansion (Crozet and Milet, 2017). The use of services such as research and development and design can lead to product innovation and process improvements, thereby enhancing overall productivity. Moreover, manufacturers that incorporate services are better positioned to participate in global value chains, as services facilitate coordination and add value to exported goods.

Despite its significance, measuring servicification poses challenges. Traditional trade statistics often underreport the value of services embedded in manufactured goods, leading to an underestimation of servicification levels. The intangible nature of services makes it difficult to track their flow across borders and within firms. Distinguishing between goods and services in statistical classifications can be problematic, especially when they are bundled together. Addressing these challenges requires the development of more refined data collection methods and analytical frameworks that capture the intertwined nature of goods and services in modern economies. Existing databases and initiatives – such as the OECD-World Trade Organization Trade in Value Added (TiVA) database and Input–Output tables, the Asian Development Bank's Input–Output tables and World Bank Enterprise Surveys – are steps in the right direction, but coverage remains limited for most LDCs.

The servicification of manufacturing represents a fundamental shift in the industrial landscape, where services are integral to the production, delivery and enhancement of manufactured goods. This trend reflects the evolving nature of manufacturing, where value creation increasingly depends on the seamless integration of services. As economies continue to develop, understanding and facilitating servicification will be crucial for fostering innovation, competitiveness and sustainable growth in the manufacturing sector. For LDCs, servicification offers opportunities to integrate into manufacturing value chains without fully replicating traditional industrialization paths. However, capturing these benefits requires upgrading service capabilities, such as logistics and ICT, so that they can both meet manufacturing demand and tap into productivity gains from closer integration.

Source: UNCTAD.

Available data highlight the important role of services inputs to manufacturing, but also show that these cross-sectoral links vary substantially between countries. The OECD Input–Output tables contain data for 41 developed economies, 30 ODEs and 5 LDCs.[26] Across three measures, the manufacturing sector of the five LDCs displays a lower level of linkages to the domestic services sector than for ODEs and developed economies (table II.9). The first is services output per unit of manufacturing final demand, which indicates how many units of domestic services gross output are generated, directly and indirectly, when final demand for manufacturing rises by one unit. The second is services value added per unit of manufacturing final demand, an income measure indicating how much domestic services-sector value added (including wages, operating surplus, and taxes less subsidies) is embodied in one

unit of manufacturing demand. The third is the services share of domestic value added, which allocates the total domestic value added generated by manufacturing final demand, and reports the fraction accruing to services. All three are computed on a domestic basis (excluding imports) and aggregated across manufacturing subsectors using their shares in total manufacturing final demand as weights.

In 2020, manufacturing in LDCs exhibited weaker linkages to domestic services than in both ODEs and developed economies (table II.9). On average across LDCs, services output per unit of manufacturing demand was 0.17, compared with 0.31 in ODEs and 0.32 in developed economies. Services value added per unit was 0.10 in LDCs versus 0.18 in both ODEs and developed economies. The services share of domestic value added averages 14 per cent in LDCs,

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[26]   These are Bangladesh, Cambodia, the Lao People's Democratic Republic, Myanmar and Senegal.

compared with 25 per cent in ODEs and 28 per cent in developed economies, signalling a smaller slice of the domestic income generated by manufacturing demand accruing to domestic services. There is notable dispersion within LDCs – services-output multipliers range from 0.08 in Cambodia to 0.22 in Bangladesh, with services value added per unit from 0.05 to 0.16, and the services share from 9 to 20 per cent – suggesting scope for upgrading even within the LDC group. These results imply that, in LDCs, manufacturing–domestic services linkages are weaker than in other country groups, and manufacturing sectors in LDCs tend to rely on weaker domestic services backbones.

Countries with more densely interconnected production networks – measured through input–output linkages among industries – tend to exhibit higher productivity levels (Bartelme and Gorodnichenko, 2015). Manufacturing growth can drive services sector productivity through linkages (UNCTAD, 2016). However, as cross-sectoral linkages differ across countries, so does the degree to which services productivity moves in tandem with other parts of the economy. Table II.10 shows pairwise correlations between the average

annual growth rates of sectoral labour productivity for market services and other sectors in LDCs and ODEs, with data in the ETD for the period 1990–2018. These correlations do not imply causality, but are indicative of differences in the strength of cross-sectoral integration.

Trade services show strong positive correlations with transport services, business services and manufacturing in both LDCs and ODEs. These results are in line with a previous study that examined productivity linkages for a sample including 64 developed and developing economies (Herrendorf et al., 2022). These sectors could be thought of as an interconnected cluster of productive activities generating value added by combining services with industrial production. The fact that there are strong, positive correlations across all sector pairs within this productive cluster strengthens this impression. The correlation for the trade services–manufacturing link is substantially stronger in ODEs than in LDCs, which could be a reflection of weaker linkages, as highlighted above, but also be explained by a larger prevalence in LDCs of informal, small-scale and low-productivity retail activities without productive links to other sectors.

Table II.9.

Manufacturing-services linkages are weaker in least developed countries
2020

	Domestic services output per unit of manufacturing final demand	Domestic services value added per unit of manufacturing final demand	Domestic services share of total value added generated by manufacturing final demand (percentage)
Bangladesh	0.22	0.16	20
Cambodia	0.08	0.05	9
Lao People's Democratic Republic (the)	0.16	0.10	14
Myanmar	0.18	0.08	10
Senegal	0.19	0.12	16
LDC average	**0.17**	**0.10**	**14**
ODE average	**0.31**	**0.18**	**25**
Developed economies average	**0.32**	**0.18**	**28**

Source: UNCTAD calculations, based on OECD Input-Output tables and domestic Leontief inverse tables, 2023 release, available at https://www.oecd.org/en/data/datasets/input-output-tables.html.

There are also strong, positive correlations between financial services, business services and transport services, as well as a sizeable positive correlation between financial services and trade services in both LDCs and ODEs. This highlights the importance of linkages among services sectors.

A notable difference between LDCs and ODEs is that, in LDCs, correlations between "other services" and any other sector are generally substantially weaker than in ODEs. This may reflect generally stronger cross-sectoral linkages in ODEs compared with LDCs. However, it could also be driven by differences in the internal composition of the "other services" sector. As noted earlier, this category includes a diverse range of activities – from personal and household services to creative arts and entertainment – some of which may be closely linked to other sectors, while others function more independently.

For both country groups, the correlations between agriculture and most other sectors are weak. This suggests that this sector is often weakly integrated into the broader economy in LDCs — an indication of economic dualism. Interestingly, in LDCs, but not in ODEs, agriculture exhibits a sizeable, negative correlation with trade services. This pattern may suggest that gains in agricultural labour productivity lead to labour reallocation from rural areas to cities, where workers are primarily absorbed into the lower-productivity segments of the trade services sector. The negative correlation between agriculture and mining productivity growth in LDCs could be explained by a similar mechanism, whereby agricultural productivity gains release unskilled workers that move to the lower-productivity tier of mining, in particular small-scale artisanal mining.

It is important to note the strong, positive correlations between manufacturing and all market services sectors, except for "other services", where this correlation is weak for LDCs. The correlation with trade services is notably higher in ODEs (0.82) than in LDCs (0.63). For transport services, the correlations are relatively similar, at 0.64 for LDCs and 0.68 for ODEs. In contrast, the correlation with business services is stronger in LDCs (0.74) than in ODEs (0.62), while for financial services, the values are comparable – 0.63 for LDCs and 0.61 for ODEs. These patterns suggest that, overall, manufacturing is closely integrated with market services in both country groups, reflecting mutual productivity-enhancing linkages. This finding is in line with literature that has found strong empirical links between progress in reforms in services sectors such as banking, telecommunications, insurance and transport and productivity in manufacturing (Arnold et al., 2016).

Overall, the interdependence between services and other sectors underscores the need for a comprehensive policy approach – one that goes beyond strategies solely focused on manufacturing or services. Recognizing the increasingly blurred boundaries between sectors, particularly the strong linkages between manufacturing and market services, is essential for fostering sustainable productivity growth. Policies aimed at industrial upgrading should therefore also target services sector development, especially in areas such as logistics, finance, business services and digital infrastructure, which play a critical role in supporting production, innovation and value chain integration. In this context, a siloed policy approach risks overlooking key complementarities, and may limit the potential for broad-based economic transformation. A coordinated strategy that promotes both manufacturing and high-productivity services can generate synergies, improve competitiveness, and create more resilient and diversified economies.

Moreover, the persistence of low productivity across large segments of the services sector in LDCs points to a structural challenge: while the sector absorbs labour – often displaced from agriculture or unable to find manufacturing jobs – it does so largely in low-value, informal and non-tradable activities.

> The interdependence between services and other sectors **calls for a broadbased approach** to structural transformation policies

This dynamic mirrors concerns about a "services-based low-productivity trap", in which employment shifts to services occur without corresponding productivity

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gains, particularly in economies with weak structural linkages (Rodrik, 2016), thereby limiting the sector's contribution to broad-based growth and structural transformation.

> **Table II.10.**
> **Cross-sectoral productivity links vary across services sectors**
> Pairwise correlations of average annual growth rates of sectoral labour productivity, 1990-2018

Sector	Trade services		Transport services		Business services		Financial services		Other services		Agriculture		Mining		Manufacturing	
	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs	LDCs	ODEs
Trade services	1	1	0.70	0.67	0.58	0.70	0.49	0.45	0.31	0.58	-0.40	-0.03	0.29	0.24	0.63	0.82
Transport services	0.70	0.67	1	1	0.70	0.48	0.63	0.66	0.26	0.42	-0.14	0.06	0.38	0.36	0.64	0.68
Business services	0.58	0.70	0.70	0.48	1	1	0.66	0.56	0.25	0.47	-0.03	-0.09	0.11	0.26	0.74	0.62
Financial services	0.49	0.45	0.63	0.66	0.66	0.56	1	1	0.16	0.46	-0.05	-0.08	0.07	0.44	0.63	0.61
Other services	0.31	0.58	0.26	0.42	0.25	0.47	0.16	0.46	1	1	-0.07	0.14	0.32	0.32	0.08	0.63
Agriculture	-0.40	-0.03	-0.14	0.06	-0.03	-0.09	-0.05	-0.08	-0.07	0.14	1	1	-0.42	0.23	0.02	0.06
Mining	0.29	0.24	0.38	0.36	0.11	0.26	0.07	0.44	0.32	0.32	-0.42	0.22	1	1	0.41	0.46
Manufacturing	0.63	0.82	0.64	0.68	0.74	0.62	0.63	0.61	0.08	0.63	0.02	0.06	0.41	0.46	1	1

Source: UNCTAD calculations based on ETD, available at https://www.rug.nl/ggdc/structuralchange/etd/ (accessed 20 March 2025)
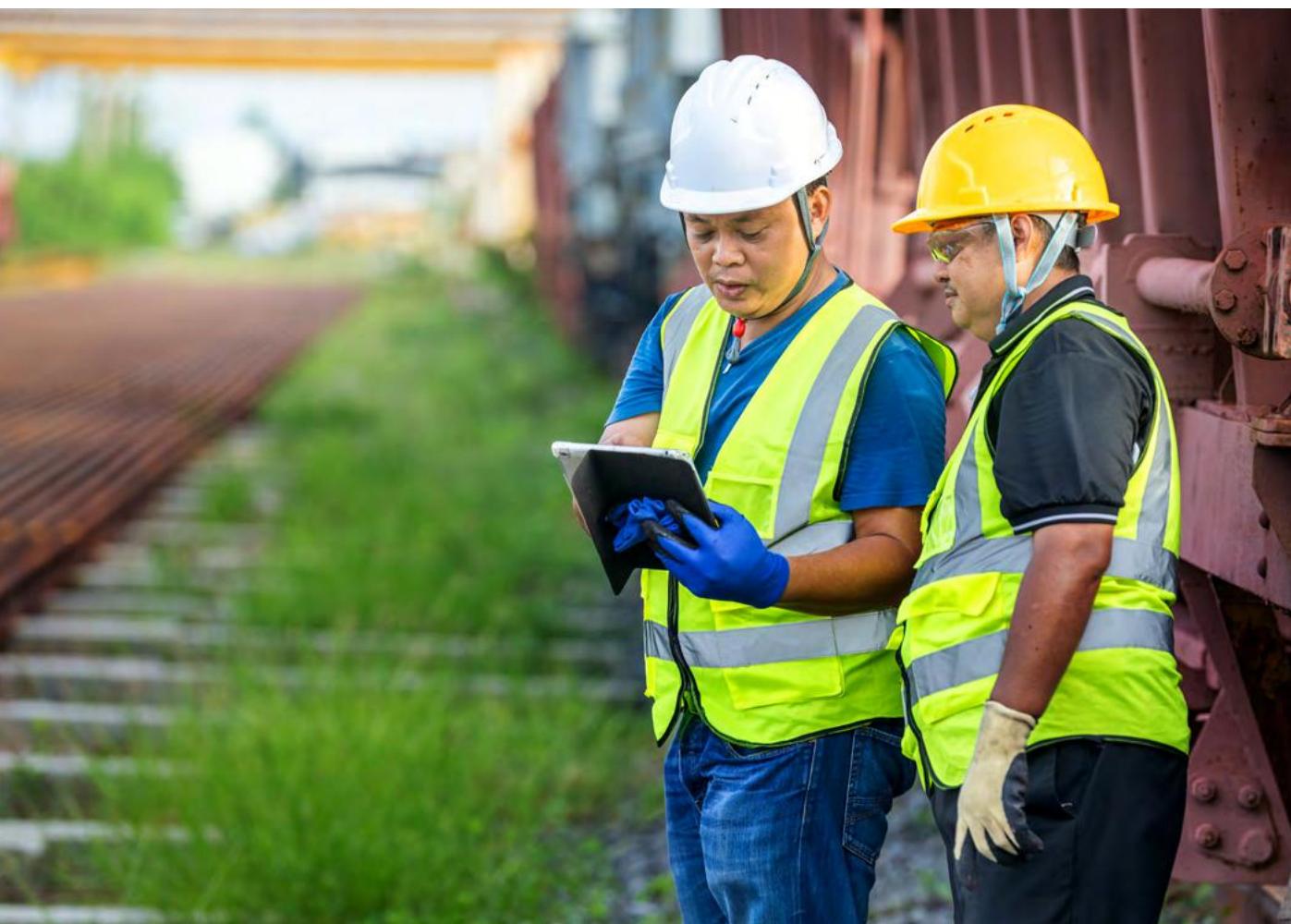
C. Summary and policy considerations

The potential of the services sector to drive development in LDCs can only be meaningfully assessed within the broader context of structural transformation and through the lens of the dual challenge of employment generation and accelerated growth. As LDCs continue to face demographic and socioeconomic pressures, the services sector is increasingly vital to their development trajectories. However, leveraging this potential requires a nuanced understanding of the heterogeneity of services, including informal, low-productivity segments as well as high value added activities, and the diverse roles services play, from absorbing low-skilled workers to providing productivity-enhancing inputs.

In LDCs, the growing weight of services in employment since the early 1990s has been primarily driven by the expansion of lower-productivity segments of trade services and the broad "other services" category. Many firms in these sectors are small, operate informally and exhibit limited productivity growth. Available enterprise survey data suggest that small-scale retail activities often represent the bulk of the urban informal economy in LDCs. This pattern underscores a core challenge of structural transformation in LDCs: while the share of employment in services has increased, it has not been accompanied by commensurate improvements in productivity or job quality.

Although labour shifts out of agriculture – traditionally the sector with the lowest labour productivity –contribute to a rise in aggregate productivity, the sustainability of this process is questionable if workers are primarily absorbed into low-productivity, informal service activities. For structural transformation to generate lasting gains, the movement of labour must ultimately progress beyond low-productivity services into higher-productivity activities within the services sector and beyond.

To address this, policies should focus on accelerating productivity growth across services sectors by strengthening human capital accumulation and skills development, improving the business environment for service firms, and enhancing linkages between services and other productive sectors.

Employment and value added dynamics suggest that there are substantial productivity dispersions across firms within the services sector of many LDCs. In this context, policy should focus on identifying and addressing the structural factors that contribute to these disparities – such as uneven access to finance, infrastructure, digital technologies and skills. Supporting the upgrading of low-productivity firms – while enabling the growth of more dynamic, high-productivity service providers – can help narrow these gaps and improve overall sector performance. In this context, strategies for digital inclusion can play an important role. Furthermore, targeted support for innovation, entrepreneurship and business development services can enhance firm capabilities and promote productivity growth.

The interdependence between services and manufacturing offers opportunities for **productivity growth, diversification and job creation**

Strengthening human capital is critical for enhancing productivity, fostering innovation, and increasing the absorptive capacity of firms and economies. In this context, targeted investments in early childhood development, vocational training and higher education – combined with reforms to improve education quality – are indispensable for enhancing productivity. Furthermore, empirical evidence underscores the role of workplace-based learning in skills development and human capital accumulation. This suggests that the current distribution of employment across sectors has long-term implications for workforce capabilities, making it essential to promote labour reallocation into sectors with stronger learning and skills accumulation potential.

The increasing interdependence between services and other sectors – particularly manufacturing – offers significant opportunities for productivity growth, economic diversification and job creation in LDCs. Services such as logistics, finance and business services are becoming essential inputs for manufacturing competitiveness, enabling firms to participate more effectively in global value chains. Strengthening these linkages is critical to maximizing productivity spillovers and building integrated value chains that support structural transformation. In this context, domestic firm-to-firm linkages also play a role, as recent research based on enterprise survey data has shown that spillovers exist in ICT adoption from formal to informal firms (Jolevski et al., 2025).

Opportunities in manufacturing continue to exist for LDCs, as global trends indicate that there is no generalized deindustrialization. The growing servicification of manufacturing – where services are increasingly embedded in production, distribution and innovation – offers new entry points for LDCs to integrate into global value chains through both goods and services. As such, industrial and services development should be treated as mutually reinforcing components of economic transformation. Seizing these opportunities requires coherent and coordinated policies across trade, investment, skills development and innovation systems.

Urban development strategies should also be integrated with services sector upgrading to ensure that the growing urban workforce is absorbed into productive and decent employment. In this context, interventions that focus on the demand side of labour markets can also help to strengthen the absorptive capacity of services sectors (Rodrik and Sandhu, 2024).

For the services sector in LDCs to modernize and enter into a new phase of productivity growth, it is also necessary to strengthen financial sector development and technology transfer that directly support the capital needs of higher-value service industries such as logistics, finance and ICT. In this context, Governments in LDCs can act as enablers and coordinators of structural transformation in the services sector. This includes not only direct investment in infrastructure and digital ecosystems, but also the creation of conducive regulatory environments and institutional support mechanisms. Targeted public investment can catalyse capital accumulation in strategic services sectors. For instance, investing in broadband infrastructure and digital public goods – such as e-payment systems and cloud computing – can improve productivity across sectors. In this context, foreign direct investment could also play an important role, as evidenced by a 23 per cent rise in greenfield activity in the digital economy of LDCs in the period 2020–2024 (UNCTAD, 2025b).

Access to finance also remains a key constraint in many LDCs. In this context, mobile solutions can play an important role. For instance, in Mozambique, there are now three interoperable mobile money operators, which also give access to savings and other financial services, including among informal vendors.

> A broad-based policy approach is needed to promote **services alongside manufacturing and strengthen their linkages**

As of 2023, 93.2 per cent of the adult population of Mozambique had an active mobile money account, up from 68.5 per cent in 2022 (Government of Mozambique, 2024). Mobile money platforms have been established in a number of LDCs. These include MTN Mobile Money, which is available in Benin, Guinea, Liberia, Rwanda, Uganda and Zambia, and Tigo Pesa in the United Republic of Tanzania. They have similarly increased financial inclusion by providing accessible digital financial services to underserved populations, including informal sector workers. From 2023 to 2024, active mobile money accounts in the United Republic of Tanzania increased by 17.5 per cent to 60.75 million, and digital loan accounts doubled to 193 million, 61.9 per cent of which were owned by women (Bank of Tanzania, 2024).

While large informal sectors are likely to persist in LDCs, as they also exist in other developing countries, there are successful examples showing that simplifying formalization processes can encourage some informal firms to formalize their activities. For instance, in Benin, the Government launched a one-stop digital platform for business registration in 2020. Since the digital platform was launched, the number of new registered businesses has sharply increased. For instance, between 2019 and 2022, the number of new business registrations more than doubled, from 27,379 to 56,579, while new business registration for young people (18–30 years of age) more than tripled, from 7,416 to 23,312.[27]

While rapid urbanization in LDCs puts a spotlight on economic trends in cities, an average share of 60 per cent of the population in LDCs was still living in rural areas in 2024.

Hence, the dual challenge of job creation and economic growth cannot be expected to be met in urban centres alone. It is also crucial to leverage the potential of the rural non-farm economy, including the rural services sector, for structural transformation. Non-farm income has been shown to comprise a significant share of rural income and employment in developing countries (Lanjouw and Lanjouw, 2001). Growth of the rural economy has been shown to be crucial for poverty reduction (Ravallion and Datt, 1996), and productivity gains in agriculture are often more effective in reducing poverty than in other sectors (Ivanic and Martin, 2018). Thus, the rural non-farm economy plays an important role for economic growth and poverty alleviation in LDCs (UNCTAD, 2015).

The rural services sector – including education, healthcare, transport, communications, business services and financial services – is not only a source of direct employment, but also a critical enabler of broader development. In Rwanda, for example, the expansion of community health services has not only improved health outcomes, but has created tens of thousands of jobs for rural health workers, two thirds of them women.[28] In Bangladesh, the rapid growth of rural mobile banking services, such as bKash, has provided financial access to millions of previously unbanked rural citizens, facilitating savings, remittances and small enterprise growth.[29] Digital infrastructure can also play a transformative role for the rural non-farm economy by enabling farmers to access weather forecasts, market prices and agricultural extension services in real time.

27 UNCTAD, "Benin triples number of companies opened by youth in 2022", 5 April 2023, available at https://unctad.org/news/benin-triples-number-companies-opened-youth-2022.

28 Republic of Rwanda, "Social Transformation", n.d., available at https://www.gov.rw/highlights/social-transformation; UNICEF, "Community Health Workers: Unsung heroes in the fight Against Polio in Rwanda", 26 October 2023, available at https://www.unicef.org/rwanda/stories/community-health-workers-unsung-heroes-fight-against-polio-rwanda.

29 International Finance Group, World Bank Group, "bKash's Success Establishes Mobile Financial Services in Bangladesh", n.d., available at https://www.ifc.org/content/dam/ifc/doc/mgrt/bkash-case.pdf.

Furthermore, reliable rural transport services can not only help to expand rural markets for local goods, but also strengthen human capital, by improving access to schools and health facilities.

The gender-based amplification of services sector employment patterns in LDCs presents a critical policy challenge. Women not only often face higher urban unemployment, but are also disproportionately concentrated in low-productivity, often informal services subsectors such as trade services and the other services category, which together accounted for more than two thirds of female service workers in the average LDC. These patterns suggest that targeted interventions – such as improving women's access to education and skills development, and facilitating entry into higher-value service activities – are needed to ensure that the rise of services in LDCs does not deepen existing gender inequalities.

Another consideration in the context of the specific characteristics of services-led structural transformation in LDCs is with regard to its impacts on inequality. It has been shown that, as the services employment share increases, inequality tends to follow a U-shaped curve à la Kuznets – i.e. initially there is an increase in inequality, in particular in countries at early stages of structural transformation such as LDCs (Baymul and Sen, 2020). Another study showed that services expansion in India was fundamentally rooted in real productivity gains, in particular in consumer services, but that the improvements of living standards associated with these gains were unevenly shared, favouring richer urban groups (Fan et al., 2023). In this regard, it is important to ensure that the gains of structural change are evenly shared, and that the most vulnerable groups of society are protected.

As global services become more digitally intermediated and knowledge-intensive, LDCs that invest in forward-looking skills and innovation capabilities will be best positioned. In this regard, it is crucial to address the mismatch between labour force skills and the evolving demands of modern, digitally driven services. Expanding services with potential for higher value added – such as ICT-enabled services, logistics and finance – requires access to digital skills, innovation ecosystems and institutional support systems. Basic digital literacy – alongside competencies such as data analysis, coding, digital marketing and cybersecurity – can open new pathways for employment and entrepreneurship.

Governments play a vital role in overcoming existing barriers by investing in targeted capacity-building programmes, innovation hubs, digital incubators and vocational training, all of which can foster local entrepreneurship and strengthen service ecosystems. Emphasis should also be placed on inclusive digital skills development, ensuring that women and rural populations are not left behind. In this respect, gaps remain significant across LDCs, where women are 42 per cent less likely to use mobile Internet than are men, and rural populations are 50 per cent less likely to use mobile Internet than are urban populations (GSMA, 2022). The rapid emergence of Rwanda as an ICT-enabled services hub is a case in point. Through initiatives such as the Digital Ambassadors Programme, which has trained over 5,000 youths to deliver digital literacy to rural communities, Rwanda has significantly expanded basic digital inclusion. Another example is the mHub initiative in Malawi, which offers digital skills and entrepreneurship training for women-led rural businesses.

Technology transfer mechanisms can further enhance capital intensity by facilitating the adoption of modern service delivery models. Partnerships with foreign firms, regional service providers or diaspora entrepreneurs can bring in not only capital but also operational know-how and platforms. For example, in Senegal, the adoption of mobile-based financial services such as Orange Money has allowed even informal microenterprises to streamline transactions and access broader markets.

Finally, it is important to acknowledge that analysing the services sector in LDCs is complicated by the limited availability and quality of relevant data. Strengthening statistical capacity – especially in the collection, classification and disaggregation of services-related data – is therefore essential. Improved data systems would support more informed policymaking, enable effective monitoring of structural transformation, and guide the design of targeted interventions to fully harness the sector's potential.

This chapter's analysis of services in the structural transformation process of LDCs provides the foundation for the next chapters. Chapter III examines services trade performance, with a particular focus on digitally deliverable services and

the structural challenges LDCs face in capturing value. Chapter IV builds directly on these themes by exploring sectoral strategies and the emergence of service hubs, which concentrate infrastructure and enterprise activity in strategic locations, fostering innovation and productivity. It highlights how targeted investments in logistics, tourism, finance and technology-enabled services can catalyse structural transformation, while also underscoring the risks and trade-offs involved. Across all chapters, the dual challenge of employment generation and growth remains central, reinforcing the need for coherent, inclusive policies that foster sectoral linkages and align sectoral development with broader transformation goals.

In LDCs, women are overrepresented in low-productivity services, **highlighting the need for policies improving skills and access to higher-value jobs**

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References

Acemoglu D and Restrepo P (2019). Automation and new tasks: how technology displaces and reinstates labor. *Journal of Economic Perspectives*. 33(2):3–30.

Acemoglu D and Zilibotti F (2001). Productivity differences. *The Quarterly Journal of Economics*. 116(2):563–606.

Arnold JM, Javorcik B, Lipscomb M and Mattoo A (2016). Services reform and economic performance: Evidence from India. *The Economic Journal*. 126(590):1–39.

Bank of Tanzania (2024). Annual Financial Inclusion Report 2024. Dar es Salaam.

Barro RJ (1991). Economic growth in a cross section of countries. *The Quarterly Journal of Economics*. 106(2):407.

Bartelme D and Gorodnichenko Y (2015). Linkages and economic development. NBER Working Paper No. 21251. National Bureau of Economic Research. Cambridge, United States.

Baymul C and Sen K (2020). Was Kuznets right? New evidence on the relationship between structural transformation and inequality. *The Journal of Development Studies*. 56(9):1643–1662.

Bento P and Restuccia D (2017). Misallocation, establishment size, and productivity. *American Economic Journal: Macroeconomics*. 9(3):267–303.

Berlingieri G, Calligaris S and Criscuolo C (2018). The productivity-wage premium: does size still matter in a service economy? *AEA Papers and Proceedings*. 108328–333.

Cao Y, Zhang C and Cui H (2024). Digital economy and its effect on total factor productivity in services: evidence from China. *Applied Economics*. 1–19.

Ciani A et al. (2020). *Making It Big*. Washington, D.C.: World Bank.

Ciccone A and Papaioannou E (2009). Human capital, the structure of production, and growth. *Review of Economics and Statistics*. 91(1):66–82.

Crozet M and Milet E (2017). Should everybody be in services? The effect of servitization on manufacturing firm performance. *Journal of Economics & Management Strategy*. 26(4):820–841.

Cusolito AP, Lederman D and Peña J (2020). The effects of digital-technology adoption on productivity and factor demand: firm-level evidence from developing countries. Policy Research Working Paper No. 9333. World Bank. Washington, D.C.

Fan T, Peters M and Zilibotti F (2023). Growing like India—the unequal effects of service-led growth. *Econometrica*. 91(4):1457–1494.

Gal, Nicoletti G, Renault T, Sorbe S and Timiliotis C (2019). Digitalisation and productivity: In search of the holy grail – Firm-level empirical evidence from EU countries. OECD Economics Department Working Papers No. 1533. Organisation for Economic Co-operation and Development (OECD). Paris.

Gottlieb C, Poschke M and Tueting M (2024). Skill supply, firm size, and economic development. Background paper for World Development Report 2024. World Bank. Washington, D.C.

Government of Mozambique (2024). Financial Inclusion Report 2023. Banco de Moçambique. Maputo.

GSMA (2022). The State of Mobile Internet Connectivity 2022.

Gust S, Hanushek EA and Woessmann L (2024). Global universal basic skills: Current deficits and implications for world development. *Journal of Development Economics*.

Hall RE and Jones CI (1999). Why do some countries produce so much more output per worker than others? *The Quarterly Journal of Economics*. 114(1):83–116.

Hallward-Driemeier M and Nayyar G (2018). *Trouble in the Making? The Future of Manufacturing-Led Development*. World Bank. Washington, DC.

Hanushek EA and Woessmann L (2012). Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation. *Journal of Economic Growth*. 17(4):267–321.

Harris J and Todaro MP (1970). Migration, unemployment and development: a two-sector analysis. *American Economic Review*. 60(1):126–142.

Herrendorf B, Rogerson R and Valentinyi Á (2022). New evidence on sectoral labor productivity: implications for industrialization and development. NBER Working Paper No. w29834. National Bureau of Economic Research. Cambridge, United States.

Hsieh C-T and Klenow PJ (2009). Misallocation and manufacturing TFP in China and India*. *Quarterly Journal of Economics*. 124(4):1403–1448.

International Labour Organization, (2023). *Women and Men in the Informal Economy: A Statistical Update*. International Labour Organization. Geneva.

Inklaar R, Marapin R and Gräler K (2023). Tradability and sectoral productivity differences across countries. GGDC Research Memorandum 195.

Ivanic M and Martin W (2018). Sectoral productivity growth and poverty reduction: national and global impacts. *World Development*. 109429–439.

Jolevski F, Nayyar G, Pleninger R and Yu S (2025). Spillovers in ICT adoption from formal to informal firms: Evidence from Zambia. *Journal of Development Economics*.

Jones CI (2016). The facts of economic growth. *Handbook of Macroeconomics*. Elsevier: 3–69.

Kruse H, Mensah E, Sen K and De Vries G (2023). A manufacturing (re)naissance? Industrialization in the developing world. *IMF Economic Review*. 71(2):439–473.

La Porta R and Shleifer A (2014). Informality and development. *Journal of Economic Perspectives*. 28(3):109–126.

Lanjouw JO and Lanjouw P (2001). The rural non-farm sector: issues and evidence from developing countries. *Agricultural Economics*. 26(1):1–23.

Lautier M (2024). Manufacturing still matters for developing countries. *Structural Change and Economic Dynamics*. 70168–177.

Liedholm C and Mead D (1987). Small scale industries in developing countries: empirical evidence and policy implications. MSU International Development Papers No. 9. Michigan State University Department of Agricultural Economics. East Lansing, Michigan.

Mankiw NG, Romer D and Weil DN (1992). A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*. 107(2):407–437.

Miroudot S and Cadestin C (2017). Services in global value chains: from inputs to value-creating activities. OECD Trade Policy Papers No. 197.

Nayyar G, Hallward-Driemeier M and Davies E (2021). *At Your Service?: The Promise of Services-Led Development*. World Bank. Washington, D.C.

OECD (2025). *OECD Compendium of Productivity Indicators 2025*. OECD Compendium of Productivity Indicators. Organisation for Economic Co-operation and Development (OECD). Paris.

Ravallion M and Datt G (1996). How important to India's poor is the sectoral composition of economic growth? *The World Bank Economic Review*. 10(1):1–25.

Rodrik D (2013). Unconditional convergence in manufacturing. *The Quarterly Journal of Economics*. 128(1):165–204.

Rodrik D (2016). Premature deindustrialization. *Journal of Economic Growth*. 21(1):1–33.

_____ (2022). Prospects for global economic convergence under new technologies. In Zia Qureshi, ed. *An Inclusive Future? Technology, New Dynamics, and Policy Challenges*. Brookings Institution. Washington, D.C.

Rodrik D and Sandhu R (2024). Servicing development: productive upgrading of labor-absorbing services in developing economies. Reimagining the Economy Policy Paper. Harvard University Kennedy School of Government.

Rossi F (2020). Human capital and macroeconomic development: a review of the evidence. *The World Bank Research Observer*. 35(2):227–262.

Sorbe S, Gal P and Millot V (2018). Can productivity still grow in service-based economies?: Literature overview and preliminary evidence from OECD countries. OECD Economics Department Working Papers No. 1531. (accessed 13 March 2025).

UNCTAD (2013). *The Least Developed Countries Report 2013: Growth with Employment for Inclusive and Sustainable Development*. United Nations publication. Sales No. Sales No. E.13.II.D.1. New York and Geneva.

_____ (2014). *The Least Developed Countries Report 2014: Growth with Structural Transformation: A Post-2015 Development Agenda*. United Nations publication. Sales No. Sales No. E.14.II.D.7. New York and Geneva.

_____ (2015). *The Least Developed Countries Report 2015: Transforming Rural Economies*. United Nations Conference on Trade and Development (UNCTAD). New York and Geneva.

_____ (2016). *Trade and Development Report 2016. Structural Transformation for Inclusive and Sustained Growth*. United Nations publication. Sales No. E.16.II.D.5. New York and Geneva.

_____ (2018). *The Least Developed Countries Report 2018: Entrepreneurship for Structural Transformation: Beyond Business as Usual*. United Nations publication. Sales No. E.18.II.D.6. New York and Geneva.

_____ (2020). *The Least Developed Countries Report 2020: Productive Capacities for the New Decade*. United Nations publication. Sales No. E.21.II.D.2. New York and Geneva.

_____ (2023). Investment Trends Monitor, March 2023. Investment Trends Monitor. UNCTAD. (accessed 4 May 2023).

_____ (2025a). *Technology and Innovation Report 2025: Inclusive Artificial Intelligence for Development*. United Nations publication. Sales No. E.25.II.D.1. Geneva.

_____ (2025b). *World Investment Report 2025: International Investment in the Digital Economy*. United Nations publication. Sales No. E.25.II.D.23. New York and Geneva.

United Nations (2008). *International Standard Industrial Classification of All Economic Activities: Revision 4*. United Nations. New York.

United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development and World Bank (2025). *System of National Accounts 2025*. United Nations. New York.

Van Biesebroeck J (2005). Firm Size Matters: Growth and Productivity Growth in African Manufacturing. *Economic Development and Cultural Change*. 53(3):545–583.

Annex

> **Table II.A1.**
> **Demographic trends in the least developed countries**

Country (group)	Population, 2025 (thousands)	Average annual population growth rate, 2025–2050 (percentage)	Average annual growth rate of the urban population, 2025–2050 (percentage)	Average annual growth rate of the working-age population, 2025–2050 (percentage)
Afghanistan	43 844	2.3	3.9	2.9
Angola	39 040	2.6	3.2	3.1
Bangladesh	175 687	0.8	2.1	0.9
Benin	14 814	2.0	3.0	2.5
Burkina Faso	24 075	1.8	3.4	2.4
Burundi	14 390	2.1	4.5	2.7
Cambodia	17 848	0.8	2.6	0.9
Central African Republic (the)	5 513	2.7	3.9	3.5
Chad	21 004	2.5	4.4	3.0
Comoros (the)	883	1.6	2.8	1.9
Democratic Republic of the Congo (the)	112 832	2.7	3.8	3.3
Djibouti	1 184	1.0	1.3	1.1
Eritrea	3 607	1.8	3.1	2.3
Ethiopia	135 472	2.1	4.0	2.5
Gambia (the)	2 822	1.7	2.4	2.3
Guinea	15 100	1.8	3.1	2.4
Guinea-Bissau	2 250	1.7	2.6	2.2
Haiti	11 906	0.8	1.7	1.1
Kiribati	136	1.2	1.9	1.4
Lao People's Democratic Republic (the)	7 873	0.9	2.3	1.1
Lesotho	2 363	0.9	2.5	1.4
Liberia	5 731	1.8	2.7	2.3
Madagascar	32 741	2.0	3.3	2.4
Malawi	22 216	2.1	4.3	2.6
Mali	25 199	2.5	3.6	3.1
Mauritania	5 315	2.3	3.2	2.8
Mozambique	35 632	2.3	3.7	3.0
Myanmar	54 851	0.3	1.7	0.2

Country (group)	Population, 2025 (thousands)	Average annual population growth rate, 2025–2050 (percentage)	Average annual growth rate of the urban population, 2025–2050 (percentage)	Average annual growth rate of the working-age population, 2025–2050 (percentage)
Nepal	29 618	0.6	2.6	0.9
Niger (the)	27 918	2.6	4.6	3.3
Rwanda	14 569	1.8	3.8	2.2
Senegal	18 932	1.9	2.9	2.3
Sierra Leone	8 820	1.5	2.7	2.0
Solomon Islands	839	1.8	3.1	2.1
Somalia	19 655	2.6	3.7	3.2
South Sudan	12 189	1.6	3.7	2.1
Sudan (the)	51 662	2.0	3.4	2.5
Timor-Leste	1 419	1.2	2.3	1.7
Togo	9 722	1.9	3.1	2.2
Tuvalu	9	0.4	1.0	0.3
Uganda	51 385	2.1	3.9	2.8
United Republic of Tanzania (the)	70 546	2.5	3.9	2.9
Yemen	41 774	2.1	3.5	2.7
Zambia	21 914	2.2	3.4	2.7
LDCs total (first column) and averages	**1 215 299**	**1.9**	**3.3**	**2.3**

Source: UNCTAD calculation based on UNCTADstat database.

> **Table II.A2.**
> **Labour market characteristics and trends in the least developed countries**

Country (group)	Average annual increase of labour force, 2025–2050 (thousands)	Labour force participation rate, 2025 (percentage)	Sustainable Development Goals indicator 8.3.1 – proportion of informal employment in total employment, various years (percentage)
Afghanistan	375	38.3	86.1 (2021)
Angola	725	76.5	92.2 (2022)
Bangladesh	754	65.0	84.2 (2023)
Benin	212	76.8	96.3 (2022)
Burkina Faso	207	48.0	95.2 (2023)
Burundi	228	79.1	
Cambodia	100	83.9	89.4 (2019)
Central African Republic (the)	107	73.7	

Country (group)	Average annual increase of labour force, 2025–2050 (thousands)	Labour force participation rate, 2025 (percentage)	Sustainable Development Goals indicator 8.3.1 – proportion of informal employment in total employment, various years (percentage)
Chad	288	60.2	96.9 (2018)
Comoros (the)	7	52.8	88.8 (2021)
Democratic Republic of the Congo (the)	1862	65.9	
Djibouti	3	33.6	50.5 (2017)
Eritrea	50	80.5	
Ethiopia	1836	69.0	85.2 (2021)
Gambia (the)	24	48.6	84.1 (2023)
Guinea	139	52.6	
Guinea-Bissau	23	62.5	94.8 (2022)
Haiti	64	66.5	
Kiribati			59.9 (2023)
Lao People's Democratic Republic (the)	43	68.8	
Lesotho	14	59.4	80.9 (2019)
Liberia	76	77.7	89.7 (2017)
Madagascar	510	86.4	96.1 (2022)
Malawi	307	67.3	
Mali	409	70.8	95.4 (2022)
Mauritania	48	41.8	89.4 (2019)
Mozambique	643	79.0	95.7 (2015)
Myanmar	51	59.7	81.0 (2020)
Nepal	77	42.3	81.6 (2017)
Niger (the)	522	73.2	98.5 (2022)
Rwanda	158	65.7	84.3 (2024)
Senegal	174	51.9	95.1 (2022)
Sierra Leone	73	54.4	93.1 (2018)
Solomon Islands	12	85.8	
Somalia	167	34.8	82.5 (2019)
South Sudan	140	74.6	
Sudan (the)	370	37.9	94.4 (2022)
Timor-Leste	12	66.5	80.6 (2021)
Togo	96	59.1	92.3 (2022)
Tuvalu			20.2 (2022)
Uganda	887	82.1	95.2 (2021)
United Republic of Tanzania (the)	1354	84.9	
Yemen	289	33.6	
Zambia	276	59.7	83.8 (2023)
LDC total (first column) and medians	**13,712**	**65.8**	**89.5**

Source: UNCTAD based on data from ILOSTAT modelled estimates (labour force and labour force participation rate) and ILOSTAT Sustainable Development Goals labour market indicators (informal employment).
Note: The labour force participation rate is defined as the proportion of the population 15–64 years of age that is employed or actively seeking employment.