Vulnerability Profile – Senegal

Prepared by UNCTAD

in anticipation of the 2024 review by the CDP

of the list of least developed countries (LDCs)

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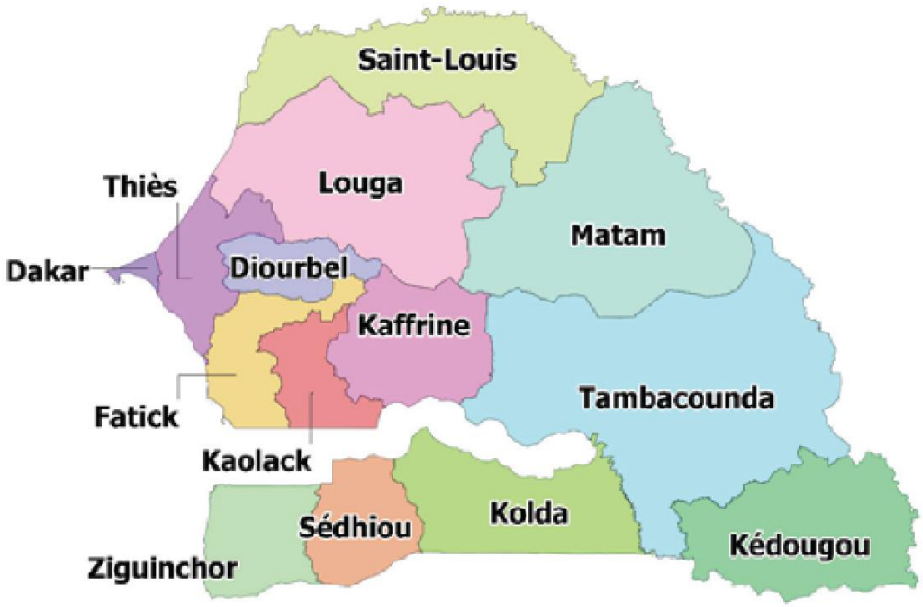
Senegal in short



Data referred to 2021 unless otherwise indicated	
Land area: 196,710 Km^2	Population: 17.3 million
Population growth: +2.6%	Urban population: 49%
Density: 87 people/Km^2	Main ethnicities: Wolof 37%, Pular 26%, and Serer 17%
GDP: $27.5 billion	*≈ 4% of Western Africa's GDP* *≈ 1% of Africa's GDP*
Real GDP growth (2015-2021): +5.0%	Real GDP per capita growth (2015-2021): +2.3%
GDP per capita: $1'630	*≈ 91% of Western Africa GDP per capita* *≈ 85% of Africa GDP per capita*
Exports of goods and services: $6.1 billion	Imports of goods and services: $11.3 billion
Trade-to-GDP ratio: 63%	FDI inflows: $2.2 billion (8% of GDP)
LDC criteria as per 2021 Triennial Review	
Gross National Income per capita: $ 1,370	LDC graduation threshold: above $1,222
Human Assets Index: 66.4	LDC graduation threshold: above 66
Economic and Environmental Vulnerability Index: 43	LDC graduation threshold: below 32

Source: UNCTAD secretariat based on DESA and CDP (2021) and on data from UNCTADstat and World Development Indicators [accessed December 2022]

1. Introduction

This report presents the Vulnerability Profile (VP) of Senegal, as mandated by the General Assembly resolution 59/209 of 20 December 2004, which stated that "After a country has met the criteria for graduation for the first time, the Secretary-General of the United Nations will invite the Secretary-General of the United Nations Conference on Trade and Development to prepare a vulnerability profile on the identified country, (…) to be taken into account by the Committee for Development Policy at its subsequent triennial review" (para 3(b)). As Senegal fulfilled the graduation criteria for the first time in 2021, the present study will serve as a background document for the CDP deliberations on the preparedness of Senegal for graduation from the least developed country (LDC) category in 2024. As such, the VP serves a triple purpose:

A. To inform the CDP in its assessment of the economic and social progress achieved by Senegal, through the country's performance under the three eligibility criteria considered for LDC inclusion/graduation, namely per capita income, human assets index (HAI) and economic and environmental vulnerability index (EVI), and through evidence-based considerations as they pertain to broader vulnerabilities;

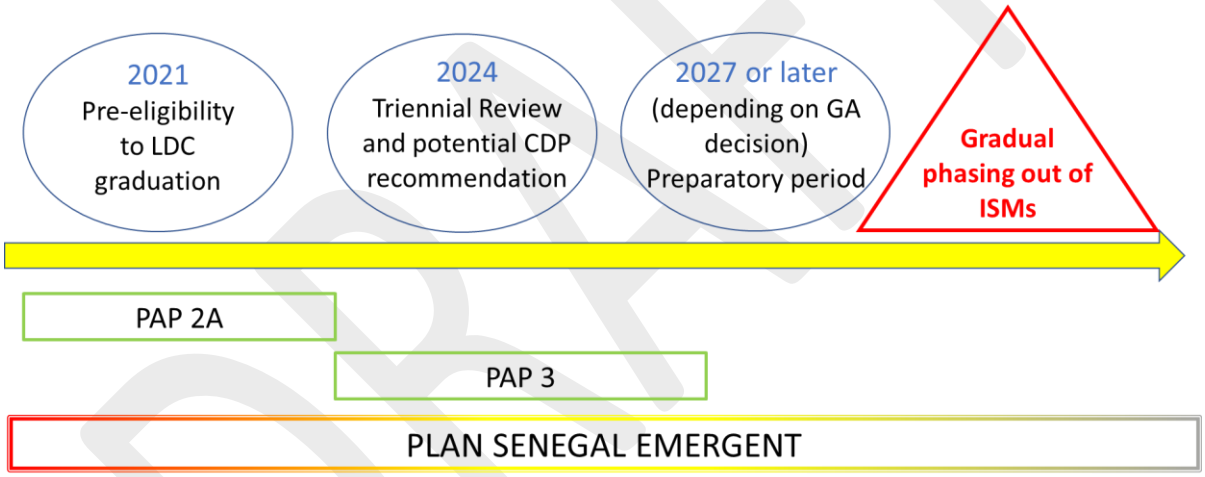
B. To provide the Government of Senegal with a broad range of findings that may enrich the debate on the preparations for LDC graduation and the engagement of development partners in that context;

C. To outlines evidence-based policy recommendations on building resilience and addressing the identified vulnerabilities, including through concrete insights on potential elements of a smooth transition strategy to post-LDC status, in line with the corresponding mandate in General Assembly resolutions 59/209 (20 December 2004) and 67/221 (21 December 2012).

The very timing of this Vulnerability Profile deserves a specific mention in this respect. The deliberations on the Vulnerability Profile take place at a critical time, when Senegal (and many other developing countries alike) is coping with a so-called "polycrisis", whose main interrelated elements encompass (i) the lingering socio-economic and health effects of COVID; (ii) the impacts of the war in Ukraine and related "cost-of-living crisis" (through shocks to key food, fuel, and financial markets); (iii) the global slowdown and rising macroeconomic vulnerability; (iv) the escalating impacts of climate change and environmental degradation. These aggravating risk factors need to be adequately considered, since they impede Senegal's progress towards sustainable development (in the short term but also, possibly, in terms of potential output), worsen inequalities and expand development needs.

Simultaneously, the discussions on the Vulnerability Profile take place at a critical time as Senegal is finalizing the implementation of the "Plan d'Actions Prioritaire ajusté et accéléré du Plan Sénégal emergent" (PAP2A) and developing the PAP3 planning document for the next phase of the Plan Sénégal emergent (PSE) spanning the period 2024-2028 (Figure 1). Given the relevance of LDC graduation issues – notably the phasing out of International Support Measures (ISMs) – for long-term development planning, this timeline presents a precious opportunity to mainstream LDC graduation into the national planning process, anticipating the likely evolution of key external conditions, undertaking the required early preparation and awareness-raising. This will result into a renewed "development bargain" capable of stirring the country towards graduation with momentum; that is an exit from the LDC category that is part of a broader and longer-term process of economic transformation (as foreseen in the PSE).

Figure 1: Timing of graduation process and horizon of the Plan Senegal Emergent



Source: UNCTAD secretariat.

It is worth mentioning from the outset that this study relies on both national and international data sources, depending on availability, comparability, and relevance for the specific discussion at issue. As a consequence, data points may not always coincide with those derived from international sources, notably with those utilized by the CDP in the assessment of LDC criteria or in the supplementary graduation indicators. In any case, the distinct data source used is specified in the text.

The report is structured as follows. Section 2 analyses Senegal's growth and structural transformation trends, as well as of its trade performance, globally and regionally. It also outlines some of the social development-related challenges and summarizes key related impacts of the COVID-19 pandemic and of the cost-of-living crisis. Section 3 identifies

Senegal's key areas of vulnerability based on the 5Ps framework, as well as the LDC criteria namely the GNI per capita, the Human Assets Index (HAI) and Economic Vulnerability Index (EVI). Section 4 takes a more forward-looking stance and analyzes some of the key development challenges the country faces toward graduation from the LDC category and beyond. Finally, Section 5 summarizes the findings of this report and provides some elements of potential policy priorities.

2. Situation analysis

2.1 Senegal's structural transformation trajectory

This section situates Senegal's performance towards graduation from the LDC category in the broader perspective of the country's long-term structural transformation trajectory. The purpose of this is to go beyond a narrow assessment of performance against LDC criteria and rather frame that evolution of specific indicators within the long-term process of structural transformation, which should ultimately underpin progress towards the graduation milestone, in the spirit of so-called "graduation with momentum" (UNCTAD, 2016a).

The section begins by examining Senegal's long-term economic growth performance, then turns to the underlying structural transformation dynamics, and finally uses UNCTAD's Productive Capacities Index (PCI) to assess Senegal's progress in strengthening productive capacities.

2.1.1 Economic growth

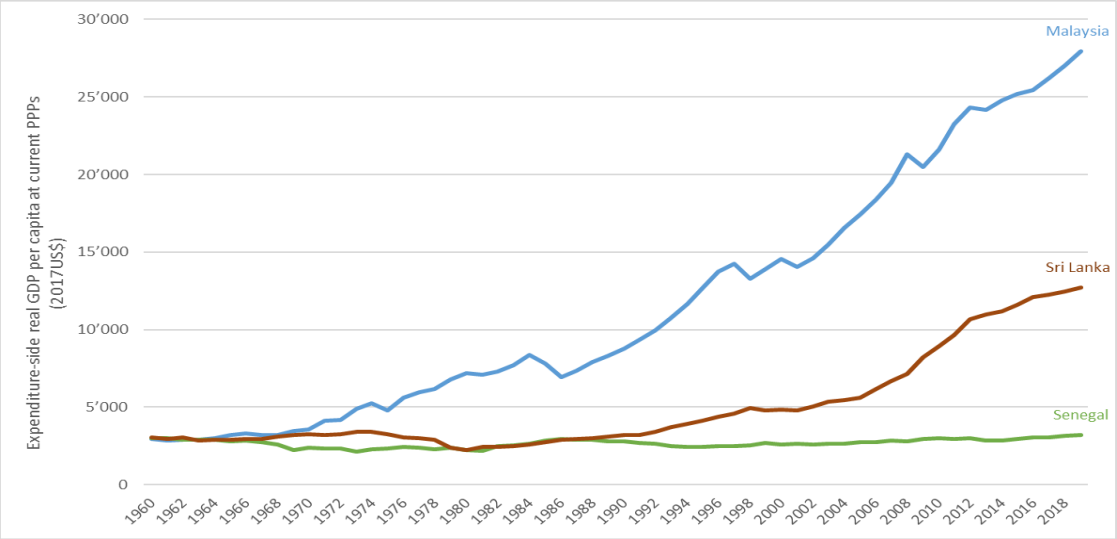
Despite its strategic geographical location and its stable political institutions, Senegal has historically experienced a low and volatile economic growth trajectory that placed the country among the slowest growing economies in Africa. Figure 2 shows the magnitude of Senegal's long-term stagnation. In 1960, Senegal, Malaysia and Sri Lanka had roughly the same expenditure-side real GDP per capita ($3,003, $2,929 and $3,029 respectively), measured the in Purchasing Power Parity (PPP) 2017 dollars.[1] By 2019, Malaysia income per capita was nearly $28,000 (9 times larger than that of Senegal), and Sri Lanka's was $13,000 (4 times higher than in Senegal).

The long-term trend in income per capita blurs, however a more nuanced evolution. As shown in Figure 3, real GDP grew almost five-fold between 1970 and 2021, with a pronounced growth acceleration – even in per capita terms – since the late 1990s, as in other African LDCs (UNCTAD, 2021a). The growth opportunities unleashed by the 1994 devaluation of the Franc of the Financial Community of Africa (FCFA), the increased competitiveness of Senegalese

[1] In this context, GDP per capita from the expenditure side at PPP is intended as a comparative measure of living standards, across countries and over time (Feenstra et al., 2015).

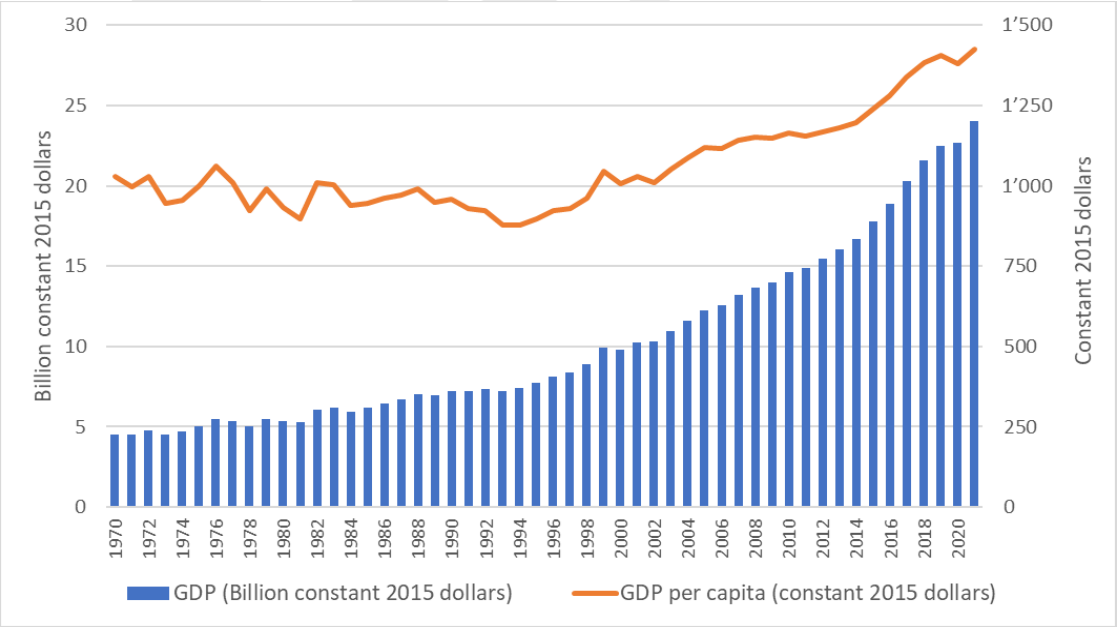
products combined with favorable economic conditions, have more recently consolidated, and the pace of growth further accelerated, pulled by the successful expansion of export-oriented industries, buoyant remittances inflows and rapid improvements in agricultural productivity. In the new millennium, Senegal has thus achieved significant economic progress, more than doubling its GDP between 2000 and 2021. This translated into a rise of only 41 per cent of GDP per capita in real terms, owing to a relatively fast population growth exceeding 2.6 per cent per year.

Figure 2: Expenditure-side real GDP per capita at PPPs (in 2017dollars)



Source: UNCTAD secretariat calculations, based on data from Penn World Tables 10.0 database.

Figure 3: Real per capita GDP and real GDP per capita (1970-2021)

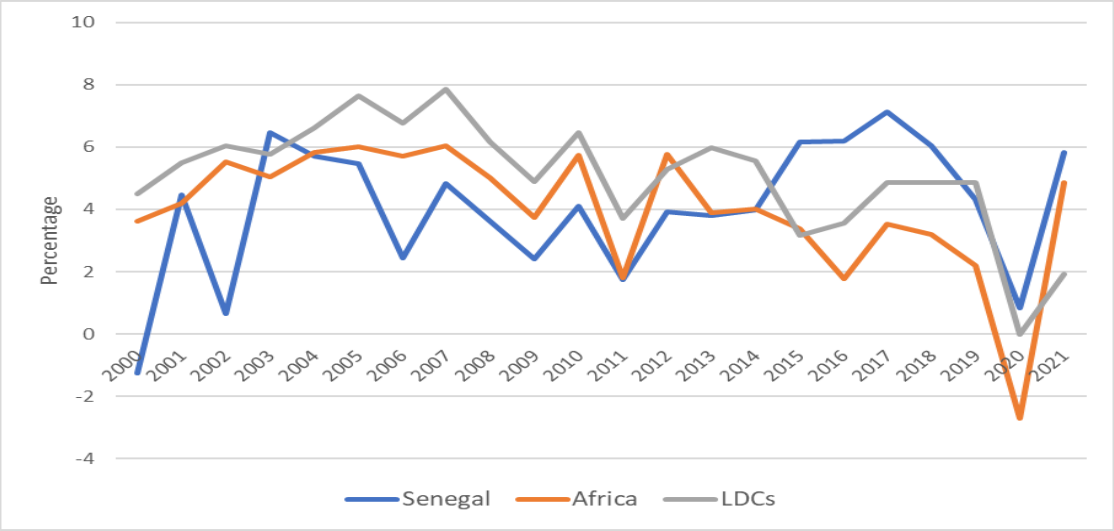


Source: UNCTAD secretariat calculations, based on data from UNCTADStat database [accessed November 2022]

Focusing on the XXI century, real GDP growth in Senegal has been for the most part below that of Africa or of the LDC group; however, the Senegalese economy has embarked on a new path of growth since 2014, with the rebasing of GDP and above all the start of the implementation of the Plan Sénégal Emergent (Box 1). As can be seen from

Figure 4, economic activity over the period 2014-2019 has maintained a growth dynamic of almost 6 per cent per year, at a time when Africa (and to a lesser extent the LDCs) slowed down. This buoyant phase suffered a sharp interruption in 2020, as the COVID-19 pandemic disrupted vital sectors such as tourism, catering, fishing, trade, education, and transport. As a result, GDP growth decelerated to 1.5% in 2020 (-1.2% in per capita terms), even though the negative impact of containment measures was partially offset by an 8.2% surge in agriculture production owing to favorable weather conditions and by the rapid rollout of the Programme de résilience économique et social (PRES) worth roughly 7 per cent of the GDP (Nations Unies, forthcoming). The resulting slowdown has hence been less deep than in the case of either Africa or LDCs, and the rebound in 2021 was close to 6 per cent. Preliminary national data point to a moderate slowdown in 2022 (+4.8 per cent), as a result of ECOWAS-level sanctions to Mali (a key trade partner for Senegal), of the lingering impacts of the pandemic, and to the ripple effects of the war in Ukraine (DPEE, 2022). Conversely, with the planned start of gas and petroleum production, national authorities expect a double-digit GDP growth for 2023, despite the heightened uncertainty in the international environment (*ibidem*). Notwithstanding this encouraging macroeconomic resilience, there are concerns that the series of shocks witnessed by Senegal over the last 3 years – from the COVID-19 pandemic to the sanctioning of Mali, and the "cost of living crisis" triggered by fallout from the invasion of Ukraine – entailed widespread socio-economic costs, raising some apprehensions about worsening inequalities and uneven social development prospects.

Figure 4: Real GDP growth (2000-2021)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat database [accessed November 2022]

Box 1. Le Plan Sénégal Emergent

In 2014, Senegal adopted a new development policy framework, the Plan Sénégal Emergent (PSE), with a vision for the next two decades geared towards transforming the country into an emerging economy by 2035. The PSE enshrines Senegal's long-term sustainable development strategy, whose implementation is carried out through five-year implementation plans. The first phase of implementation followed the Priority Action Plan (PAP I), a five-year investment plan 2014-2018, aimed at aligning the economic and social aspirations of the PSE and development programmes and projects budgeted by the Senegalese government over this period. The PSE was designed along three pillars:

1. Structural transformation of the economy and growth;
2. Human capital, social protection and sustainable development; and
3. Governance, institutions, peace and security.

The PSE focuses on seven priority sectors, namely, *(i)* Agriculture, seafood and agro-food; *(ii)* Social housing and ecosystem construction; *(iii)* Gradual modernization of the social economy; *(iv)* Mines and fertilizers; *(v)* Regional logistics and industrial hub; *(vi)* Multi-service hub and tourism; *(vii)* Strategic recovery of the energy sector. The PSE envisages an average growth rate of 7.1% (Under PAP 1 (2014-2018)), realized a rise in growth from 4.9% in 2014 to 8.3% in 2018 (Ministère de l'Economie, des Finances et du Plan, 2014)).

To consolidate the performances recorded in the first phase, Senegal will tackle the following challenges, over the period 2019- 2023, *(i)* the development of a competitive, inclusive and resilient economy; *(ii)* the development of human capital and the capture of demographic dividend; *(iii)* the reduction of poverty and inequalities and adaptation to climate change; *(iv)* strengthening governance and the promotion of a modern and efficient public administration; *(v)* the mobilization of resources needed to finance development; and *(vi)* improve monitoring and evaluation of the strategy (Ministère de l'Economie, des Finances et du Plan, 2018, 2020).

With its breadth and strategic framework, the PSE is characterized by a close alignment with the Agenda 2030 for Sustainable Development and covers an estimated 97 per cent of the Sustainable Development Goals (SDG) indicators (Nations Unies, forthcoming).

2.1.2 Dynamics of structural transformation

The pace of economic growth is certainly an important driver of welfare improvements, but at least as important, from a structural point of view, is the pattern of such dynamism. Starting from an aggregate level, development accounting provides a framework, derived from neoclassical growth theory, to trace changes in GDP per worker to their proximate determinants, namely accumulation of production factors and Total Factor Productivity - TFP (Caselli, 2005; Feenstra et al., 2015).[2] Although not free from criticism, development

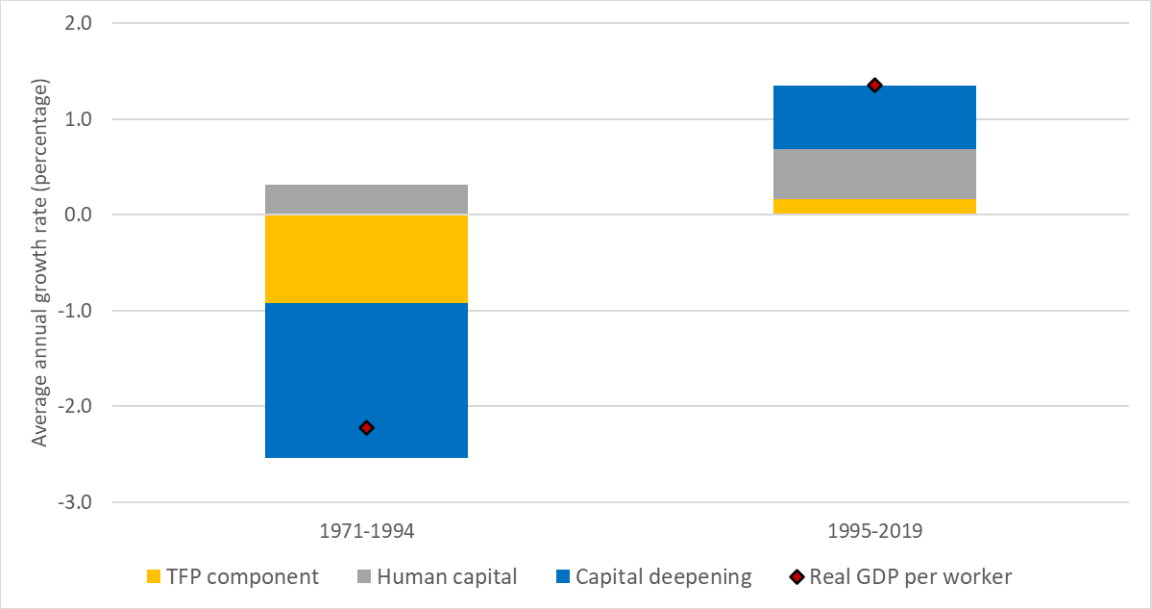
[2] In a nutshell, the derivation of development accounting decomposition in Figure 5 is obtained from an aggregate constant return to scale production function

$$Y = A_t (L_t H_t)^{\alpha} K_t^{1-\alpha}$$

accounting can be useful to shed light on the role of capital deepening (i.e. the increase in the stock of physical capital per worker) and human capital accumulation.[3] The result of this exercise for Senegal is presented in Figure 5.

During the 1971-1994 sub-period, the analysis shows that the small positive contribution of human capital accumulation, was more than offset by the decline in capital per worker (i.e. negative capital deepening) and in TFP. Conversely, during the 1995-2019 sub-period, both physical and human capital accumulation played a significant positive role. TFP also contributed to the growth of GDP per worker, albeit to a far lesser extent.[4]

Figure 5: Development accounting decomposition of growth in real GDP per worker (1971-2019)



Source: UNCTAD secretariat calculations, based on data from PennWorld Tables 10.0 database.

in which Y_t, L_t, H_t and K_t represent respectively income, labour human and physical capital at time t, whereas A_t is the TFP. Through total differentiation one obtains

$$\dot{y} = \dot{A} + \alpha \dot{H} + (1 - \alpha) \dot{k}$$

whereby the dot indicates the growth rate of the corresponding variable, and letters *y* and *k* indicate respectively income and capital in per-worker terms. GDP per worker is considered here to abstract from considerations related to labour participation and demographic growth.

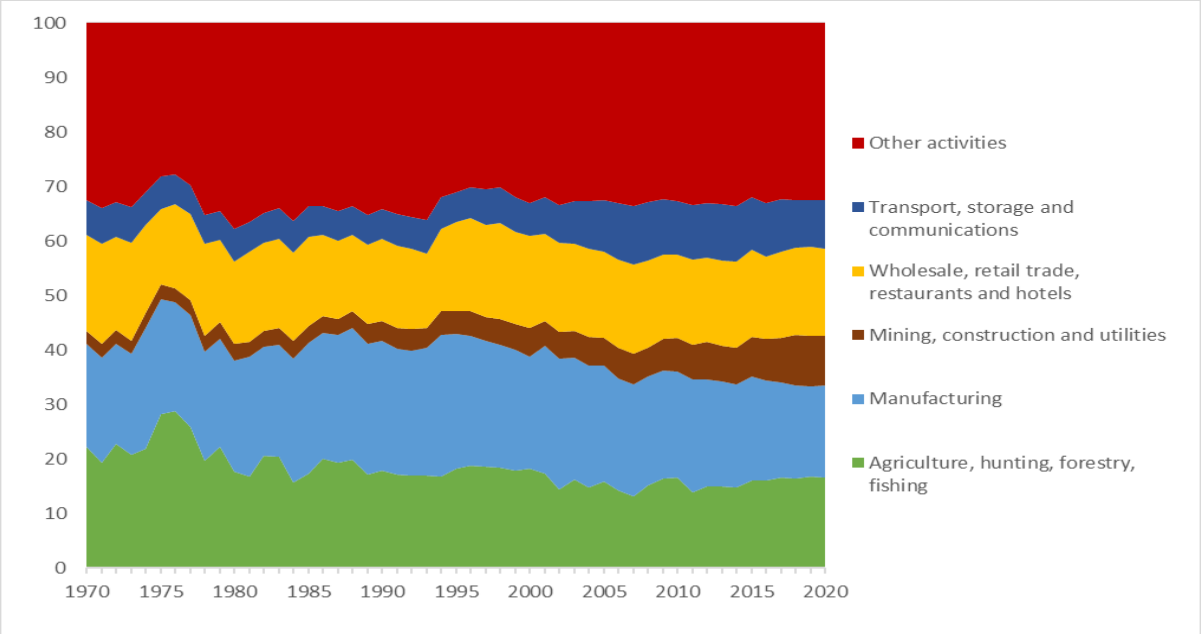
[3] The three main lines of criticism to the development accounting framework focus on (i) its saving-driven nature, whereby no role is foreseen for aggregate demand in determining investment decisions; (ii) the fact that it wipes out possible interactions between distinct sources of growth (say capital deepening and TFP); and (iii) on the adequacy of the notion of aggregate production function to contexts where productivity levels differ across sectors (Taylor, 2004; Abramovitz, 1989; Banerjee and Duflo, 2005).

[4] The conclusions of this analysis are broadly consistent with those derived for the period 2009-2018 by the DGPPE, which identified labour growth as the main driver of GDP expansion; international data have been preferred in this case as they allow singling out the contribution of human capital.

A key determinant of productivity dynamics is the pace and direction of structural change, that is the process of intersectoral reallocation of inputs, and the corresponding changes in the composition of output, which typically accompany economic growth. This process is crucial to ensure long-term development convergence and catch up, as the ensuing productivity gains contribute to poverty reduction and improve living standards (Diao et al., 2021; Kuznets, 1966; Rodrik, 2013).

Generally speaking, structural change has progressed at a sluggish pace in most LDCs, and Senegal is no different in that respect. Despite the long-term expansion in the size of the economy, the composition of value added has not changed drastically (Figure 6). The declining weight of agriculture has essentially been mirrored by the expansion of transport, as well as mining, construction and utilities. Meanwhile, the share of value added accounted for by the manufacturing sector has witnessed a small increase between the 1970s and the early 1990s, and declined henceforth to some 17 per cent of the total (a level slightly lower than in the early 1970s). As a result of these trends, the Senegalese economy is nowadays marked by the predominance of the service sector, which accounts for more than 57 per cent of the country's GDP, compared with approximately 17 per cent and 25 per cent, for agriculture.

Figure 6: Sectoral composition of value added (percentage)

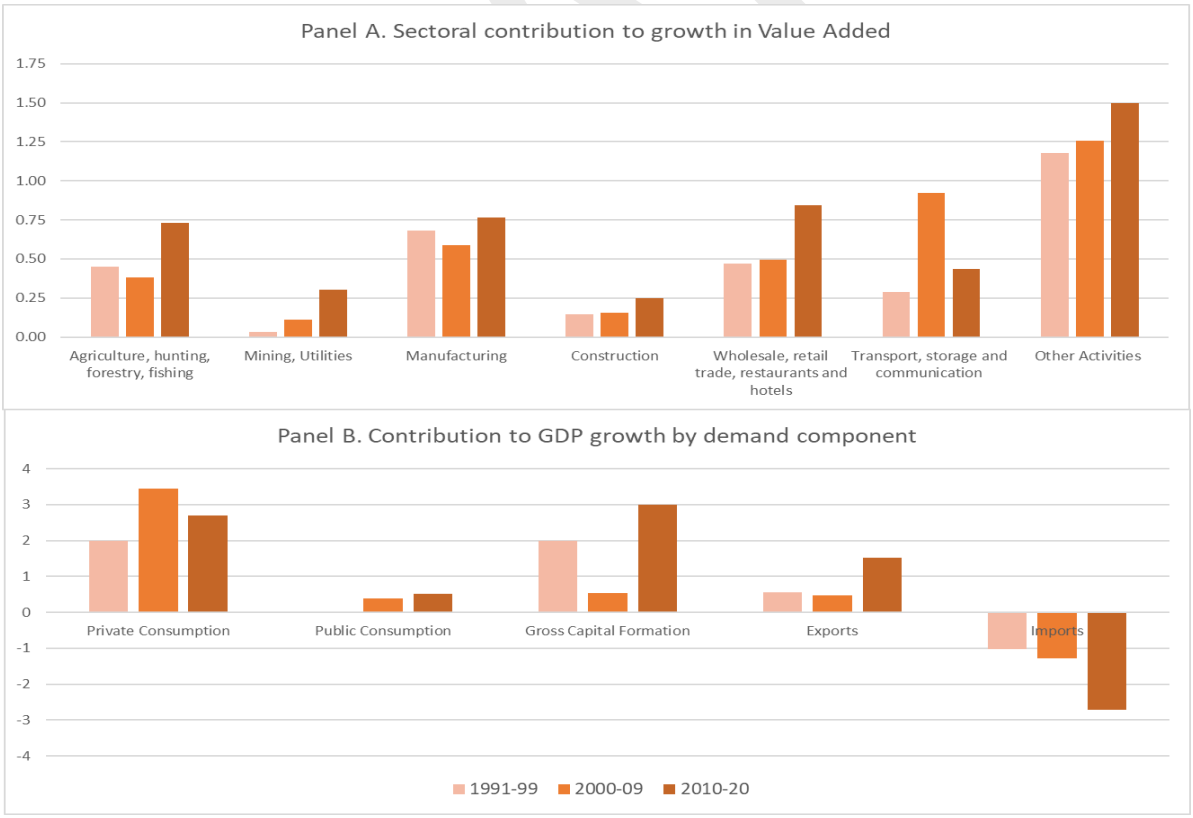


Source: UNCTAD secretariat calculations, based on data from UNCTADstat database [accessed November 2022]

To explore the structural dynamics underpinning growth in Senegal, Figure 7 presents the contribution to growth by supply and demand component, for the period 1990-2020. Throughout the period considered, all sectors contributed to the expansion of value added,

with services being by far the main driver of economic expansion (panel A). The sector labelled "Other activities", corresponding to the residual category of services (sections J to P according to the International Standard Industrial Classification, Revision 3), represented the main contributor to growth throughout the period considered, but even other services segments significantly underpinned the economic expansion of the last two decades. Interestingly, manufacturing's contribution to growth exceeded 0.50 percentage points in all the three subperiods considered, while the construction sector contributed the least to the growth of value added. On the expenditure side (panel B), the figures suggest that private consumption has been the main driver of growth in Senegal over the past three decades, followed by gross capital formation. Importantly, after the decline in 2000-2009, gross capital formation has seen an increase in its growth contribution in 2010-2020, underscoring accelerated investments over the last decade when the investment-to-GDP ratio averaged 25 per cent. The contribution of the exports sector to growth also witnessed a significant expansion over time (especially in the last decade), even though this was more than offset from the demand leakage stemming from imports.

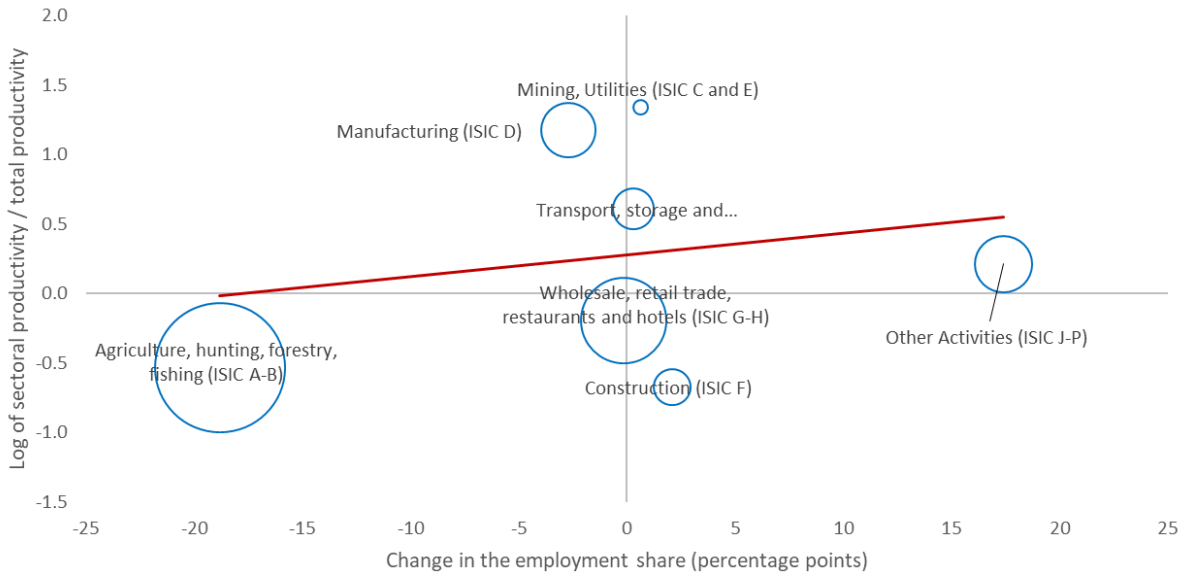
Figure 7: Contribution to growth by supply and demand components (Annual percentage change)



Source: UNCTAD secretariat calculations, based on data from UNSD National Accounts Main Aggregates Database

Over the period 1991 – 2019, the structure of employment changed significantly, as a growing share of workers migrated from the primary sector, in line with the intuition of the Lewis model of dual economy (Lewis, 1954). To capture the corresponding labour reallocation process, Figure 8 shows on the horizontal axis the changes in the sectoral employment share between 1991 and 2019 and on the vertical axis the (log of) sectoral labor productivity relative to economy-wide labour productivity in 2019. Figure 8 shows that the reallocation of labour from agriculture implied a contraction in the employment share of the latter by almost 20 percentage points (in almost 30 years). While the reduction in the agricultural employment share follows the typical structural change pattern, it should be important to observe that most of released workers found jobs in the tertiary sector, while manufacturing witnessed a contraction of its employment share, despite a comparatively high sectoral labour productivity.[5] As a result of this tertiarization, the services sector employed slightly more than half of the total labour force by 2019, with the residual services segment "other activities" registering a 17 percentage points gain in its employment share between 1991 and 2019. Besides, services appear to play an even more critical role for women employment, as they absorb more than two thirds of the female labour force.

Figure 8: Dynamics of sectoral employment share and labour productivity (1991–2019)



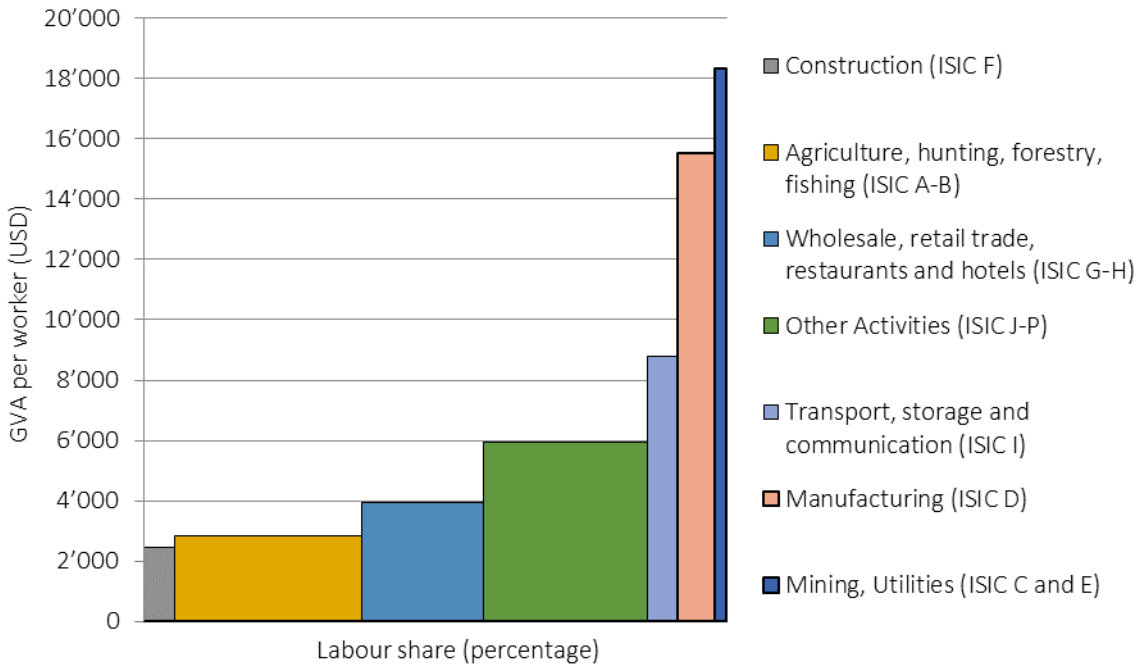
Source: UNCTAD secretariat calculations, based on data from World Development Indicator database and United Nations Statistics Division [accessed July 2022].

Note: The size of the bubble is proportional to each sector's employment share in 1991.

[5] This appears to be the case also during over the period of implementation of the PSE (2014 – 2019).

Further clarity on the pattern of structural change can be gauged from Figure 9, which shows the sectoral employment shares and corresponding labor productivity levels at the end of the period considered (2019). Figure 9 underscores the persistence of large inter-sectoral productivity gaps. The sectors with the lowest Gross Value Added (GVA) per worker – construction and agriculture – have an average labour productivity which is roughly 1/7 of that characterizing manufacturing or mining and utilities, located at the other end of the spectrum. Yet, the sectors with relatively lower labour productivity remain among the most important for employment creation: agriculture (whose labour share reaches 30 per cent), other activities (27 per cent) and "wholesale and retail trade, restaurants and hotel" (21 per cent). Not surprisingly, the agriculture sector has lost its role as the largest employer among all sectors, a sign that there have been structural changes in the country's economy.

Figure 9: Sectoral employment share and labour productivity (2019)



Source: UNCTAD secretariat calculations, based on data from World Development Indicator database and United Nations Statistics Division [accessed July 2022].

Taken together, this evidence suggests that, so far, Senegal's pattern of structural change has contributed only weakly to the dynamism and increasing sophistication of the economy. Not only has within-sector productivity growth been somewhat sluggish and uneven, but also the premature tertiarization of the economy has left an ample untapped scope for reallocating labor towards higher-productivity sectors, through "growth-enhancing structural change" (McMillan and Rodrik, 2011; UNCTAD, 2021a). Although inter-sectoral productivity

differentials have somewhat shrunk as more workers looked for jobs outside agriculture, the potential boost to labour productivity has been dampened by the fact that many of them had to resort to relatively low-productivity activities. This pattern, which is common to many other African countries, has led to a questioning of the classic pattern of structural transformation in the region (Dihel and Goswami, 2016; Ghani and O'Connell, 2016). While some studies (Dihel and Goswami, 2016; Ghani and O'Connell, 2016) suggest that innovation-generating services could be the engine of development, others (Rodrik, 2016) consider services incapable of playing this role considering their low and slowly rising productivity.

Without dismissing the potential for innovation and increasing returns in high-productivity services– especially those characterized by potential positive spillovers such as finance, digital and business services – it is worth noting that these tend to play a limited role in terms of employment creation in the case of Senegal. In addition, these services tend to be specialized and knowledge-intensive and are hence unlikely to absorb mostly unskilled workers leaving low-productivity agriculture. In Senegal, instead, the mobility of low-skilled labour appears to have been largely driven by self-employment in service-related activities with low-entry barriers but also relatively low productivity. Indeed, according to the quarterly GDP data released by the ANSD, the proportion of value added accounted for by the informal sector has expanded from 46 per cent in 2015 to over 51 per cent of the total in 2020, while households' contribution went from 6 to nearly 13 per cent. This dynamic, driven by "entrepreneurs by necessity" represents a challenge to harness innovation and enhance the sophistication of the economy, which would decisively increase its total productivity (UNCTAD, 2018).

Looking ahead, it is critical to realize that this is a crucial juncture for Senegal's structural transformation path and for its energy transition. The country is poised to become an important fossil fuel producer in the coming years, with the beginning of production from its recently discovered oil and gas fields.[6] The exploitation of these resources, expected to start in 2023, could reach around 140,000 barrels in the Sangomar oil field and over 28 million cubic meters of gas per year in the Tortue-Teranga natural gas field (Nations Unies, forthcoming). This could be an important engine of growth, with the government anticipating a total of 33,703,000,000 CFA francs (roughly USD 56 million) in revenue from hydrocarbons for 2023 in its draft finance law. To avert the risk that these developments exacerbate Senegal's commodity dependence, it will be key to ensure the emergence of strong productive linkages between the extractive sector and downstream processing. In this respect, it is encouraging that the government plans to utilize these resources to (i) generate revenues; but also (ii) accelerate progress towards universal access to electricity and

[6] These are: the Sangomar oil field, discovered in 2014, the Grand Tortue/Ahmeyin and the Yakaar-Teranga natural gas fields, discovered in 2015 and 2016 respectively.

strengthen energy security and (iii) boost domestic value addition through the production of fertilizers. The “gas-to-power strategy” is expected to lower energy costs for households and firms, with positive effects on competitiveness. Moreover, gas-based generation is well-placed to complement effectively the increasing penetration of renewable technologies – currently accounting for some 29 per cent of the energy mix – and reduce related green-house-gas emissions, with gas gradually replacing “dirtier” energy sources such as coal and fuel oil. From a macroeconomic perspective, it will be equally important to ensure that the rents derived from these natural resources are mobilized effectively and reinvested in both physical and human capital, thereby supporting the diversification of the economy away from a persistent reliance on resource-based sectors (UNCTAD, 2022a).

2.1.3 Productive Capacities Index

As noted earlier, while the pace of economic growth is certainly an important driver of welfare, the pattern of such dynamics is at least as important. In particular, several studies have suggested that the sustainability of growth is largely determined by the extent to which countries achieve development of their productive capabilities, defined as "the productive resources, entrepreneurial capabilities and production linkages that together determine a country's ability to produce goods and services and enable it to grow and develop"(UNCTAD, 2006). Productive capacity development operates both within firms/sectors, as the profit-investment nexus promotes capital deepening and productivity gains, and across sectors, as capacity acquisition, itself dependent on the existing pattern of production, paves the way for the emergence of new products and higher value-added activities (UNCTAD, 2020a). UNCTAD has developed a composite index to capture this articulated process of expanding a country's productive capacities (box 2).

Box 2. UNCTAD Productive Capacities Index

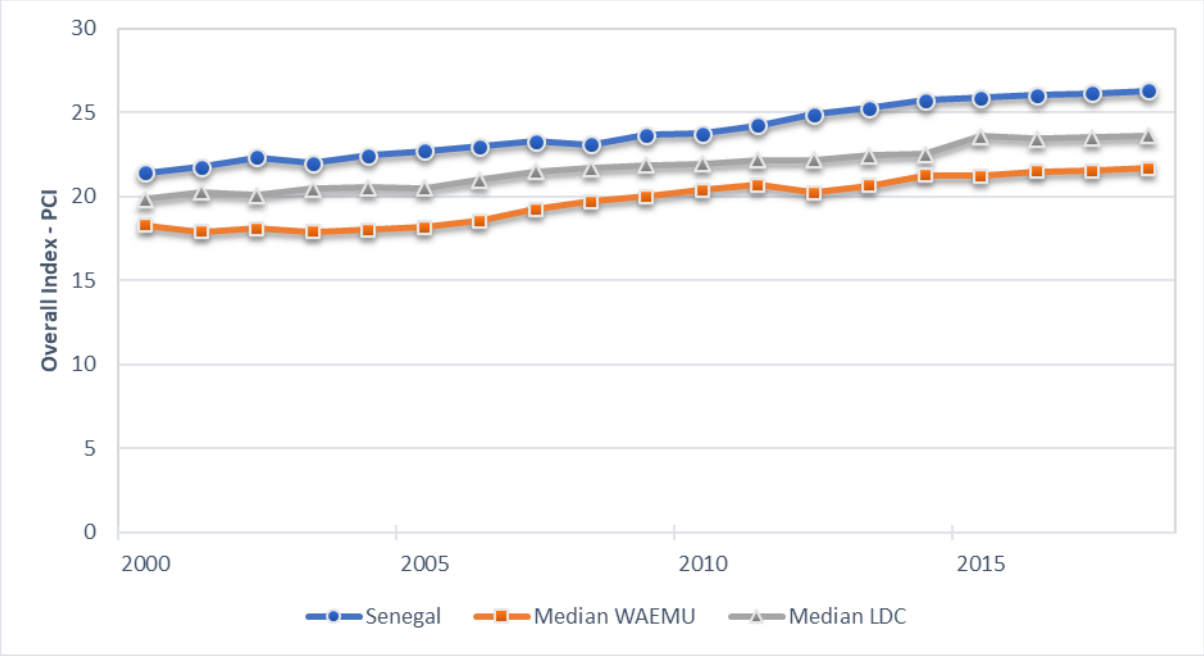
The UNCTAD Productive Capacities Index (PCI) is the first comprehensive attempt to measure productive capacities in all economies, LDCs and non-LDCs, developed and developing. The index builds on the conceptualization of productive capacities defined as “the productive resources, entrepreneurial capabilities and production linkages which together determine the capacity of a country to produce goods and services and enable it to grow and develop” (UNCTAD, 2006).

As such, the PCI is a composite index of 46 indicators under eight components, namely, natural capital, human capital, energy, transport, ICT, institutions, structural change and the private sector. A detailed description of the methodology of the construction of the PCI is provided in (UNCTAD, 2020b). For the purpose of this report, it suffices to note that – after imputation and/or forecasting of missing data as required – principal component analysis is applied to reduce the dimensionality of the data. The resulting factor weights are then used in the weighting of the individual indicators to construct each PCI component, which is subsequently standardized using the maximum and minimum normalization. The overall PCI score is finally obtained as a geometric mean of the eight components, whereby the

geometric mean is chosen to reduce the level of substitutability across components. The PCI scale, both for the aggregate index and its components, ranges from 0 to 100, with 100 being the best score.

Figure 10 shows the trend of PCI for Senegal, the median LDC and the median West African Economic and Monetary Union (WAEMU) country for the period 2000-2018. The PCI score for all three regions trends upward at a roughly similar pace, indicating comparable improvements over time. While Senegal consistently outperforms the median LDC, which in turn outperforms the median WAEMU country, it should also be noted that Senegal's PCI score places it in 145th position out of 195 countries. This indicates that, despite some relative strengths vis-à-vis other LDCs, there is a need for further improvements to strengthen competitiveness and catch up with the majority of other developing and developed economies.

Figure 10: Productive capacity index for Senegal and related comparators (2000-2018)

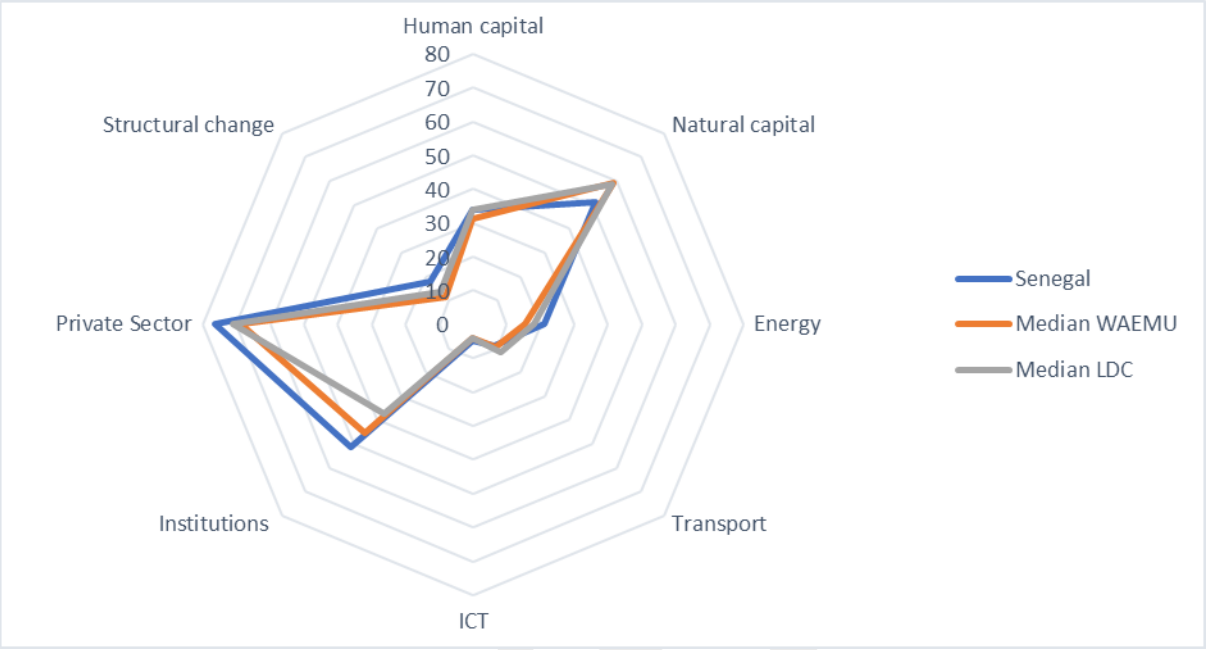


Source: UNCTAD secretariat calculations, based on data from UNCTADStat [accessed November 2022]

To better identify areas of comparative strengths and weaknesses, it is instructive to shed light on the sub-components of the composite index. Figure 11 confirms that although Senegal's productive capacities are superior to that of comparative regions in terms of institutions, private sector development and human capital, it faces serious supply-side constraints regarding infrastructure development, notably transport and ICT. Another

impediment to sustainable development is the country's low score for human capital (despite significant improvements over the 2000-2018 period) and structural change.

Figure 11: Components of the Productive capacity index for Senegal and related benchmarks



Source: UNCTAD secretariat calculations, based on data from UNCTADStat [accessed November 2022]

The evidence pertaining to the PCI confirm that poor infrastructure, such as insufficient power generation or deficient road networks, is constraining Senegal's development and has a negative effect on the overall productivity of the economy (Isaksson and Ng, 2006). Efforts to improve and reinforce infrastructure in Senegal explain the need for launching the PSE aimed at positioning Senegal as a regional industrial logistic hub by 2035 by developing its productive capacities to achieve an industrial leap forward.

So far, through the implementation of the PSE, considerable investments have been underway to develop infrastructure projects. These include the AIBD airport, the extension of the Dakar-Diamniadio toll motorway, the Thiès-Touba motorway, the Regional Express Train (TER), the Diamniadio industrial park, the rehabilitation of the Dakar–Bamako rail network, the opening up of rural areas, investment in rural equipment, and the development of new tourist centers. Despite these recent achievements, Senegal still experiences a notable infrastructure gap, and lags most emerging economies. With its 5,969 km, only 36 per cent of Senegal's road network was paved in 2020 and its motorway network was approximately 220 km long. Rural communities have little access to socioeconomic facilities (water, transport, energy and economic services) and wide regional disparities persist. In addition, the

agriculture sector, which employs more than 40 per cent of the population, still depends on rain-fed crops, and is therefore highly vulnerable to adverse weather conditions.

2.2 International Trade

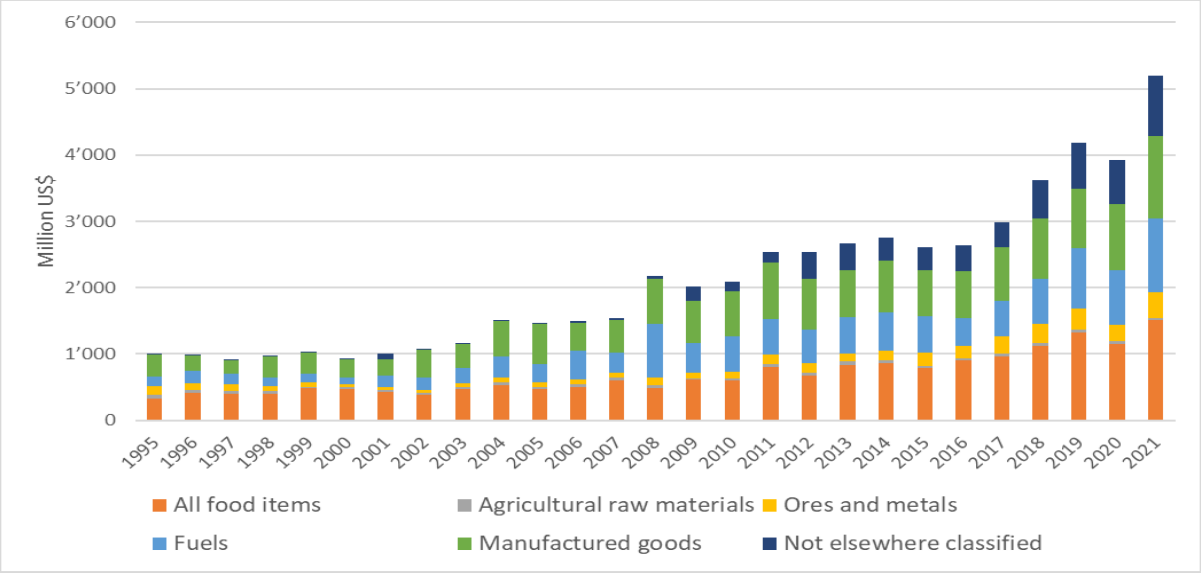
2.2.1 Senegal's trade pattern

With foreign trade accounting for more than half of the GDP – 59 per cent in 2020 (ANSD, 2021a) – Senegal is a small, open economy. According to the ANSD, in absolute value total exports of goods and services rose from FCFA 2,383 billion (or approximately $4.0 billion) in 2015, to FCFA 3,426 billion (or approximately $5.85 billion) in 2019 and FCFA 2,914 billion (or approximately $4.1 billion) in 2020 (ANSD, 2021a). Like the majority of LDCs, Senegal's external balance is characterized by a structural (and in fact widening) trade deficit, which reached $5 billion, or 18 per cent of GDP, in 2021. This reflects a growing trade deficit of Senegal vis-à-vis the European continent, its main supplier, and a growing surplus vis-à-vis the African continent, its main export destination.

Focusing on trade in goods, according to UNCTAD data Senegal's exports have increased more than fourfold between 1995 and 2021, when it surpassed $5 billion according to preliminary figures. This overall upward trend is the result of a strong performance in the period of implementation of the PSE, interrupted in 2015-2016 because of the sharp decline in fuel and other commodity prices, and in 2020 due to the sharp impact of the COVID-19 pandemic.

The expansion of merchandise exports was mainly driven by refined petroleum products, phosphoric acid, minerals and metals (gold, zirconium, titanium, etc.), seafood and fish products, groundnuts products, horticulture, cement and mineral fertilizers. Since 2010, Senegal has experienced a sharp increase in exports of horticultural products, particularly to the European market. As this list suggests, the export structure has traditionally been relatively diversified and split across broad product groups, with food items, fuels, and manufactures accounting respectively for 30, 20 and 25 per cent of the total (Figure 12). A similar conclusion on the relatively diversified nature of Senegal's exports can be derived also from the analysis of the country's export concentration index (discussed in section 3.3.1) or by looking at the number of products exported. In 2019, Senegal exported 2,531 products out of 5,018 export lines at the 6-digit HS classification; a value which is higher than the African average of 1,566 products (Figure 13).

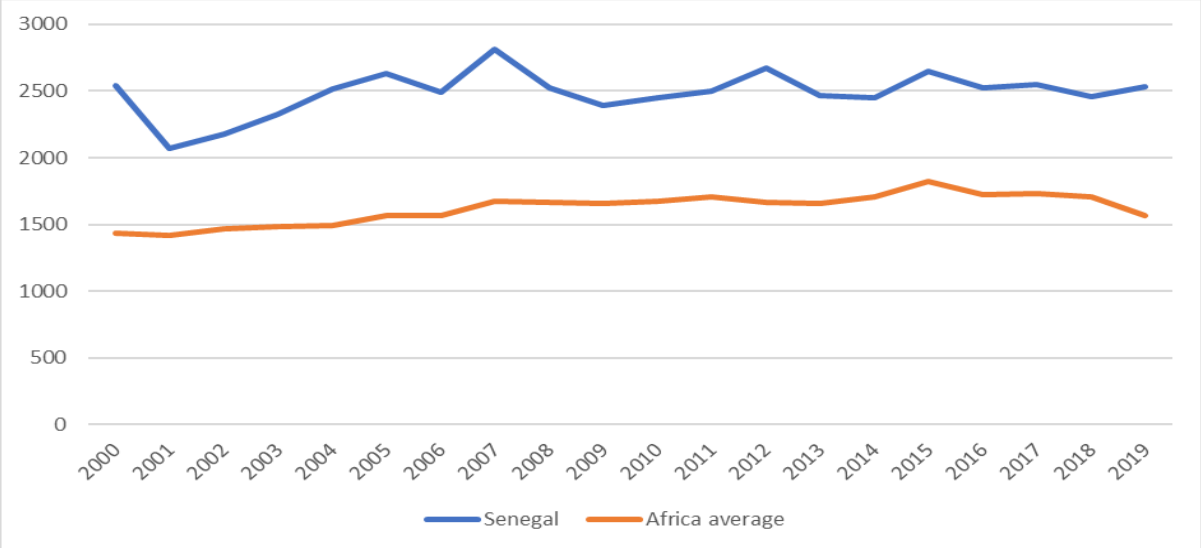
Figure 12: Merchandise exports by broad product group



Source: UNCTAD secretariat calculations, based on data from UNCTADStat database [accessed November 2022]

Note: All food items include SITC 0+1+22+4; agricultural raw materials include SITC 2 less 22, 27 and 28; Ores and metal include SITC 27+28+6; Fuels include SITC 3; Manufactured goods include SITC 5 to 8 less 667 and 68.

Figure 13: Number of active export lines, 2000-2019, Senegal and Africa average



Source: UNCTAD secretariat calculations, based on data from BACI CEPII database [accessed July 2022]

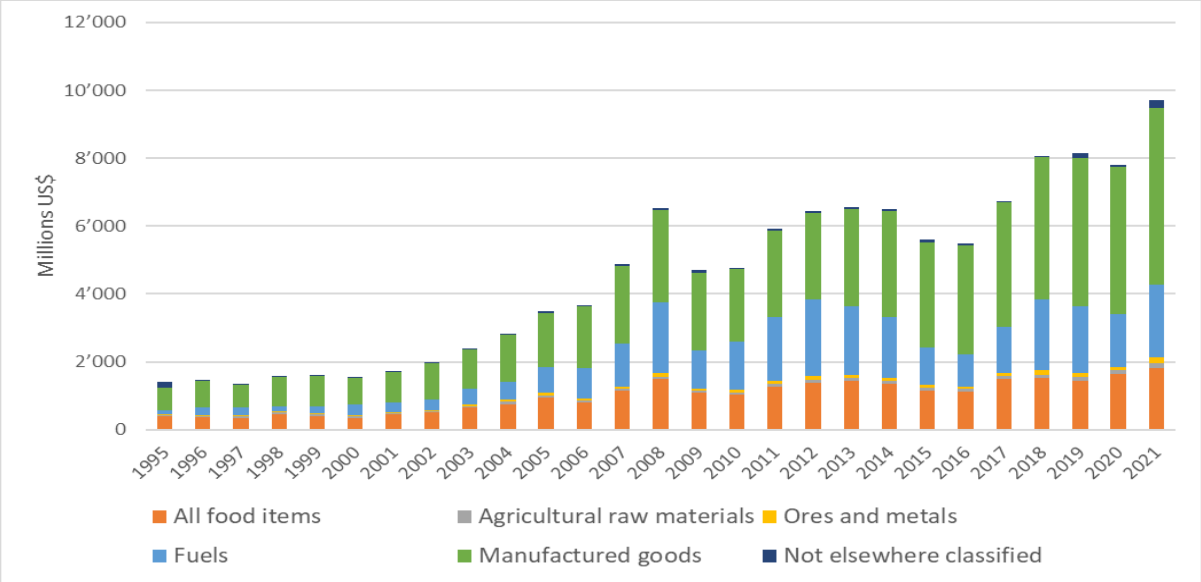
In spite of the above, Senegal remains a commodity-dependent developing country like most of its neighbours and 70% of LDCs, with commodities representing some 75 per cent of total merchandise exports.[7] Although the relatively diversified export structure spared Senegal from the most pernicious effects of commodity dependence – like pronounced terms of trade

[7] According to UNCTAD, countries are classified as commodity-dependent if more than 60 per cent of their merchandise exports is accounted for by primary products.

volatility, Dutch disease, or crowding out of investments in human and physical capital - some of the pitfalls of commodity dependence are betrayed by the relatively sluggish structural change dynamics and the pattern of integration into global value chains (GVCs) (more below). Indeed, the bulk of Senegal's export products tend to be either natural resource-intensive or capital-intensive, hence generate few and typically highly skilled jobs and fostering limited linkages to the rest of the economy). The current pattern of specialization is therefore incapable of creating paths to labour-intensive exports that could help absorbing the unskilled and uneducated workers that make up the bulk of the Senegalese labour force. A major problem of Senegal's comparative advantage in primary products and manufacturing activities based on primary products is that it could lock the country in a low value addition trap since most exported goods undergo either little or rather simple transformation.

Moving to merchandise imports, they reached approximately $9 billion in 2021, having grown more than fivefold between 1995 and 2021, driven by buoyant domestic consumption and investments. The bulk of merchandise imports consist of petroleum products, manufactures (especially capital and intermediate goods), as well as food products. As in many other LDCs, the expansion of import volumes has outpaced that of export volumes, leading to the widening trade deficit noted earlier.

Figure 14: Merchandise Imports by broad product group



Source: UNCTAD secretariat calculations, based on data from UNCTADStat database [accessed November 2022]

Note: All food items include SITC 0+1+22+4; agricultural raw materials include SITC 2 less 22, 27 and 28; Ores and metal include SITC 27+28+6; Fuels include SITC 3; Manufactured goods include SITC 5 to 8 less 667 and 68.

In terms of trade partners, Senegal's foreign sales are mainly intended for the African, Asian and European continents, with the main export destinations being Mali, Switzerland, India, China and Cote d'Ivoire (Table 1). Overall, the African continent, in particular the West African

region, remains the main destination for Senegalese exports. In 2019, exports to African countries were estimated at 1,027.9 billion CFA and represented 53.1 per cent of market share. ECOWAS countries (44.6 per cent), in particular those of the WAEMU (37.1 per cent), are Senegal's main customers. Among these countries, Mali – for which Senegal represents a key transit country – remains the main export market with a share of 40.6 per cent. Deliveries to WAEMU countries consist mainly of petroleum products, cement and, to a lesser extent, manufactured food products (BCEAO, 2021). On the other hand, the COVID-19 restrictive measures adopted by advanced and emerging economies in 2020 have led to a drop in external sales to the European and Asian continents of 19.0 per cent and 16.8 per cent, respectively.

Conversely, Senegal's main suppliers are China, France, Nigeria, the Netherlands and India (Table 1). In 2021, the European continent remained Senegal's leading supplier with 42 per cent of merchandise imports estimated at $4,046.4 million. Imports from Europe comprised mainly petroleum products, capital goods and pharmaceutical products. Imports from Asia amounted to $3,646.9 million, that is, 37.6 per cent. The share of the African continent in total imports stood at 14 per cent ($1,341.5 million). ECOWAS countries provided 11.2 per cent of imports, including 5.1 per cent from WAEMU countries (BCEAO, 2021). Supplies from ECOWAS countries which are not members of WAEMU mainly consisted of unrefined hydrocarbons from Nigeria, Senegal's main supplier within the Community.

Table 1: Main merchandise trade partners (2016-2020 average)

Major exports destinations	Percentage of merchandise exports	Major suppliers of imports	Percentage of merchandise imports
Mali	22.5	China	17.1
Switzerland	11.5	France	11.8
India	10.0	Nigeria	6.4
China	5.4	Netherlands	6.1
Côte d'Ivoire	4.0	India	5.7
Spain	3.6	Belgium	4.9
United States	2.6	Spain	3.8
Guinea	1.8	Russia	3.7
The Gambia	1.4	Türkiye	3.2
Australia	1.2	United Arab Emirates	2.5

Source: UNCTAD secretariat calculations, based on data from UNCTADStat database [accessed November 2022]

Given the above, boosting export capacities through both the intensive and extensive margins, while generating productive employment in rural or peri-urban areas, is of paramount relevance for Senegal. Interestingly, the PSE has identified key strategic sectors — capable of driving the dynamics of increased production, employment, and exports — that it aims to promote and develop as part of its industrial and trade policy. Agro-processing represents a useful case in point, as discussed in Box 3, and the government aims to boost domestic value addition in the sector, including through the establishment of *agro-pôles* across the country. Although it is too early to rigorously assess the effectiveness of all related initiatives, there are promising signs. Moreover, the experience of the agro-processing sector underscores the breadth of related interventions to boost production and export capacities, as well as the importance of coherence between trade and industrial policy interventions.

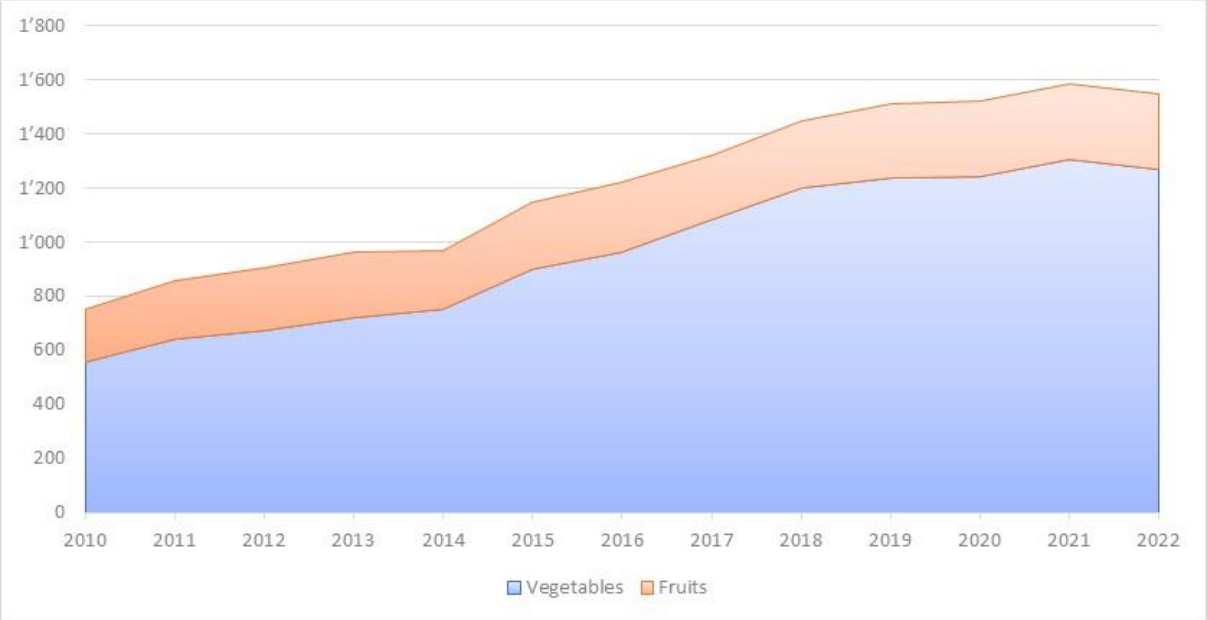
Box 3. Linkages between trade and industrial policies: the case of agro-processing

One of the features of the PSE is that the Government has identified key strategic sectors—capable of driving the dynamics of increased production, employment, and exports—that it aims to promote and develop as part of its industrial and trade policy. The agro-processing sector is a case in point. To achieve self-sufficiency in rice and onions, optimize the groundnut sector and develop the fruit and vegetable sectors, the Government has strengthened its support to rural communities through the provision of quality seeds, fertilizers, agricultural equipment, and irrigation schemes in the northern and southern areas; all of which has helped strengthen their production potential. The reasons for the choice of rice and onions, groundnuts and off-season fruits and vegetables are: (*i)* to cover the whole of Senegal with these products, either through the number of producers involved, or by the number of consumers concerned; (*ii)* to gradually reduce the dependency on food imports; (*iii)* to develop exports*;* and (*iv)* to create new jobs and opportunities for additional income.

Over the past decade, agricultural production has tremendously increased due to good weather conditions and proactive policy (Box Figure 3.1). Senegal has already reached or is in the process of achieving its production objectives (particularly for onions or groundnuts) and its export objectives of fruits and vegetables. These improvements have already started to trickle down to exports, with new products exported, particularly horticultural, which contributes to the diversification of the export base.

However, numerous issues remain. The policy of agricultural development seems primarily restricted to production goals. Post-harvest activities (such as storage and marketing), as well as processing activities (for crops like millet or cashew), appear to be neglected despite the priority status of agro-industry in the PSE. Ultimately, the key challenge will be to maintain efforts in water control, modernization and mechanization of agriculture, provision of quality inputs in sufficient quantity (seeds and fertilizers), the implementation of activities to mitigate and fight against climate change as well as the strengthening of storage and conservation infrastructures. It will also be necessary to accelerate the implementation of reforms to support the development of agribusiness and ensure the proper implementation of the Strategic Plan for the Development of Agricultural and Rural Statistics (PSSAR).

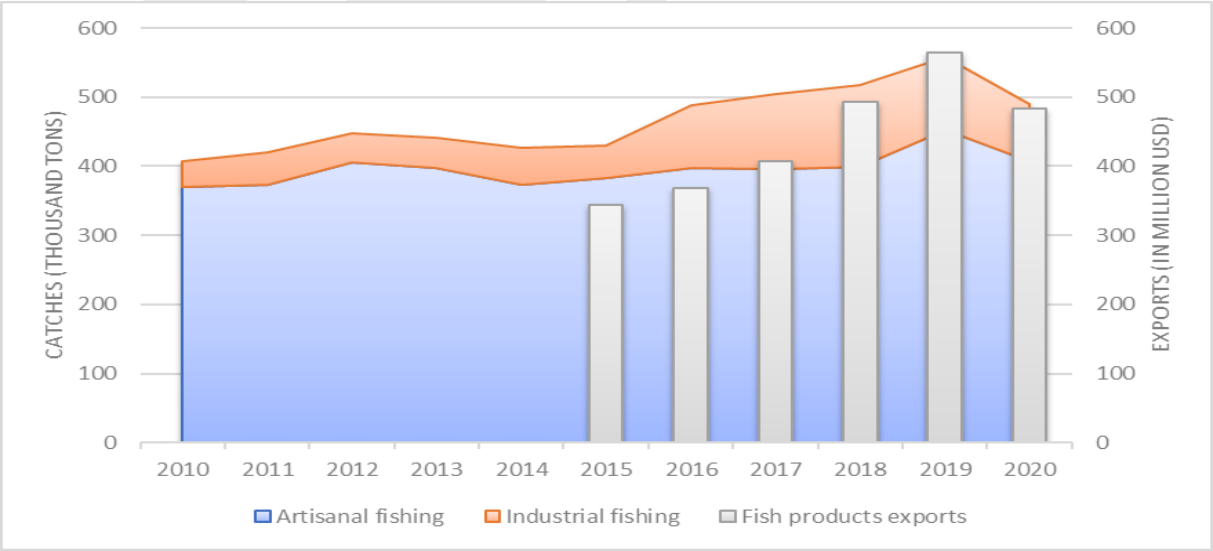
Box Figure 3.1: Production of horticulture products (thousand tons)



Source: UNCTAD secretariat calculations, based on data from ANSD Senegal data portal

Fishing is another important activity in the agro-processing sector (Box Figure 3.2). Although it is a major provider of employment (both direct and indirect jobs) and a major source of foreign currency (12 per cent of merchandise exports in 2020), the sector has been experiencing difficulties due to overexploitation, a situation that could threaten exports in the long term. Despite tremendous effort at regulating the sector over the past two decades, the reform is still work in progress especially as it pertains to the artisanal sub-sector that accounts for 80 per cent to 90 per cent of all catches depending on the year (Sarr et al., 2022).

Box Figure 3.2: Total Catch and Export of fish products



Source: UNCTAD secretariat calculations, based on data from ANSD/BCEAO, Situations Economiques et Sociales 2019 (Situation Economique et Sociale du Sénégal (SES) 2019, 2022) for years 2010-2019, and DGPPE (2022), for year 2020.

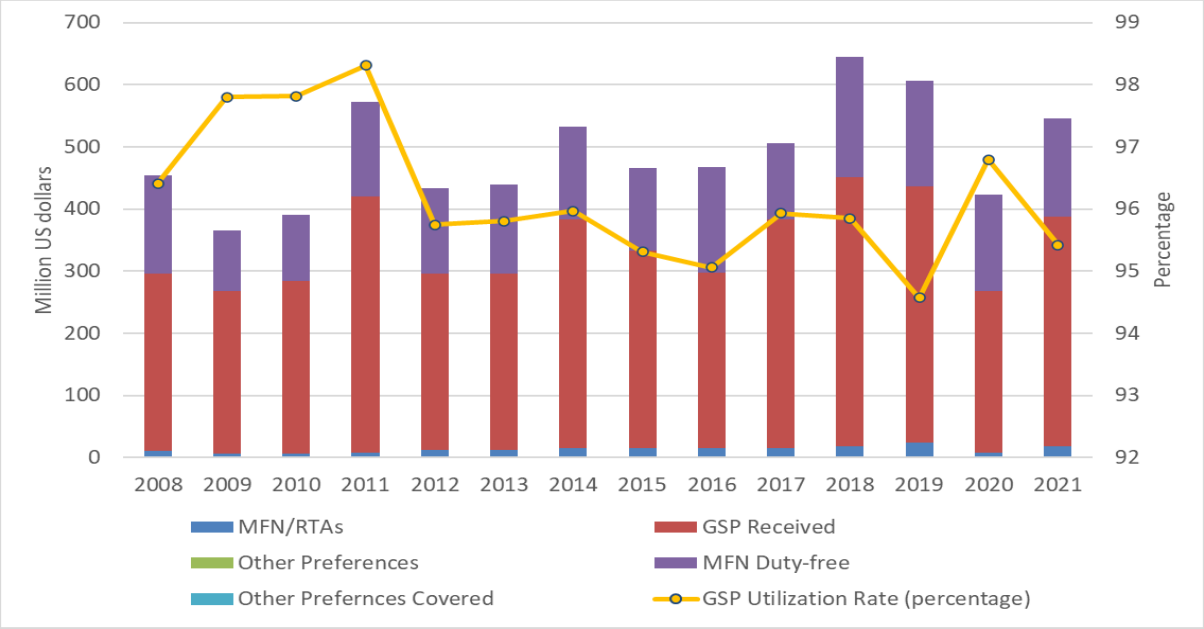
Considering that preferential market access is one of the key ISM granted to LDCs, it is interesting here to briefly summarize the trends in Senegal's tariff treatments and preference utilization. This, in turn, can give an idea of the extent to which Senegal benefits from this ISM, and consequently of the potential impacts of its phasing out upon LDC graduation. Currently about half of Senegalese exports face a zero Most Favoured Nation (MFN) tariff when reaching the largest preference-granting countries (WTO, 2019).[8] This is typically the case for most minerals and fuels exports, but also of some vegetable products, footwear, and headgear. Of the remaining dutiable export products originating from Senegal, the large majority – about 30 per cent of total merchandise exports – receive preferential treatment (be it LDC-specific or through other preferential schemes, like AGOA), while another 15 per cent would be eligible for preferential treatment but enters destination markets at Most Favoured Nation (MFN) rates.[9] Albeit circumscribed, the phenomenon of preference under-utilization remains a concern especially vis-à-vis certain destinations (like India and Switzerland), and/or certain typologies of products, including fruits and vegetables.

Focusing on Senegal's exports to the European Union (EU), which accounts for some 12 per cent of the total, Figure 15 shows that some 30 per cent of Senegal's export concern products for which the MFN rate is zero. The preference utilization rate for the remaining dutiable products remains above 95 per cent throughout the period considered. Disaggregating the analysis by product category reveals, however, considerable heterogeneity (Figure 16). Preference utilization is close to 100 per cent for Senegal's most important export products, notably live animals, vegetables, prepared foodstuffs, footwear, fats and oils. Yet, utilization rates are far lower for products such as minerals, base metals, machinery and electrical equipment, hides and skins, leather, etc., chemical products, textiles, plastics and rubber. Although a large proportion of related exports face a zero MFN rate anyway, such an under-utilization of preferences betrays a missed opportunity in terms of market access. Such low utilization can be typically related to restrictive rules of origin, costly/difficult compliance with other non-tariff measures, notably sanitary and phytosanitary standards and direct transport requirements (WTO, 2021).

[8] The analysis of WTO refers to the following list of preference-granting countries: Australia, Canada, Chile, China, European Union, India, Japan, Republic of Korea, Norway, Switzerland, Chinese Taipei, Thailand, and United States.

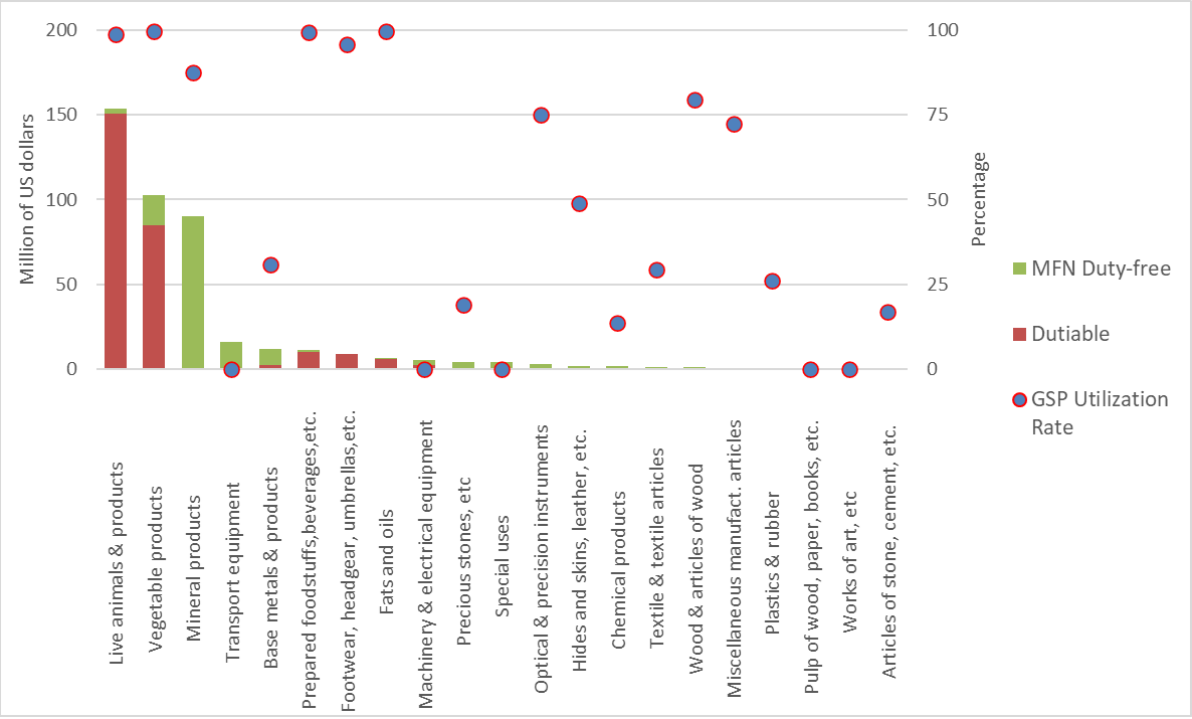
[9] The residual exports are MFN dutiable.

Figure 15: Senegal merchandise exports to the European Union, by tariff treatment and related preference utilization



Source: UNCTAD secretariat calculations, based on data from UNCTAD database on GSP utilization [accessed December 2022]

Figure 16: Tariff treatment and preference utilization of Senegalese exports to the European Union, by product category (2020)

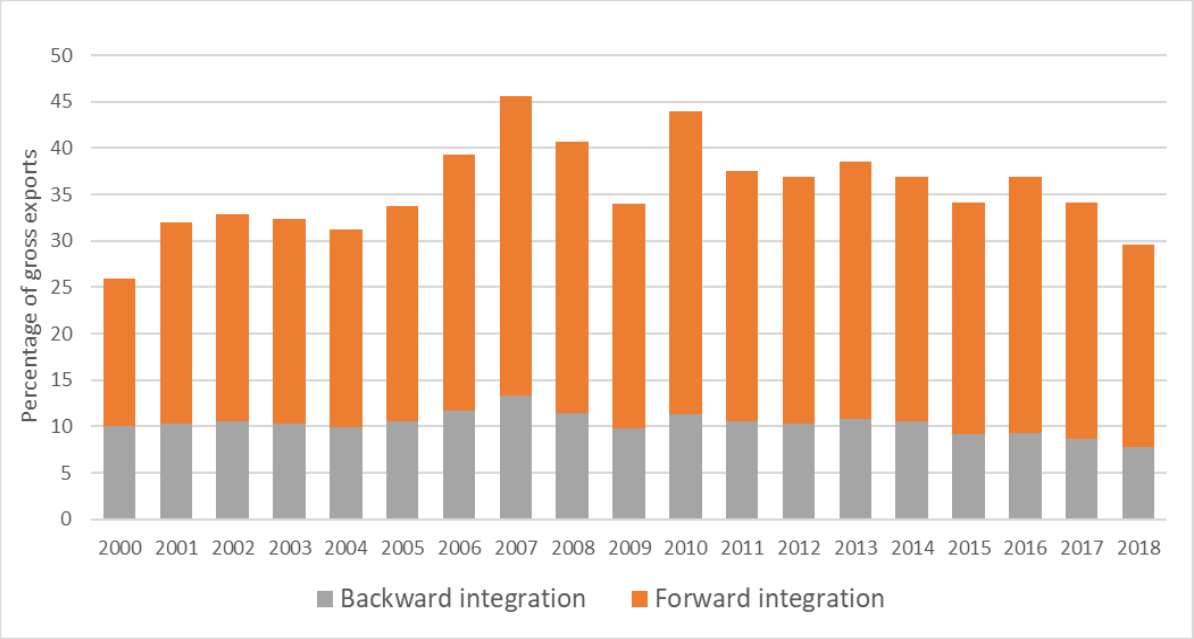


Source: UNCTAD secretariat calculations, based on data from UNCTAD database on GSP utilization [accessed December 2022]

2.2.2 Global value chain participation

Global value chain (GVC) analysis helps refine the analysis of Senegal's trade by focusing on the value addition the economy generates in its trade with the rest of the world. Such analysis is critical because, with the progress of globalization, relying solely on gross export and import data may be misleading due to the existence of double counting given that value addition along the value chain (e.g., supply of inputs, intermediate, and capital goods) typically comes from a range of national jurisdictions. Participation in the GVC is measured by the so-called backward and forward integration. The former is measured by the share of foreign value added (FVA) embedded in a country's exports, while the latter is measured by the share of a country's exported value added (DVX) that is further processed and re-exported by the importing country. Figure 17 shows the evolution of Senegal's backward and forward integration for the period 2000-2018. The figure shows that the country's participation in the global value chain has oscillated between 26 and 47 of its exports, a non-trivial participation in global value chains. The most noticeable characteristic of the country's participation in GVCs is the predominant role of forward integration, which is on average two to three times the size of backward integration (e.g., share of DVX of 22 in 2018 versus a share of FVA of 8). Moreover, forward integration has increased over time by 6 percentage points.

Figure 17: Senegal's backward and forward integration in global value chains 2000-2018



Source: UNCTAD Secretariat calculations based on data from UNCTAD-Eora Global Value Chain Database [accessed September 2022]

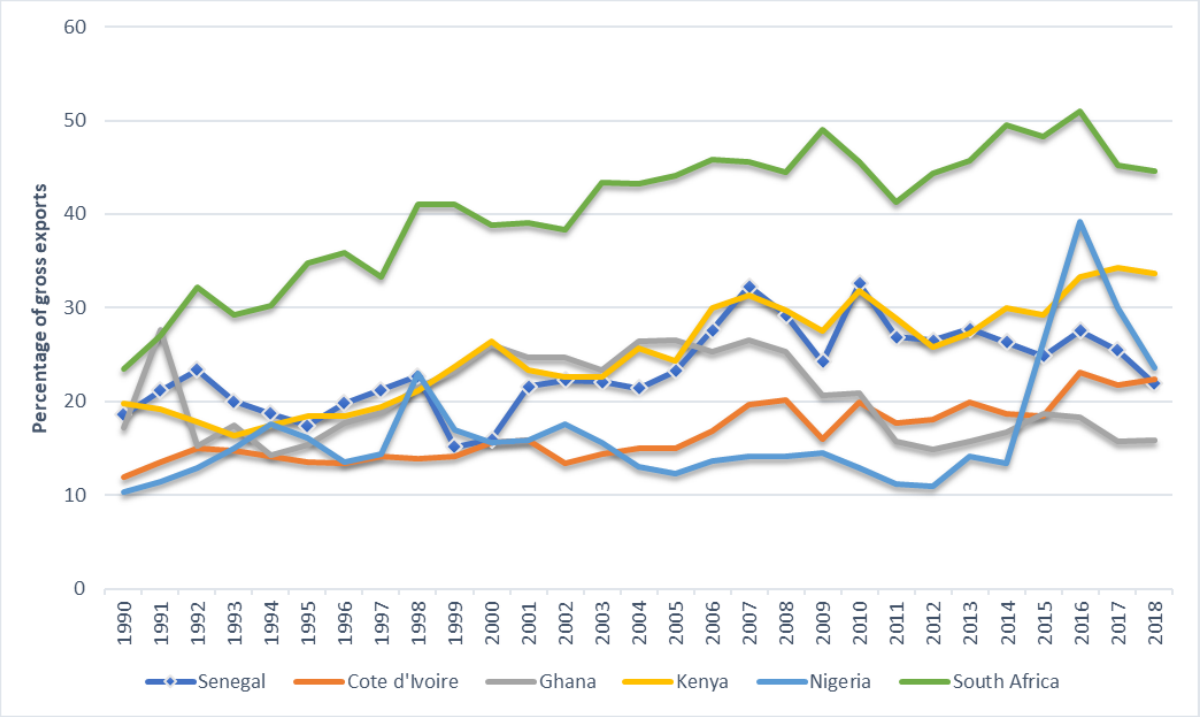
By contrast, the economy's backward participation has been minimal suggesting that, on average, only a minor share of foreign value added (e.g., 6 in 2018) is further processed and

embedded in Senegalese exports. For a small, open economy like Senegal, the respective magnitudes of forward and backward integration are indicative of the country's reliance on primary exports. Thus, the relatively large and increasing values for DVX combined with the relatively small and decreasing values for FVA corroborates the fact that the country has been unable to participate significantly in downstream production, but its involvement in GVCs has been and remains mainly focused on the provision of natural resources, intermediate inputs, and simple manufacturing products.

Compared with other major economies from West Africa (Cote d'Ivoire, Ghana and Nigeria), East Africa (Kenya) and Southern Africa (South Africa), Senegal has had a seemingly average level of GVC participation over the past two decades (Figure 18 and Figure 19). By 2018, its economy was reasonably well integrated in GVCs (33 of gross exports with a share of 25 per cent and 8 per cent for forward and backward integration, respectively). Among the countries considered, South Africa has the highest backward and forward participation, and experienced a steady and sustained growth in its share of DVX and FVA over time. West Africa's four largest economies, however, have lagged behind both South Africa and Kenya, experiencing a slower growth of forward integration and stagnation of backward integration. Two salient characteristics can be identified for Senegal. First, in terms of forward integration and despite its lower natural resource endowment base, its economy is on par with all other West African major economies. Second, despite its rather low backward integration (8 per cent in 2018 and an 18-year average of 10 per cent), Senegal has a greater degree of backward participation in the GVC than resource-dependent countries such as Nigeria, Ghana and Cote d'Ivoire. Only Kenya and South Africa have a greater backward participation in the GVC, which is probably due to their more dynamic and productive manufacturing sectors.

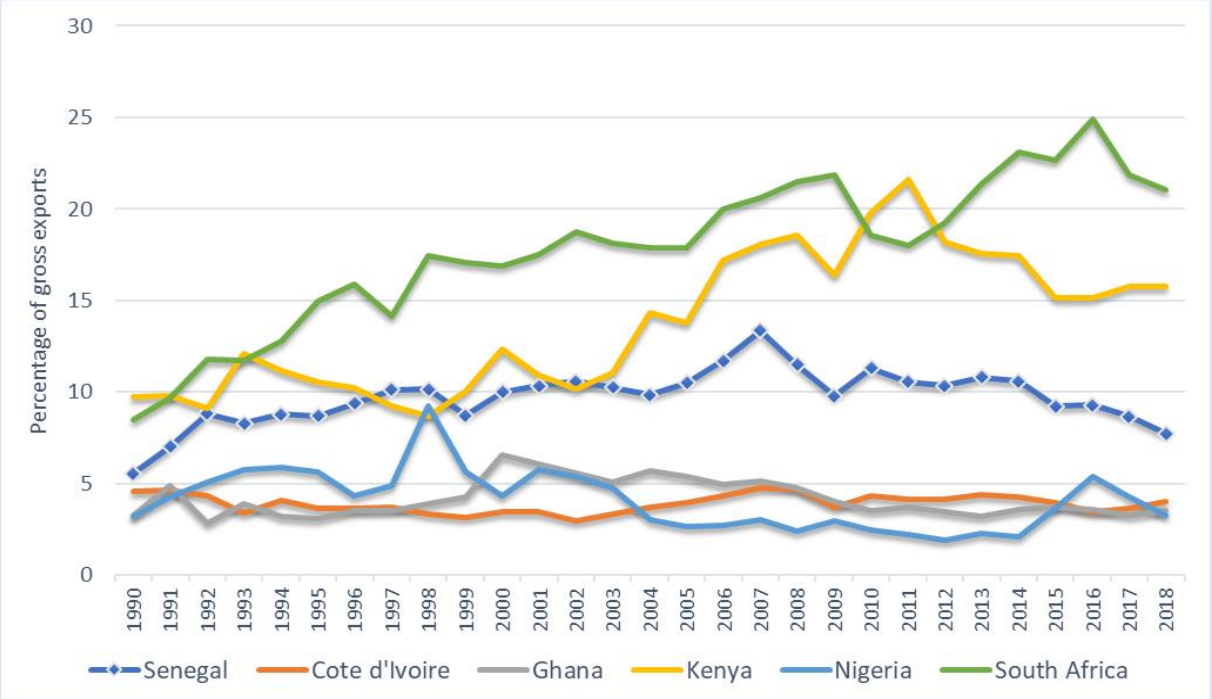
In the same vein, Senegal was found to have a similar pattern and level of integration to the GVC as the other LDCs from Africa (AUC and OECD, 2022). Like most African countries, its forward participation (22.8 per cent vs. 25 per cent for African LDCs) was more important than its backward participation (10 per cent vs. 9.6 per cent for African LDCs). The pattern of GVC participation underlines the critical role played by the processing of primary resources and agriculture in Senegal's contribution in the global value chain. It also highlights the marginal role of manufacturing in general.

Figure 18: Forward integration in global value chains (1990-2018)



Source: UNCTAD Secretariat calculations based on data from UNCTAD-Eora Global Value Chain Database [accessed September 2022]

Figure 19: Backward participation in global value chains (1990-2018)



Source: UNCTAD Secretariat calculations based on data from UNCTAD-Eora Global Value Chain Database [accessed September 2022]

2.2.3 Export potential and product space assessment

The present section discusses potential export diversification opportunities for Senegal. The following identification of such potential export opportunities is based on the product space method (Freire, 2017) and aims to provide a first indication of feasible product groups that could guide elements of a smooth transition strategy and industrial policy decision-making. The analysis is based on UNCTAD's Economic Development in Africa Report (UNCTAD, 2022b) complemented by the export potential assessment of the International Trade Centre (ITC) and the Atlas of Economic Complexity.

In this report, we only list the products that are feasible to produce, indicated by a close proximity to existing export products with a Revealed Comparative Advantage (RCA) > 1, that have a higher-than-average economic complexity and face favorable growing demand conditions[10] (see Box 4 for methodology). Our methodology is a revised version of the one used by the Atlas of Economic Complexity, in that it also considers product upgrading within products, measured by the reported unit values at the HS 6-digit level.[11] Products with higher unit values are also interpreted as "new" products as they usually strongly differ in quality and use.

Box 4. Methodology to identify feasible product diversification opportunities

For the identification of feasible product diversification opportunities, the following indicators and assumptions are applied:

i) Proximity in the Product space

The Product space method (Hidalgo et al., 2007; Hausman and Klinger, 2007) which maps the distance between a country's current exports basket and a new product, is based on how often countries export these products simultaneously. New products should be nearby in the product space in order to have a higher likelihood of success. In this respect, the measure of proximity between products A and B in the product space is calculated the conditional probability that a country exports products A and B. The proximity between two products, therefore, ranges from 0%, in the case in which no country produces both products, to 100% in the case in which all countries that produce one good also produces the other. "Feasible products" are close products with an 80% probability that the country has similar technological capabilities and knowledge to produce those products.

ii) Product complexity index

An expected outcome of export diversification should be an increase in economic complexity to benefit structural change. Therefore, only products of higher-than-average complexity are considered to promote diversification than benefits structural change.

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[10] This is measured through an increasing share of the sectoral imports in total world imports.

[11] The Atlas of Economic Complexity covers approximately 5,000 goods at the 6-digit level, based on Harmonized System (HS) 1992.

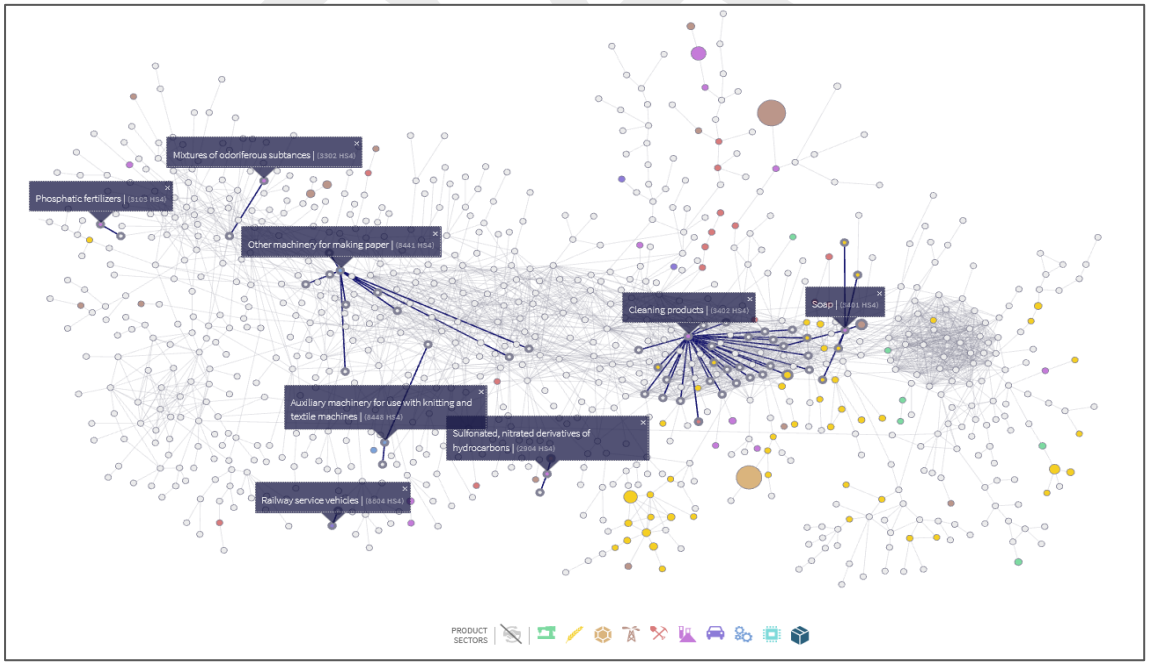
iii) Import demand

There must be actual global demand for these products (the import demand in 2018/2019 is used as an indicator of market opportunity which is, by assumption, the same for each country).

Data are drawn from the UN COMTRADE dataset based on import data reporting bilateral trade using HS commodity classification 1992 (6-digit level) trade classification covering the years 2018/2019 (average). The bilateral trade flow in the same 6-digit classification is sorted by the unit value of the trade value.

The product space method, proposed by Hidalgo et al. (2007) allows linking products to each other, which facilitates the identification of pathways for future diversification into more complex products.[12] While the product space map can inform the direction of active policies, it should not be applied as an automated policy instrument. The formulation of diversification policies requires a thorough assessment that includes economic, social, and environmental considerations of new potential products and services. Senegal's product space for the year 2019 is illustrated in Figure 20, highlighting some of the currently exported products (with a RCA>1) that have a high product complexity and high proximity to potential new products.

Figure 20: Senegal Product space, 2019



Source: Atlas of Economic Complexity (https://atlas.cid.harvard.edu/)

Notes: Each node corresponds to a product (at HS 4 level) and its size is proportional to the country's trade; grey nodes correspond to products that are not exported by Senegal; other nodes are colour-coded according to the sector where Senegal has a RCA>1: green for textiles; yellow for agriculture, beige for stone; brown for minerals; red for metals; purple for chemicals; violet for vehicles; blue for machinery; and light blue for electronics; Selected sectors with high proximity to new sectors are highlighted.

[12] The product space is a geometrical representation of products, built on the notion of proximity between different goods.

The top sectors with highest demand and number of close products are Machinery and mechanical appliances (HS 84: $38 billion), Organic chemicals (HS 29: $24 billion), Electrical machinery (HS 85: $22.2 billion), Pharmaceutical products (HS 30: $22.2 billion), Iron and steel (HS 72: $22.1 billion) and Plastics (HS 39: $21.3 billion). The chemical sectors which include pharmaceutical and plastics shows the highest potential for diversification, which is also confirmed by the Atlas of Economic Complexity.[13] Although the large opportunity value in these manufacturing industries is strongly driven by the technical computation and the high proximity of related products in the product space,[14] it also shows the high potential of the manufacturing sector for diversification and reducing the volatility of concentration of single export products. Incentivizing investment and production into mechanical manufacturing promises spillovers from use of technology, knowledge, and skills. **Table 2** lists the top products groups (ordered by world demand) in the sectors Machinery, Chemicals, and Food processing industries. Diversification through agriculture and the food processing industry remains an important channel (to reduce the vulnerability of the population to droughts and climate change). The largest product diversification opportunities in agriculture are found in Meat and edible meat (HS 02: $5.4 billion), Dairy products (HS 04: $4.9 billion), Cereals (HS 10: $4.2 billion), and Edible fruit and nuts (HS 08: $3.6 billion). Food processing industries with promising diversification potential include Preparations of vegetables, fruit (HS 20: $1.4 billion) and Preparation of meat, of fish (HS 16: $1.3 billion) and Sugars and sugar confectionery (HS 17: $0.6 billion).

The largest potential market in terms of demand is Asia and Europe. Nevertheless, Africa is still an important strategic market due to increasing population and GDP growth, and increased market access and investment opportunities under African Continental Free Trade Area (AfCFTA).

[13] https://atlas.cid.harvard.edu/countries/191/product-table. The list of identified product depends on the assumptions of what is considered as "nearby" and how complex the new products are, explaining some of differences in the list of potential products for diversification.

[14] Especially in the manufacturing of machinery and mechanical appliances there is large number of related products, and therefore, a high chance that a country exports similar products at the same time.

Table 2: Selected potential export diversification opportunities for Senegal, by world demand

HS code	HS Description	World demand (US$ millions)
Machinery and mechanical appliances (HS 84)		
8407	Spark-ignition combustion piston engine	4'177.1
8477	Machinery for working rubber or plastics	2'182.7
8479	Machines and mechanical appliances n.c.e.	2'135.1
8428	Lifting, handling, loading machinery	1'941.3
8419	Equipment for temperature change of material	1'615.4
Organic chemicals (HS 29)		
3002	Serums and vaccines	16'667.9
2933	Heterocyclic compounds with nitrogen-atom only	4'576.9
3004	Medicaments, packaged	4'312.8
3907	Polyacetals	3'686.3
3808	Insecticides, rodenticides, fungicides, etc	3'131.5
Food processing (HS 16-22)		
1602	Prepared or preserved meat	1'022.6
2004	Vegetables prepared or preserved	642.2
1702	Other sugars	574.9
2008	Fruits and nuts, otherwise prepared	271.7
1604	Prepared or preserved fish	261.8

Source: UNCTAD based on UNCTAD, 2022

2.2.4 Regional integration and the AfCFTA

As noted earlier, Africa remains the main destination of Senegal's exports, hence the importance of leveraging the regional market and the implementation of the African Continental Free Trade Area (AfCFTA) to spur structural transformation. While the AfCFTA provides access to a market of 1.3 billion people, with an estimated GDP of $2.6 trillion, Senegal also belongs to two Regional Economic Communities. These are the Economic Community of West African States (ECOWAS), a regional body composed of 15 countries, and to the West African Economic and Monetary Union (WAEMU), a union of 8 countries that share the CFA franc as their currency.[15] This membership of sub-regional organizations

[15] WAEMU's common trade policy is based on:

- A common market was set up on 1 July 1996 for local and unprocessed products and traditional crafts, and until 1 January 2000 for approved industrial products. This common market was extended to all ECOWAS countries in 2004;
- A Customs Union set up on 1 January 2000, based on a Common External Tariff (CET) applicable to all WAEMU member countries, which includes four categories of products, taxed from 0 per cent to 20 per cent, in force until 1 January 2015, date on which the WAEMU CET was replaced by the ECOWAS CET, which enshrines the expansion of the Customs Union to the 15 ECOWAS countries. The CET aims to harmonize customs duties and taxes with a view to deepening economic integration through the establishment of a Customs Union, the establishment of a platform for building the common trade policy and regional trade negotiations such as the Economic Partnership Agreements with the European Union; stimulate regional production and investment capacity and consolidate the regional market.

provides access to a community market of approximately 300 million consumers, strengthens the intra-community competitiveness of businesses and facilitates the free movement of people, goods, services and capital. It contributes to macroeconomic stability in member countries through mutual surveillance, the establishment of a common external tariff and the harmonization of sectoral policies.

A number of previous studies have highlighted the scope for the AfCFTA to support Africa's industrialization objectives and foster the emergence of viable regional value chains, especially in relation to manufacturing products. Ex-ante economic analyses have suggested that the AfCFTA could generate substantial welfare gains and open new opportunities for diversification (Abrego et al., 2019; Depetris Chauvin et al., 2017; IMF, 2019; Mevel and Karingi, 2013; Saygili et al., 2017; UNCTAD, 2021b; World Bank, 2020). While the precise results vary from one study to another, depending on the theoretical assumptions, methodological choices, baselines and scenarios adopted, they concur in suggesting that:

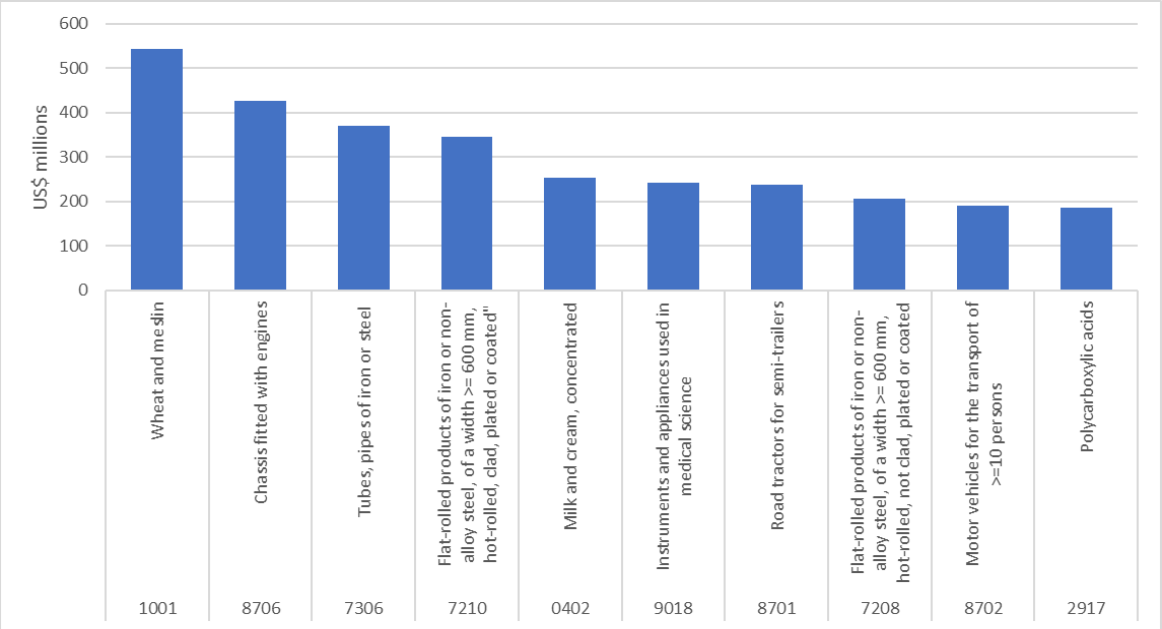
1. Tariff liberalization within Africa is found to create meaningful welfare gains – about one percent per cent of real income, albeit with large variation across countries – but these are far exceeded by the benefits of reducing non-tariff barriers.
2. The AfCFTA would significantly boost intra-African trade and (to a lesser extent) Africa's total exports, particularly if trade costs and non-tariff barriers are also addressed.
3. Tariff revenue losses would be limited for the majority of African countries, and where the reduction in non-tariff barriers is also considered, all African countries accrue significant net gains (Mevel and Karingi, 2013; World Bank, 2020).
4. The bulk of the increase in intra-African trade would be accounted for by manufacturing products, suggesting that the AfCFTA would support economic diversification.

To complement the above body of evidence, the export potential methodology is applied in this sub-section with particular reference to the regional market. The sectors with a high demand on the continent promising product diversification opportunities are Machinery and mechanical appliances such as Machinery for working rubber or plastics (HS 8477: $0.2 billion), Iron and steel (e.g., Flat-rolled products of iron or non-alloy steel (HS 7210: $0.3 billion)), and Vehicles (e.g., Chassis fitted with engines (HS 8706: $0.4 billion)). Figure 21 lists the top 10 product groups with export opportunity in Africa, summarized at the 4-digit

- Rules of origin and common competition, harmonization of Value Added Tax and excise duties, harmonization and mutual recognition of standards, common safeguard and protection measures—degressive protection tax (a protective measure against the effects induced by the adoption of the CET), Special import tax (a tax to protect a country against erratic variations in the prices of agricultural products), and anti-dumping duties (ANSD, 2021b).

product level. The largest potential markets in terms of their demand are Egypt with 26 per cent of total demand, followed by Morocco (11 per cent) and Nigeria (11 per cent).

Figure 21: Top 10 product groups with diversification potential and high demand in Africa, Senegal



Source: UNCTAD secretariat calculations based on UNCTAD, 2021
Note: the potential products for diversification are sorted by the demand value.

An important step towards increasing exports is not only promoting diversification, but also tackling barriers to trade that hinder current exports to grow. On the continent, barriers stem from tariffs and non-tariff barriers such as the lack of quality infrastructure, diverging regulatory requirements, lack of market information of export opportunities and lack of business contacts. Such barriers cause a high untapped potential of intra-regional trade of $21.9 billion (UNCTAD, 2021c).

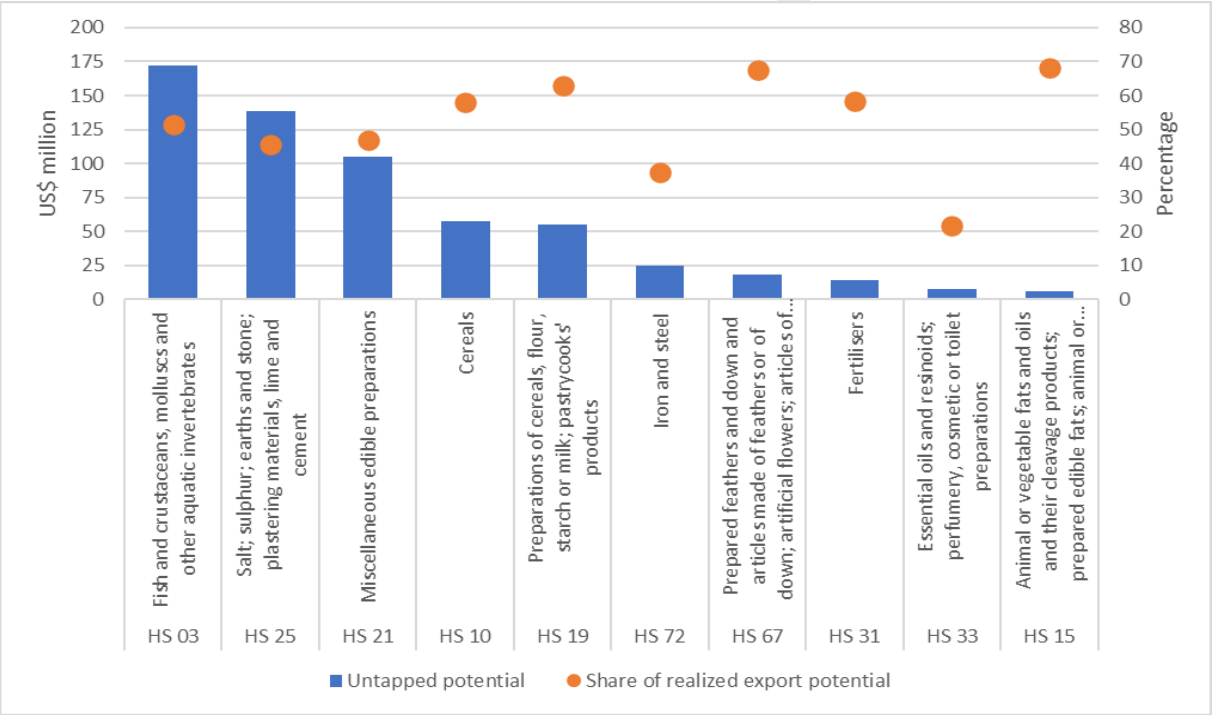
In this respect, according to the above study, Senegal has currently an untapped potential of exports to Africa of $658 million, equivalent to about 49 per cent of the already realized export potential. The sectors with the largest absolute untapped export potential are Fish and crustaceans (HS 03: 172 million, 52 per cent of realized potential), Salt, sulphur (HS 25: 183 million, 46 per cent), Miscellaneous edible preparation (HS 21: 105 million, 47 per cent) and Cereals (HS 10: 57 million, 58 per cent) (Figure 22). Portland cement shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth $122 million.[16] In the sector of processed foods, soups and

[16]https://exportpotential.intracen.org/en/products/tree-map?fromMarker=i&exporter=686&toMarker=re&market=1&whatMarker=k

broths preparations (HS 210410: 109 million) and Malt extract (HS 190190: $57 million) promise export growth from tackling trade barriers.

Senegal is also expected to gain some $81 million (equivalent to an additional 6 per cent increase) from partial tariff liberalization, where LDCs liberalize over a period of 10 years and non-LDCs over 5 years. This shows that tackling non-tariff barriers and improving market information could be the main sources of export growth to Africa.

Figure 22: Senegal, top 10 sectors with untapped export potential to Africa



Source: UNCTAD secretariat calculations based on UNCTAD, 2021

2.3 Social development and related challenges

With a mean population age of 19 years, Senegal is characterized by a very young population, more than half of which under the age of 20 (52%), while people aged 65 and above represent 3.6% of the country's total population. According to ANSD, in 2021, more than half of Senegal's population lived in rural areas (roughly 53%) compared to 47% in urban areas. In particular, nearly a quarter of the population of Senegal (23.2%) live in Dakar region (Capital city Dakar and its surroundings), an area representing 0.3% of the total area of the country. In 2021, Senegal had a Human Development Index (HDI) value of 0.511, which positions it

among the low human development group of countries, ranked 170 out of 191 countries.[17] Despite the remarkable improvements achieved over the last two decades – the HDI was 0.394 in the year 2001 and 0.482 in 2011 – the value of the HDI for 2021 reflects a small decline (-0.002) compared to 2020.

These figures confirm that Senegal has witnessed significant improvements in terms of social development in recent years, but related outcomes remain a source of concern. Renewed economic dynamism has benefitted ample portions of the Senegalese population, especially in urban settings, but regional disparities and inequalities remain an issue. Moreover, large segments of Senegalese population continue to be vulnerable to adverse shocks, including most recently the lingering impacts of the COVID-19 pandemic, and of the "cost-of-living crisis" that was triggered by the shockwaves of the war in Ukraine.

Against this background, while a range of indicators related to social development dimensions will be reviewed in section 3 (especially in relation to the Human Asset Index), this subsection aims at providing more context on Senegal's underlying socio-economic features. The text below will hence discuss labour market structure, informality, and poverty, while presenting – wherever possible – evidence on the impact of the COVID-19 pandemic and of the ongoing "cost-of-living crisis".

2.3.1 Structure of the labour market

This section presents information on the structure of the labour market, using data from the National Employment Survey in Senegal (ENES) carried out by the national statistics agency (ANSD). According to the ANSD, more than half (55.8 per cent) of the population of working age (15 years or more) participated in the labor market in the fourth quarter of 2021. The participation rate declined by 2.1 percentage points compared to the same period in 2020 and varied according to geographic location (57.2 per cent in urban areas versus 54.3 per cent in rural areas) and gender (64.5 per cent for men versus 48.8 per cent for women).

The employment rate, which is measured as the proportion of population in employment in the working-age population, was 39.3 per cent in the fourth quarter of 2021, down 4.0 percentage points compared to the fourth quarter of 2020 where it was estimated at 43.3 per cent. It was higher in urban areas (45.0 per cent) than in rural areas (33.0 per cent). Additionally, women, who constitute more than half of the working-age population, have a lower (at almost half the rate of men) employment rate than men since 53.0 per cent of men of working age have a job but merely 28.2 per cent of women do. Salaried employment accounts for 39.4 per cent of the employed population and varies according to gender with

[17] As a matter of fact, Senegal's ranking according to HDI is 10 places lower than its ranking under GNI per capita, suggesting that economic welfare could translate more effectively into human development outcomes.

employed men receiving a salary against 29.4 per cent of employed women. Salaried employment is also more prevalent in urban areas (48.5 per cent), than in rural areas (25.9 per cent).

By the end of 2021, following the COVID-19 crisis, the unemployment rate was estimated at 24.5 per cent, an increase of 7.8 percentage points compared to 2020. The unemployed, as defined by the International Labour Office (ILO), include all persons of working age who during the reference period were without work, available to work for a period of two weeks and looking for work over the four-week period preceding the survey interview date. However, this definition is restrictive given the Senegalese labour market is not well structured for job search. Consequently, unemployed persons who are available but do not actively seek employment for reasons deemed beyond their control are counted among the unemployed and thus taken into account in determining the level of unemployment in the country. Unemployment is higher in rural areas where the rate is estimated at 29.8 per cent versus 19.1 per cent in urban areas. Unemployment also affects women more (35.8 per cent) than men (13.0 per cent).

In terms of the distribution by age group in the labour market, the most recent available data from the ENES survey published in 2020 is presented in Table 3. The data shows that the working age population was predominantly female (51 per cent) and young. Individuals below 35 years accounted for nearly 60 per cent of the working age population, and individuals below 25 years accounted for approximately a third of the same population. Furthermore, 74.2 per cent of the working age population either have never attended school (57.7 per cent) or merely have a primary school level (16.5 per cent). The proportion of people with a higher education level is estimated at nearly 5.0 per cent. The low level of education of the working-age population is more accentuated in rural areas where more than 85 per cent have, at most, a primary school level, and less than 1 per cent have a tertiary education.

Geographically, the labour force is fairly evenly distributed between urban and rural areas, with a slightly greater concentration in urban centers (51.1 per cent). On the other hand, the age profile of the labor force differs considerably from that of the working age population in that the share of the young population aged below 35 accounts for no more than 50 per cent of the labor force as opposed to 58 per cent of the working age population. Such a lower labour force participation stems from the fact that a significant proportion of youth are still at school. For the same reason, the proportion of people with secondary education is greater in the working age population than in the labour force, with labour force participation for those with secondary education being the lowest among all education groups (40.7 per cent vs. 67 and 69 per cent for those with lower qualification and 55 per cent among people with a higher education degree).

Table 3: Working-age population by gender, age and education

	2018		
	National	**Urban**	**Rural**
Gender			
Male	48.7	50.7	46.5
Female	51.3	49.3	53.5
Age			
[15-24]	33.7	33.1	34.3
[25-34]	24.7	26.1	23.1
[35-44]	16.9	17.4	16.4
[45-59]	15.2	14.8	15.7
> 60	9.6	8.7	10.5
Education			
None	57.7	40.1	76.5
Pre-school/Primary	15.2	20.4	9.6
Secondary	22.4	31.1	13
Higher	4.8	8.4	0.8

Source: UNCTAD secretariat calculations based on ANSD, ENES, 2020

The distribution of the labour force by gender also reveals greater underutilization of female labour. Women represent only 42.4 per cent of the labour force although they make up nearly 51.0 per cent of the working age population. This underutilization of female labour is greater in urban areas where men account for approximately 58 per cent of the labour force. The data presented in Table 4 suggest that women and the youth are disproportionately underrepresented in the Senegalese labour force, which is largely unskilled and ill-qualified, especially for manufacturing and productivity-generating sectors that are thought to spur economic growth.

Table 4:Labour force by gender, age, and education

	2018		
	National	**Urban**	**Rural**
Gender			
Male	56.6	58.2	54.9
Female	43.4	41.8	45.1
Age			
[15-24]	21.4	17.4	25.6
[25-34]	29	31.7	26.3
[35-44]	22.8	24.7	20.8
[45-59]	20	20.4	19.6
> 60	6.8	5.8	7.8
Education			
None	63.6	45.4	82.6
Pre-school/Primary	17.6	25.6	9.3
Secondary	14.4	21.4	7.2
Higher	4.3	7.6	0.9

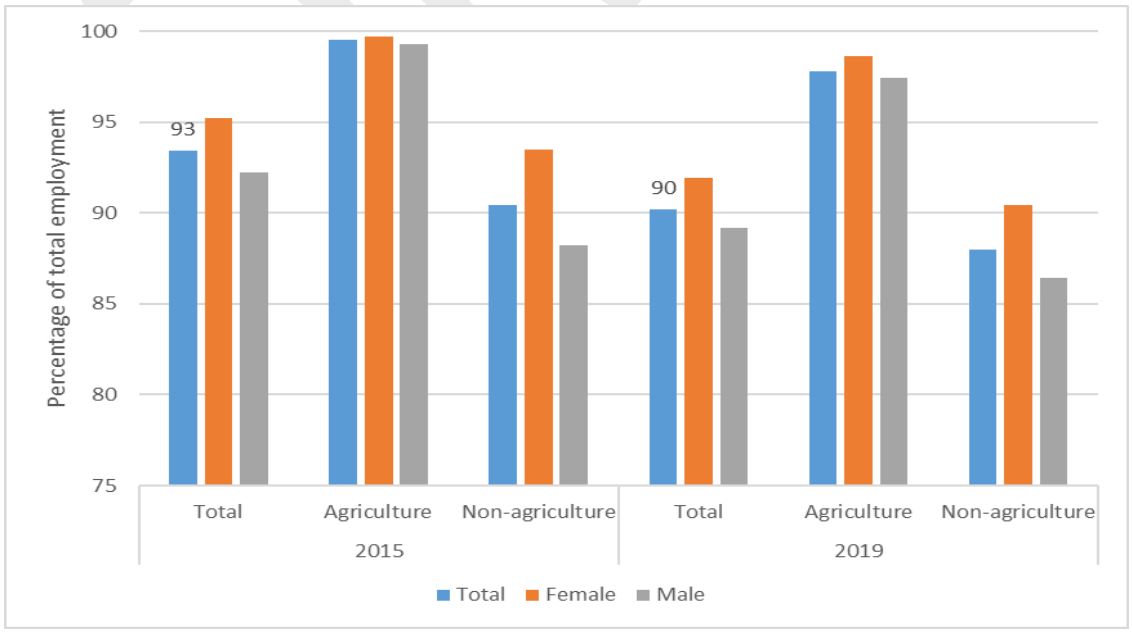
Source: UNCTAD secretariat calculations based on ANSD, ENES, 2020

2.3.2 Informality

The Senegalese economy is characterized by a very strong presence of the informal sector, which contributed an estimated 45.8 per cent of GDP in 2020 (calculations based on GDP data from ANSD). The informal economy is intrinsically hard to categorize in a clear-cut way, as it typically encompasses a broad array of actors and activities. Therefore, there is a lack of a commonly agreed and internationally comparable definition of what constitutes the informal sector. According to the national reporting framework, the informal sector is defined as all the production units that do not keep accounts that comply with the accounting standards of the West African Accounting System (SYSCOA). By contrast, according to the ILO – which is the custodian of SDG indicator 8.3.1 – informal employment comprises own-account workers, self-producers, contributing family workers, and employees holding informal jobs (i.e. occupations that are not regulated by labour legislation, taxation or social protection) within formal or informal enterprises.

The informal sector is prevalent in almost all branches of the economy and is a major provider of jobs. With reference to the SDG indicator 8.3.1, Figure 23 shows that informal employment accounts for approximately 90 per cent of employment in Senegal in 2019, with a minor decline compared to 2015. Informal employment appears to be omnipresent in the agricultural sector and accounts for some 88 per cent of employment in non-agricultural activities.

Figure 23: Proportion of informal employment in total employment by sex and sector



Source: UNCTAD secretariat calculations based on data from ILOstat [accessed December 2022]

Women, young people, and people with low level of education are the most susceptible to work in the informal sector or to have an informal employment. Overall, 94 of women entrepreneurs operate in the informal sector compared to 86 of men. More than 90 of youth employment is in the informal sector.[18] Furthermore, the level of education is a determining factor in that the informality rate of economic units decreases with entrepreneurs' level of education. In fact, while almost all uneducated entrepreneurs manage informal economic units, this proportion decreases with the level of education (International Labour Organization, 2020).

By hiring a large share of unskilled labor, the informal sector offers a low barrier to entry for women and most young people who leave the school system with little qualification. As formal labor demand is insufficient to absorb the majority of low-skilled workers, the informal sector ends up being an essential pillar in the fight against precariousness, unemployment, and underemployment. However, evidence from the National Survey on Employment in Senegal (ANSD, 2016) suggests that workers in informal employment face great challenges in terms of decent work, and experience greater precariousness, and increased exposure to risks (including excessive working hours and the lack of protection), low wages and profits. Moreover, despite the implementation of the Single Global Contribution (CGU), the informal sector contributes only marginally (3 per cent) to domestic tax revenue (Direction de la Prévision et des Etudes Economiques, 2018)

While providing much-needed employment, questions remain on the long-term contribution of the informal sector to sustainable development. The Senegalese entrepreneurial landscape tends to be dominated by a plethora of micro and small enterprises with a few large players accounting for sizeable market shares (including several state-owned enterprises), and evidence of the so-called "missing middle" (UNCTAD, 2018). The predominance of smaller businesses tends to be even more pronounced among informal establishments, many of which are created by "entrepreneurs by necessity", rather than opportunity-driven ones. The productivity levels of these informal production units tend to be low, due to the lack of adequate infrastructure, the difficulty of access to financing and inputs, and the lack of capital.

Domestic credit to the private sector has increased significantly over the last decade, from 11 per cent of GDP in 2001 to 29 per cent in 2020, but remains far below the level of other African countries like Morocco, Tunisia, or South Africa. Moreover, credit constraints affect smaller enterprises disproportionately. Even though they account for 99 per cent of Senegal's

[18] (International Labour Organization, 2020) carried out a mapping that showed that the proportion of informal economic units decreases with the increase in the age of the entrepreneur and the seniority of the company.

"economic entities" and about 70 percent of the labor force, micro small and medium enterprises only receive 8 per cent of total financing from financial institutions (IFC, 2020).

The above constraints also imply that smaller firms face greater challenges to reach adequate scale economies and invest in long-term assets such as machinery and advanced technologies. Accordingly, while smaller informal firms may play a role in technology adoption and diffusion at the "bottom-of-the-pyramid" (for instance through trade of solar rechargers), it is larger – and mostly formal – enterprises that are likely to spur productivity growth and technological upgrading (UNCTAD, 2017, 2018). Similarly, if the use of simple digital tools and e-commerce platforms (think of Facebook marketplace) is within reach of a fairly good number of even informal enterprises, it is often the more established entrepreneurs or larger firms that can afford investing in complementary skills to engage with digital technologies in deeper and more transformative ways (UNCTAD, 2020a).

The relationship between formal and informal establishments, however, is varied and multifaceted, spanning from the perceived threat of unfair competition to the subcontracting of some production. Moreover, the dichotomy between formal and informal establishment is far more blurred than one may initially think. Whether an enterprise is in the formal or the informal sector is essentially the result of a strategic decision on the part of the entrepreneur, based on the costs and benefits of formalization. This relates, in part, to the time and financial costs of the formalization process, but also to the financial and non-financial costs and benefits of being a formal entity, be it in terms of regulations or access to finance and technology. Red tapes and cumbersome registration procedures can certainly represent a significant obstacle, hence the value of business facilitation initiatives such as eRegulations Sénégal, an online information service maintained by the Agence pour la Promotion des Investissments et des Grands Travaux (APIX). Yet, there is also some evidence that the incentive structures created by entry regulations may affect the size of informal establishments and post-registration firm performance (Amin and Islam, 2015; Williams et al., 2017). For some enterprises, at least, informality may be the result of a deliberate strategic decision on the "optimal degree of participation in formal institutions" (Maloney, 2004: 1173). Understanding the nature of this process is important, both to disentangle the potential contribution of informal enterprises to structural transformation, and to enhance the formulation of enterprise policies.

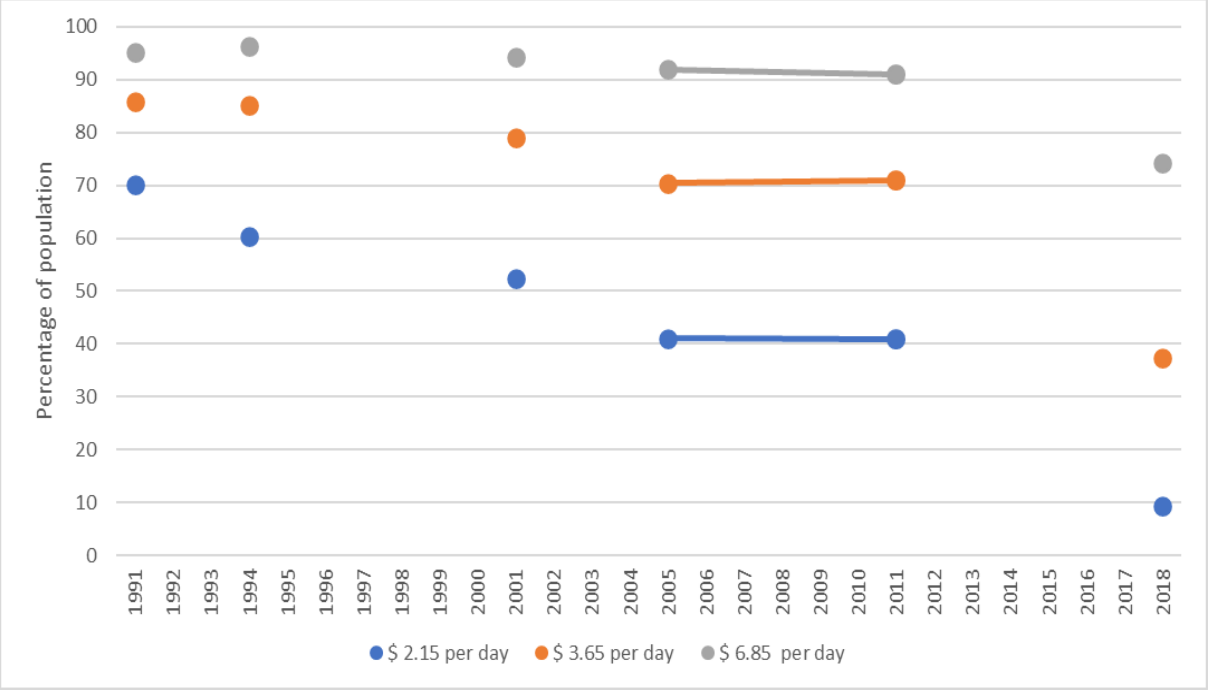
2.3.3 Poverty and inequality

The last nationally representative survey on household living conditions (Enquête Harmonisée sur le Conditions de Vie des Ménages EHCVM survey) was conducted in 2018-2019 and aimed at understanding monetary and non-monetary poverty in Senegal. Unlike the previous

household surveys, the 2018-2019 one followed a harmonized methodology common to all WAEMU countries. While this methodological innovation allows for comparability across WAEMU economies, it poses issues of comparability over time, to the extent that in recent years only the surveys referring to 2005 and 2011 are fully comparable (World Bank, 2023).

With this premise, the long-term trend in poverty headcount ratio for the three international poverty lines (respectively $2.15, $3.65 and $6.85 per day, all measured at 2017 Purchasing Power Parity) are depicted in Figure 24. Despite some caution warranted by the limited comparability over time, the graph points to a downward trend for all poverty lines, the decline measured against the two lowest international poverty lines being far more pronounced than for the highest one. Accordingly, in 2018, roughly 1.5 million Senegalese (9.3 per cent of the population) was living in extreme poverty (i.e. below $2.15 per day), 5.8 million were below $3.65 per day (37.4 per cent of the population) and 11.6 million people (74.3 per cent of the total) below $6.85 per day. Data also suggests that rapid growth (especially between 2011 and 2018) was accompanied by a remarkable increase in median income and a corresponding decline in the poverty gap. Indeed, according to the 2018 survey, the poverty gap for the $2.15 per day poverty line was 0.017, implying that a theoretical redistribution of roughly two per cent of income would be sufficient to lift everyone above the extreme poverty line.

Figure 24: Poverty headcount ratio in Senegal, according to different international poverty lines

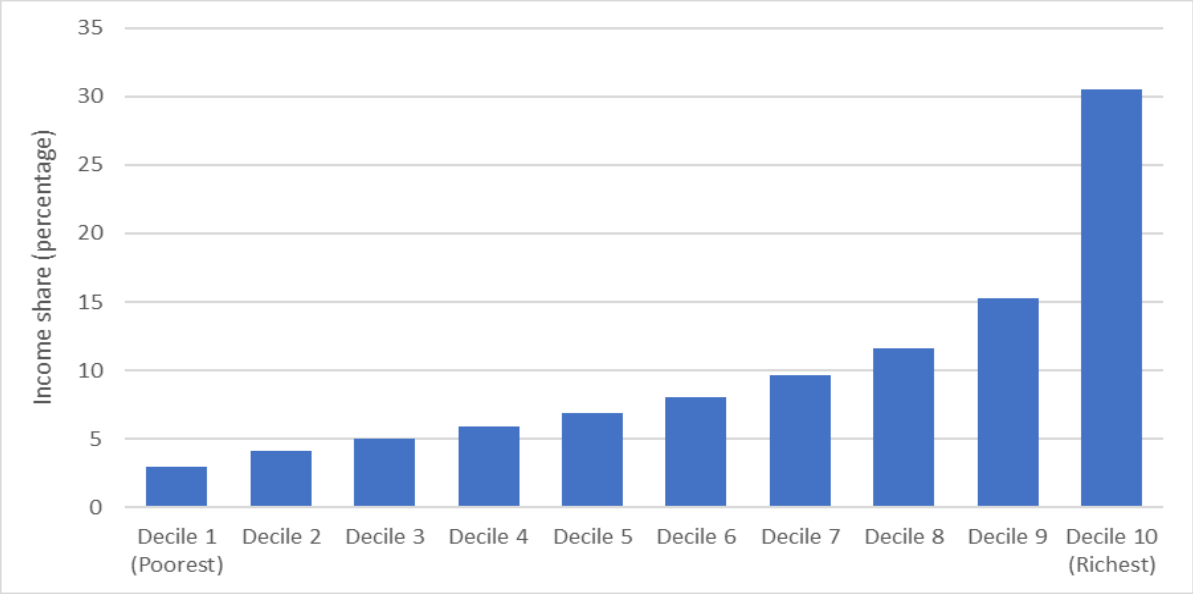


Source: UNCTAD secretariat calculations based on data from World Bank's Poverty and Inequality Platform

Although the above data shows a trend of improved well-being and declining poverty rates, inequality appears to have remained a persistent feature of the Senegalese economy. Despite rapid economic dynamism, the Gini coefficient decreased only marginally between 2001 and 2018, dropping from 0.41 to 0.38; similarly, over the same period the Palma ratio went from 2.0 to 1.7.[19] Considering the 2018 survey (i.e. the latest available), Figure 25 shows the distribution of income by population deciles. The poorest decile of the population accrued some 2.9 per cent of the income, while the richest decile received 30 per cent of the total (that is twice as much as the second-richest decile of population).

In the same vein, the available evidence points to wild spatial inequalities, notably between urban and rural areas. According to the 2023 Common Country Assessment, more than half of the rural population is below the national poverty line (53,6%), while the headcount ratio is 9.7 per cent in Dakar and 29.9 per cent in other urban areas (Nations Unies, forthcoming). Similarly, rural households lag behind urban ones in terms of access to basic services, such as improved water and sanitation services.

Figure 25: Income share by decile of population (2018)



Source: UNCTAD secretariat calculations based on data from World Bank's Poverty and Inequality Platform

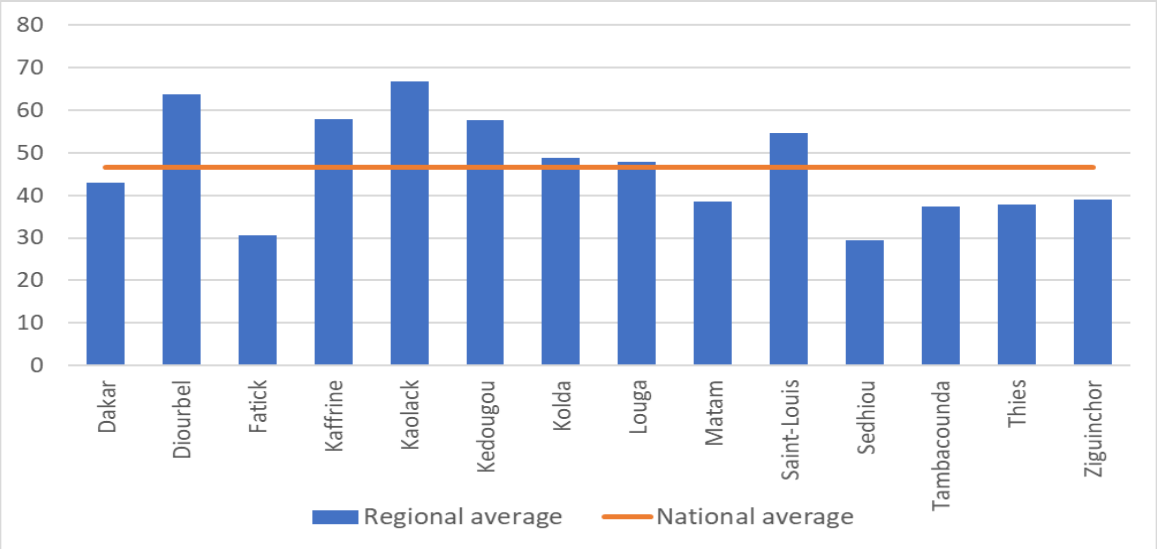
Though extremely useful, the 2018 national household survey is by now very likely to underestimate the incidence of poverty Senegal, since it does not consider the significant impact of the COVID-19 pandemic and its legacy of deprivation. Rapid surveys based on Computer Assisted Telephone Interviews for instance showed that 85 per cent of the

[19] The Palma ratio is defined as the ratio between the share of income/consumption received by the richest 10 per cent of the population divided by the share of all income received by the poorest 40 per cent.

respondents suffered a loss of income, with relatively similar incidence between rural and urban areas, as well as between women and men (UNWOMEN, UNHCHR, UNICEF, ANSD, 2020; UNICEF, 2021). The shock also affected households' consumption patterns, with 68 per cent of households declaring that they had readjusted their usual expenditures to a tighter budget constraint. Examples of coping strategies typically included the reduction in the quality of food or size of the meals, the postponement or cancellation of purchases of cloths and toys, but also the recourse to borrowing and the decision to take up additional small jobs.

Face-to face survey interviews conducted by Afrobarometer between December 2020 and January 2021 with a representative sample of 1200 Senegalese households confirm that, even though the number of cases was relatively circumscribed (thanks partly also to the efforts and information campaigns put in place by the government) the socioeconomic impact of the pandemic was much more severe.[20] Nationwide, 46 per cent of the respondents declared that they lost some income due to the pandemic, with almost equal percentages in urban and rural areas but a large variability across regions. The share of respondents reporting a loss of income due to COVID-19 in Kaolak or Diourbel was nearly twice as high as in Fatick and Sedhiou (Figure 26). Moreover, the economic fallout from the pandemic appears to have hit poorer categories disproportionately: if close to 60 per cent of petty traders and unskilled workers reported having suffered a decline in income, this percentage was less than 30 per cent among white collars and 15 per cent among those employed in security (policy, army, private security).

Figure 26: Percentage share of respondents reporting a loss of income due to COVID-19, by region



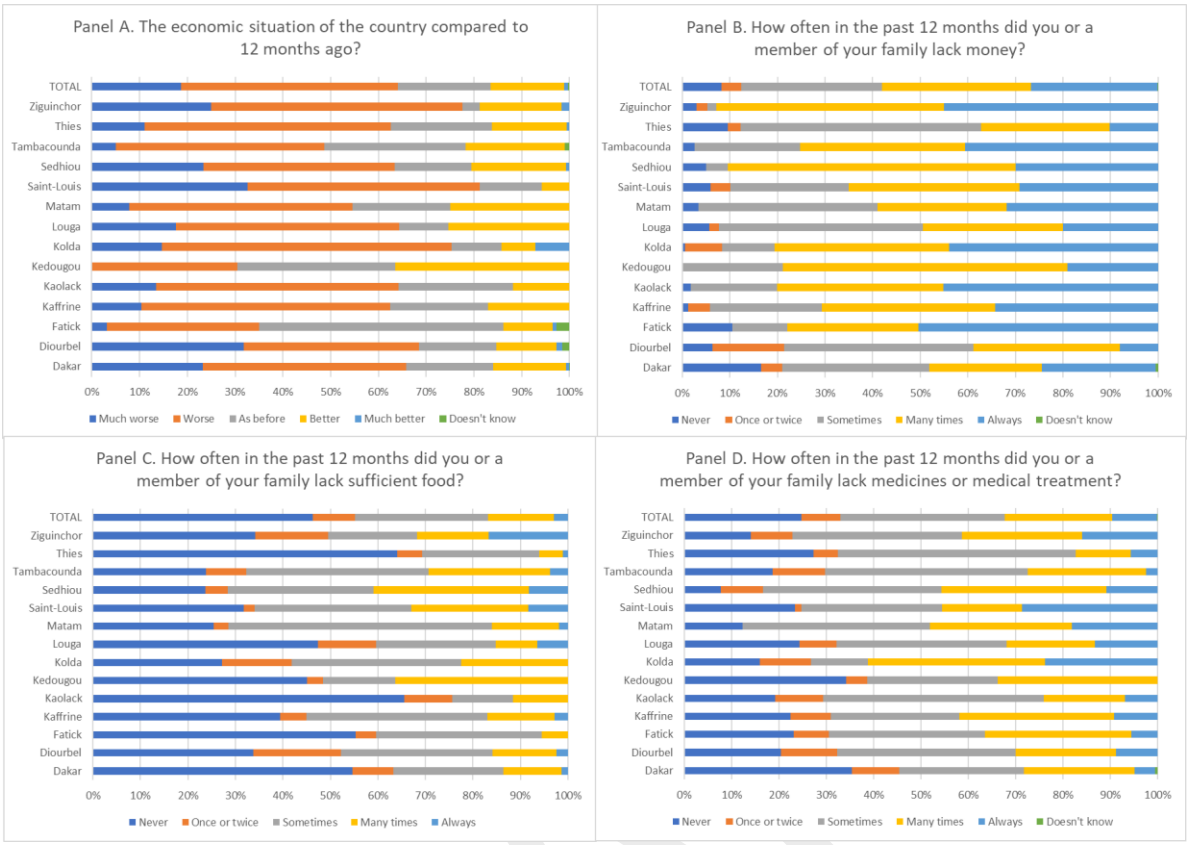
Source: UNCTAD secretariat calculations, based on data from Afrobarometer survey (Round 8)

[20] The Afrobarometer survey (round 8) uses a clustered, stratified, multi-stage, area probability sample design to generate a sample that is a representative cross-section of all citizens of voting age. Throughout the discussion sample weights have been used when computing the incidence of the different replies, so as to generate a representative picture.

More broadly, nearly half of the respondents reported that the state of the economy was "Very bad" (19 per cent) or "Bad" (27 per cent), with another 13 per cent replying "Neither bad nor good". Moreover, at a national level roughly two thirds of the interviewees felt that the economic situation had worsened compared to a year before, with peaks of nearly 80 per cent in Saint Louis and Ziguinchor (Figure 27, Panel A). Afrobarometer's microlevel data also show that the economic slowdown triggered by the pandemic was accompanied by a deterioration in material wellbeing, from monetary poverty to food insecurity and more challenging access to medicines and medical treatment. At a national level, when asked about how often they (or their family members) had experienced lack of money in the last 12 months, 27 per cent of interviewees reported "Always", another 31 per cent replied "Many times" and 29 per cent answered "Sometimes" (Figure 27, Panel B). The areas of Dakar, Thies, and Diourbel were the only ones where the reported incidence of frequent or permanent lack of money (i.e. "Many times" and "Always" answers respectively) was below 50 per cent; at the other end of the spectrum, in the regions of Sedhiou and Ziguinchor it exceeded 90 per cent of the respondents. Based on survey responses, access to sufficient food and medicines were somewhat less affected than monetary income, but the crisis still took a heavy toll on these dimensions. Nationwide, 3 and 14 per cent of the respondents reported lacking access to sufficient food "Always" or "Many times", but these figures were much higher in the regions of Kedougou, Sedhiou and Ziguinchor, where 1 in 3 respondents experienced hunger (Figure 27, Panel C). Moreover, as many as 28 per cent of the interviewees, nationwide, experienced food shortages "Sometimes". At the national level, 9 and 23 per cent of the households reported a lack of access to medicines or medical treatment "Always" or "Many times", with another 35 per cent having experienced that "Sometimes" (Figure 27, Panel D). Again, the survey suggests wide disparities across regions, with more than half of the respondents from Kolda reporting severe lack of access to medicines or medical treatment, while in Thies this percentage was less than 20 per cent.

Overall, by 2022 the World Bank estimates that the incidence of poverty at $ 2.15, $3.65, and $6.85 international poverty lines (all measured in 2017 PPP) were respectively 9.1 per cent, 36.9 per cent and 73.3 per cent; that is basically the same levels as 2018. Estimates through the so-called "line-up procedure" should however be taken with caution, since the possibility of lingering scars, with people sliding from transient poverty to persistent poverty because of the series of temporary shocks, cannot be discounted.

Figure 27: Key microlevel data on the impact of the COVID-19 crisis, total and by region



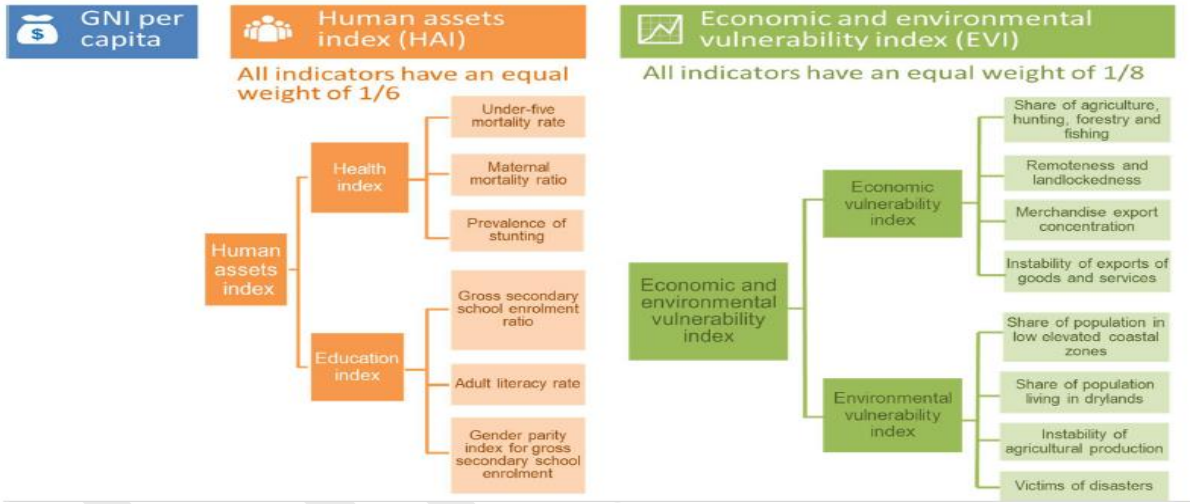
Source: UNCTAD secretariat calculations, based on data from Afrobarometer survey (Round 8)

3. The 5 Ps and the LDC criteria: between progress and lingering vulnerabilities

Having outlined the broader transformational context in which the graduation from the LDC category takes place, this section assesses more specifically the performance of Senegal under the so-called 5Ps of sustainable development, namely People, Planet, Prosperity, Peace and Partnership. These represent the guiding principles of sustainable development, whose aim is to ensure human well-being, economic development and environmental protection, and to address certain aspects such as peace, the rule of law and governance, in the context of a partnership approach to implementing the 2030 Agenda for Sustainable Development (United Nations, 2015). The discussion of the first three Ps – Prosperity, People, and Planet – can be linked to the appraisal of Senegal's performance against the criteria for LDC graduation (and inclusion), namely, the per capita income criterion, the Human Assets Index (HAI) and the Economic and Environmental Vulnerability Index (EVI). The two remaining Ps, Peace and Partnership, will instead be approached by looking at a broader set of indicators.

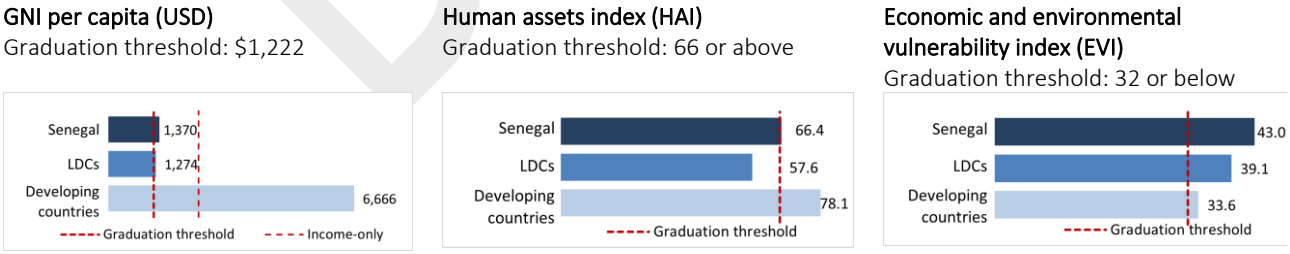
It is worth specifying that a detailed discussion of the mechanics of graduation and of the methodology to compute the criteria is beyond the scope of this report; interested readers can refer to UNCTAD (2016) and CDP and DESA (2021). The structure of the LDC criteria currently applicable was defined in the 2021 triennial review and is summarized in Figure 28. According to this definition of the criteria, Senegal met the graduation criteria for the first time in 2021, by exceeding the income threshold for graduation (its Gross National Income - GNI per capita being $1'370 compared to a threshold of $1'222 or above) and meeting – albeit narrowly – also the HAI threshold (Senegal's HAI value being 66.4 compared to a threshold of 66 or above). However, the country's EVI remained considerably above the graduation threshold with a value of 43 vis-à-vis a threshold of 32 or below, which implies that Senegal has not met this specific criterion (Figure 29).

Figure 28: Current structure of the criteria for identification and graduation of the least developed country



Source: CDP, 2020:2.

Figure 29: Senegal's performance against the graduation criteria as per 2021 triennial review



Source: DESA and CDP (2021: 75)

3.1 Prosperity

Many of the issues that could be discussed under the rubric of prosperity have been addressed in earlier section of this document; the present discussion hence focuses on trends in GNI per capita – which is the specific indicator underlying the first criteria for LDC graduation – complemented by some considerations on access to basic infrastructural services. Even though these latter dimensions are not explicitly considered in the LDC criteria, they nonetheless speak to the inclusiveness of prosperity and to the patterns of multidimensional deprivation that sustainable development is ultimately expected to redress.

Over the last two decades Senegal has made strides in terms of improving the average prosperity of its people, as discussed earlier. By and large, the upward trend that emerged in relation to GDP per capita is replicated also in the case of GNI per capita. Between 1970 to 2021, Senegal's GNI per capita has increased from $320 to $1,540, growing at an average annual rate of 2.36 per cent (compared to a growth rate of GDP per capita of 2.70 per cent). In real terms – that is measuring GNI per capita in constant 2015 dollars instead of using the Atlas method of conversion – the expansion of GNI per capita corresponds to an increase of 0.43 per cent per year.

As shown in Figure 30, Senegal's long-term trend reflects three distinct phases. Between the 1970s and early 1980, Senegal's GNI per capita expanded at a relatively fast pace, but this progress suffered an abrupt stop with the debt crises of the early 1980s. Then, until the 2002 the variable experienced some ups and downs but by the end of the century it was again at around the same level (roughly $600 per person). The inflection point took place with the new millennium, when the GNI per capita doubled in less than a decade, later progressing more gently since the aftermath of the global financial and economic crisis of 2008-2009.

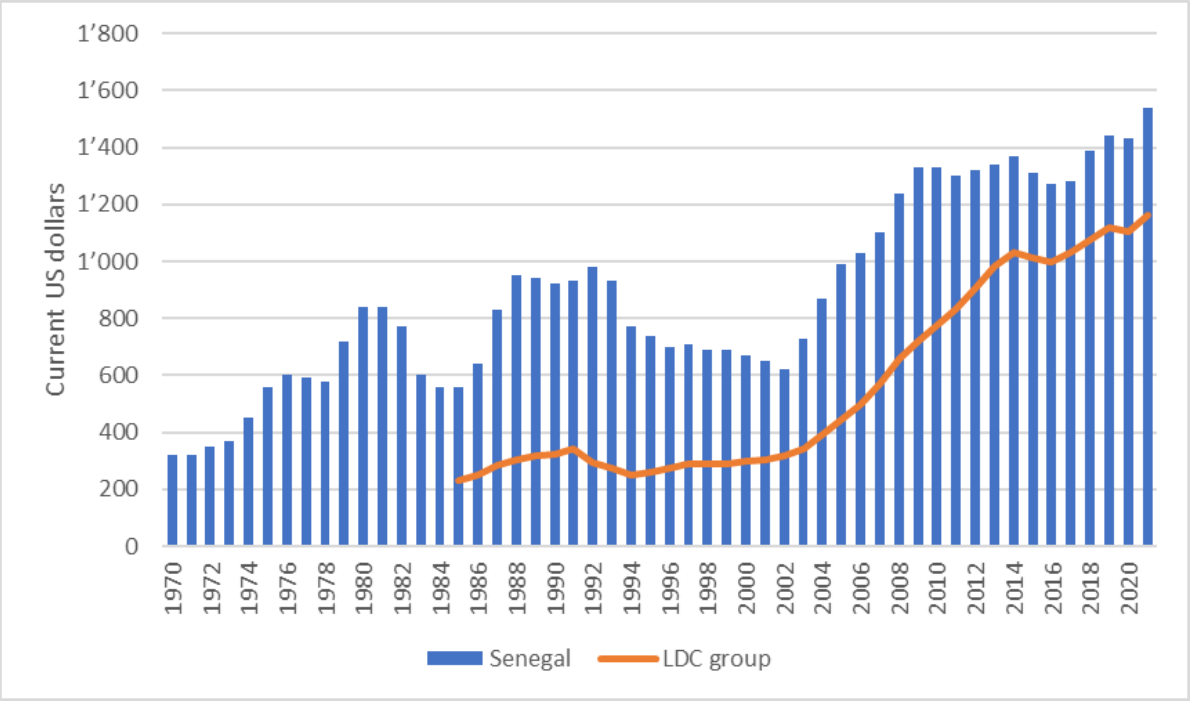
As shown in the picture, this trend broadly resembles that of GNI per capita for the whole LDC group. Although Senegal's GNI per capita has grown at a slightly lower speed than that of the LDC group, its level consistently remained well above the latter, exceeding it by some 33 per cent over the last decade. If the rebound from the pandemic was relatively strong, it remains to be seen, however, how the country will withstand the delicate outlook for the global economy, including the impact of the "cost-of-living crisis" triggered by the war in Ukraine.

Though monetary income is an important driver of sustainable development outcomes, the earlier evidence of persistent inequality and regional disparities suggests that it is important to go beyond an average assessment of the GNI and also investigate potential pockets of multidimensional deprivation.[21] In this respect, to complement the assessment based on GNI

[21] According to 2019 data, the population in multidimensional poverty, nationwide, was estimated at 50.8 per cent, with large spatial variations. The incidence of multidimensional poverty ranged from 18.3 per cent in the region of Dakar to 85.7 per cent in Kaffrine (OPHI, 2022)

per capita, it is instructive to look at the share of the population having access to basic infrastructural services. Figure 31 provides a useful summary in this respect, looking at the share of the population with access to: (i) clean fuels and technology for cooking; (ii) electricity, (iii) basic drinking water services; and (iv) at least basic sanitation services. The figure reports average values for the years 2000, 2010 and 2020, while error bars are used to underscore the differential access in rural and urban areas, with rural population having more challenging access to the corresponding basic services.

Figure 30: Gross national income per capita (Atlas method)

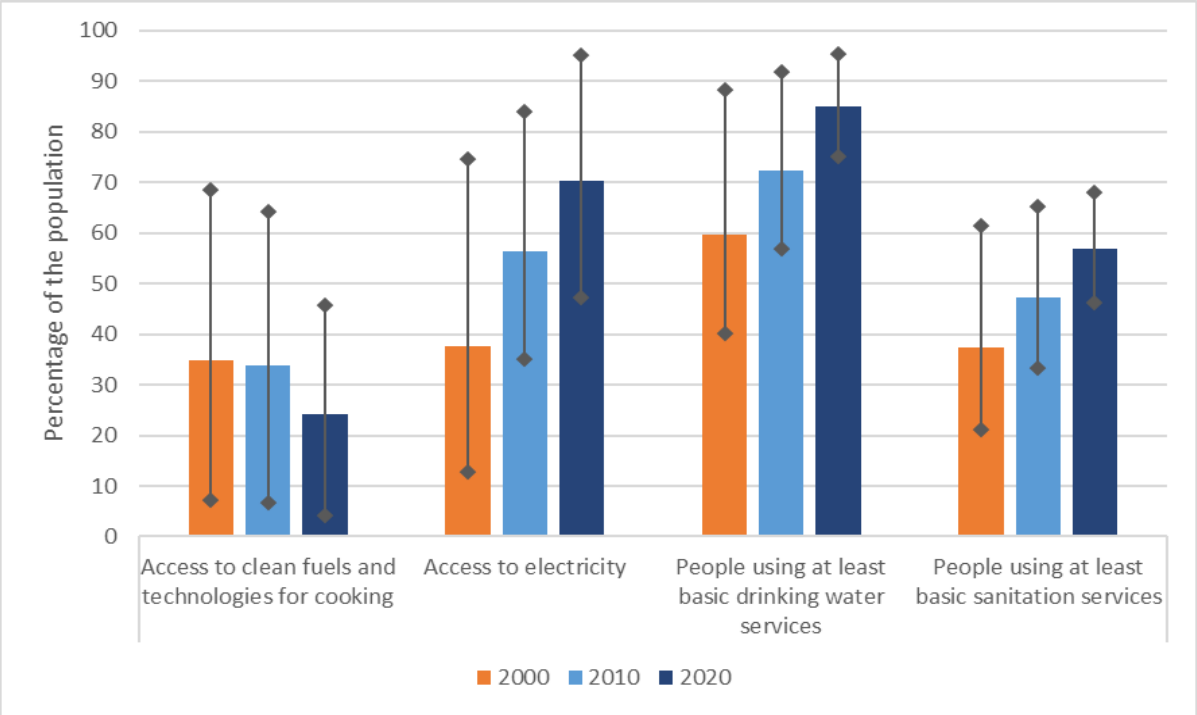


Source: UNCTAD secretariat calculations based on data from World Development Indicators [accessed December 2022]

The figure highlights the significant progress recorded in Senegal in extending access to basic infrastructural services, with the notable exception of clean fuels and cooking technologies. Access to electricity has almost doubled between 2000 and 2020, rising from 38 to 70 per cent of the population. Access to basic drinking water services improved from 60 per cent to 85 per cent over the same period, while access to basic sanitation services increased from 38 to 57 per cent of the total population. If the progress in boosting infrastructural provision stands out clearly in both urban and rural areas (again with the exception of clean cooking technologies), Figure 31 nonetheless underscores the persistence of rural-urban disparities. Only 47 per cent of rural dwellers, for instance, had access to electricity in 2020, compared to 95 per cent in urban areas. In the same vein, only 75 per cent of the former had at least basic drinking water services compared to 95 per cent in urban areas; the corresponding

percentages for basic sanitation services were respectively 46 and 68 per cent. These figures are broadly in line with those cited in Senegal's Common Country Assessment 2023, and based on the UNICEF-OMS Joint Monitoring Programme 2021 (Nations Unies, forthcoming).

Figure 31: Percentage of the population having access to basic infrastructural service



Source: UNCTAD secretariat calculations based on data from World Development Indicators [accessed December 2022]
Note: error bars are used to underscore the differential access in rural and urban areas, with rural population having less access to the corresponding basic services.

The overall message of this assessment underscores the undeniable progress that has taken place in Senegal in relation to prosperity. 2021 figures confirm that the country's macroeconomic fundamentals have remained sound notwithstanding the lingering effects of the pandemic; however, the delicate global context emerging for 2022 is likely to stress-test Senegal's macroeconomic resilience. Continued dynamism and renewed efforts to implement the PSE and boost infrastructure provision are clearly needed if the country is to address multidimensional deprivations. Sustaining investment in climate-resilient infrastructure is even more urgent to advance the climate adaptation agenda and enhance resilience vis-à-vis the multifaceted impact of climate change.

3.2 People

People are at the centre of the 2030 Agenda for Sustainable Development (as well as of the capabilities approach underpinning the Human Development Index); it is thus unsurprising that one of the LDC criteria, the HAI, refers directly to issues such as health and education. While section 2.3 addressed some of key dimensions underpinning Senegal's socio-economic situation, the present sub-section focuses on the specific social development indicators synthesized in the HAI. As shown in Figure 28, these include, in relation to health, the prevalence of stunting, child (under five) mortality rate, maternal mortality ratio; while for what pertains to education, they encompass: gross secondary school enrolment ratio, adult literacy rate and gender parity index for gross secondary school enrolment.

Again, a word of caution is warranted from the outset in relation to the rest of this section: due to the lack of recent data, the discussion below does not reflect the plausible deteriorations triggered by the COVID-19 pandemic, nor by the "cost of living crisis". An additional reason for concern was alluded to earlier: the shocks suffered by vulnerable households in the last couple of years have likely triggered some adverse copying strategies, such as taking children out of school, or compressing food and health expenditures. While these behaviors could simply entail a temporary effect, the downside risk is that they may instead have lingering consequences, leading to permanent deteriorations of health and educational outcomes.

3.2.1 Health outcomes

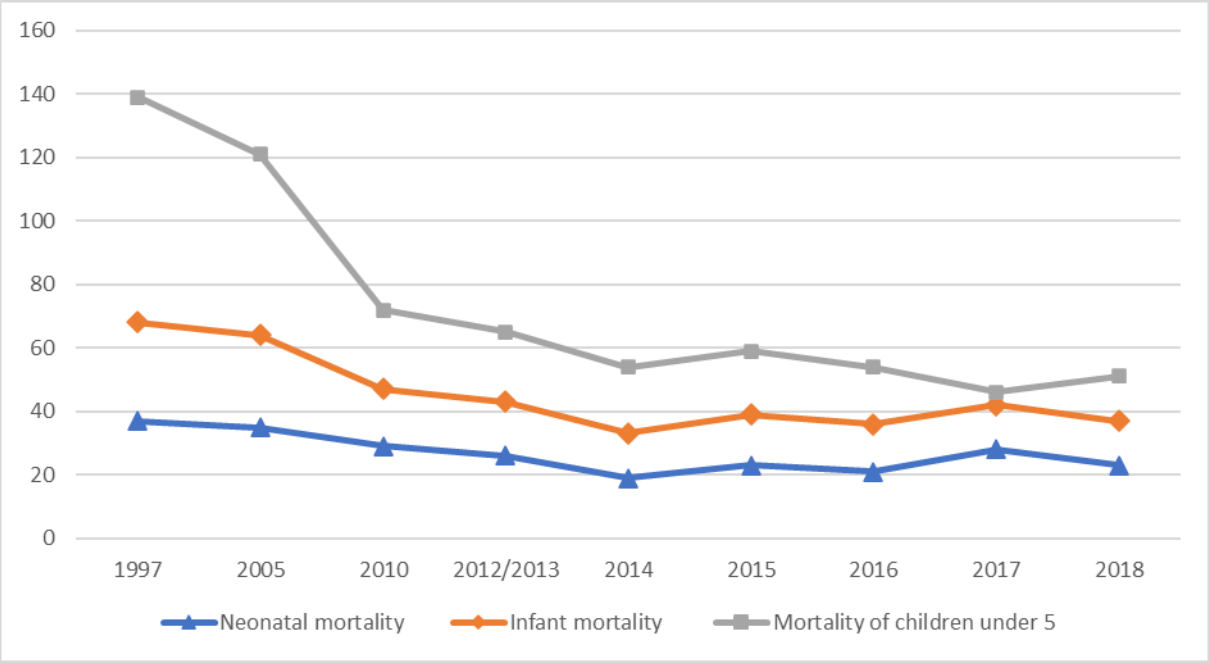
Senegal has reaffirmed its commitment to making health a priority sector whereby all households benefit from universal access to quality services. The implementation of the National Health Development Plans (PNDSS) of 2009-2018 and 2019-2028 have enabled the country to make significant progress, as evidenced by the relatively high score for the health-related index of the HAI, among other indicators. Notable improvements include the significant drop in malaria cases and the continued decline in HIV prevalence in the general population (with a prevalence rate of 0.5 per 1000 people in 2020), the drop in maternal, infant, infant-juvenile and neonatal mortality, and the improvement of children immunization programmes with the introduction of new vaccines. Added to this, is the eradication of wild poliovirus since 2004 and the absence of measles-related deaths since 2014. Thus, various interventions were implemented to improve maternal and child health, increase universal health coverage, and strengthen community nutrition activities in rural areas and health centres. It is worth mentioning, however, that the COVID-19 pandemic is very likely to have led to serious deteriorations across health outcomes, because of the additional pressure on the health system and the difficulty in maintaining key services. These potential worsening is

not yet captured by available statistics but may well be important. With this premise, the key indicators underpinning the evolution of the HAI are further discussed in this section and include child mortality, maternal mortality, and prevalence of stunting.

Children (under 5) mortality rate

The past decade has witnessed a significant decline in the mortality of children under 5, from 72‰ in 2010 to 54‰ in 2014 and 51‰ in 2018 (Figure 32). Furthermore, infant mortality rates fell by 10 points over the same period, from 47‰ to 37‰ (DGPPE, 2019). The same is true for neonatal mortality, but with a less pronounced drop (29‰ in 2010 and 23‰ in 2018). The main causes of infant and child mortality are neonatal conditions (e.g., prematurity, asphyxia, septicemia, congenital anomalies), which are responsible for 37 of deaths of children under five, followed by malaria (14), pneumonia (12), diarrhea (8), injuries (4), HIV (2) and all other causes (23). Malnutrition is associated with a third of deaths of children under five. The prevalence of acute and chronic malnutrition in 2017 was 9 and 17, respectively. Anemia has a high prevalence: 71 of children under five are affected, including 3 in severe form (DGPPE, 2019).

Figure 32: Number of deaths per 1000 live births over the 5-year period prior to the DHS survey



Source: UNCTAD secretariat calculations based on data from DGPPE (2019)

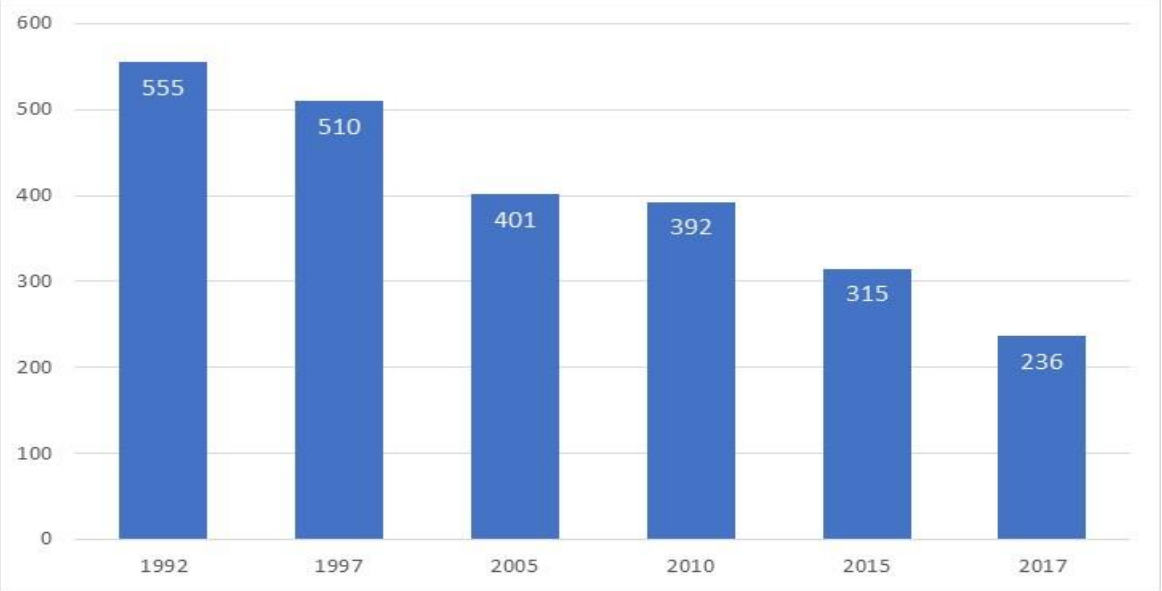
This general health improvement is due to the progress made in the fight against child malnutrition and in children vaccination rates between 2010 and 2018. The proportion of fully vaccinated children increased by 8 percentage points from 76 in 2015 to 84 in 2018 (DGPPE,

2019). This result was obtained thanks to the increase in resources allocated for the purchase of new vaccines, and the promotion of local vaccination campaigns.

Maternal mortality

Health care services during pregnancy, childbirth and after childbirth are important for the survival and well-being of mother and child. To ensure a sustainable improvement of maternal and neonatal health, various strategies have been implemented in accordance with the guidelines of the National Health Development Plan. Figure 33 presents trends in maternal mortality in Senegal between 1997 and 2017 (Source DHS / SNU 2018 countdown). The results show a sharp drop in maternal mortality rate from 392 deaths per 100,000 live births in 2010 to 315 deaths per 100 000 live births in 2015 and 236 deaths in 2017.[22]

Figure 33: Maternal mortality rates (deaths per 100 000 live births)



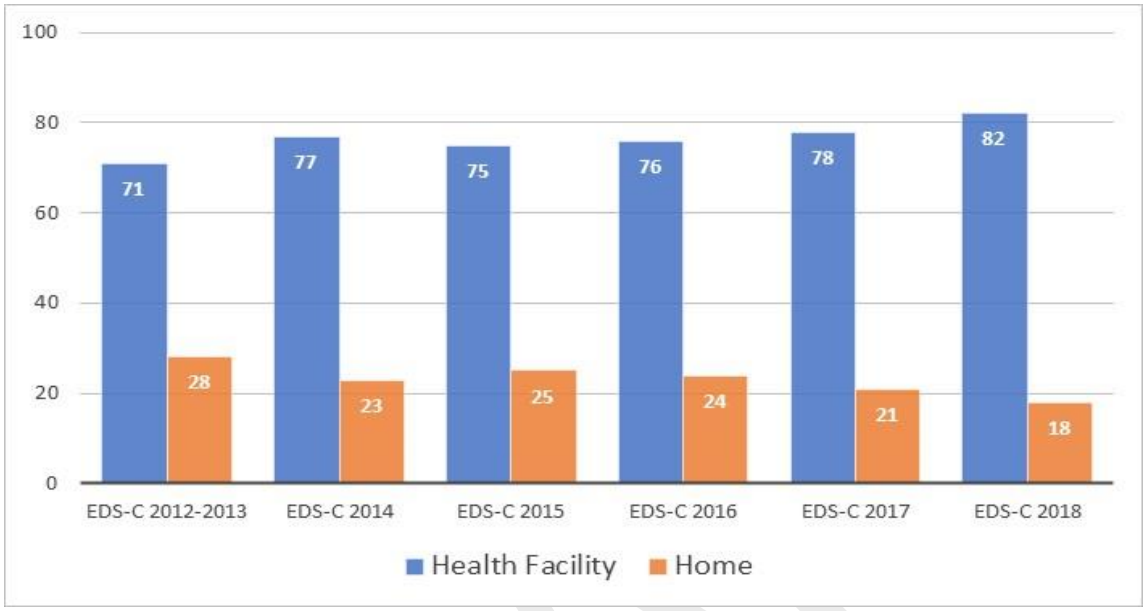
Source: UNCTAD secretariat calculations based on data from DHS / SNU 2018 countdown

One important reason for the observed trend is that the proportion of births attended by a skilled health provider has increased by 23 percentage points within six years, from 51 in 2012 to 74 in 2018. In addition, according to Senegal's "Enquête Démographique et de Santé Continue" (EDS C), more than 80 per cent of births take place in a health facility (Figure 34). Ultimately, there are two main causes of maternal mortality: (i) direct causes such as hemorrhages, hypertensive diseases, dystocia, sepsis, unsafe abortions and other direct

[22] Despite the encouraging results, Senegal failed both MDG5's target of 122 per 100,000 live births in 2015 and its own national target of 200 per 100,000 live births.

causes; and (ii) indirect causes such as anemia, malaria, HIV/AIDS. Finally, this trend conceals large disparities between urban and rural populations, and across regions.

Figure 34: Birth Location (percentage)



Source: UNCTAD secretariat calculations based on data from ANSD

Changes in maternal mortality ratio in Senegal should be interpreted considering the synthetic fertility index and the prevalence of contraception. The synthetic fertility index declined from 5.7 children per woman in 1997 (EDS C, 1997), to 4.6 children per woman in 2017 (EDS C, 2017), while the Contraceptive Prevalence Rate increased from 12 in 2011 to 25.4 in 2018 (Ministère de la Santé, 2018) thanks to the strengthening of personnel by itinerant midwives, the strengthening of the capacities of service providers, the provision of better equipped health structures.

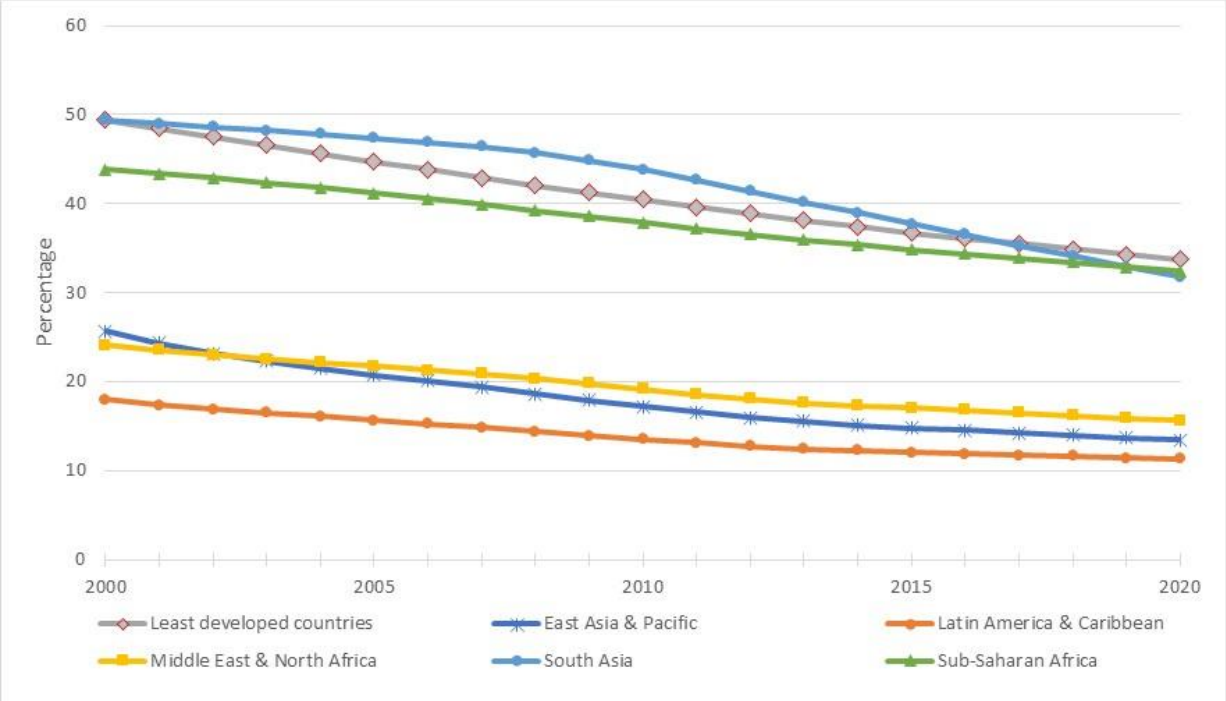
Prevalence of stunting

Stunting is defined as a low height for age z-score, typically lower than or equal to 2 standard deviations of the World Health Organization (WHO) child growth standards median.[23] Despite the devastating effects of stunting in adulthood, it remains prevalent worldwide and has remained persistently high in sub-Saharan Africa. Globally, positive strides have been made in addressing stunting as indicated in the continued decline from 1990 to 2020 across regions presented in Figure 35. From the figure, sub-Saharan Africa has consistently had the second

[23] World Health Organization, "Nutrition Landscape Information System (NLiS)", Retrieved 16 September 2022, https://apps.who.int/nutrition/landscape/help.aspx?menu=0&helpid=391&lang=EN

highest level of stunting after Asia, but unlike Asia, the rate of decline has been slow. Overall regional and country specific statistics corroborate this decline. In 2020, globally, 22 (149.2 million children) under 5 were stunted, 32.3 (52.2 million children) of these children were in sub-Saharan Africa, a 10.3 percentage points higher than the global average, with Western Africa having the third highest proportion of stunted children at 39.9 (20.2 million) (UNICEF et al., 2021). These averages are substantially lower than in previous years, for instance, in 2012, the average for sub-Saharan Africa was 44 while for Western Africa it was 30.9 (UNICEF et al., 2021).

Figure 35: Global and regional trends in stunting prevalence, 2000–2020.

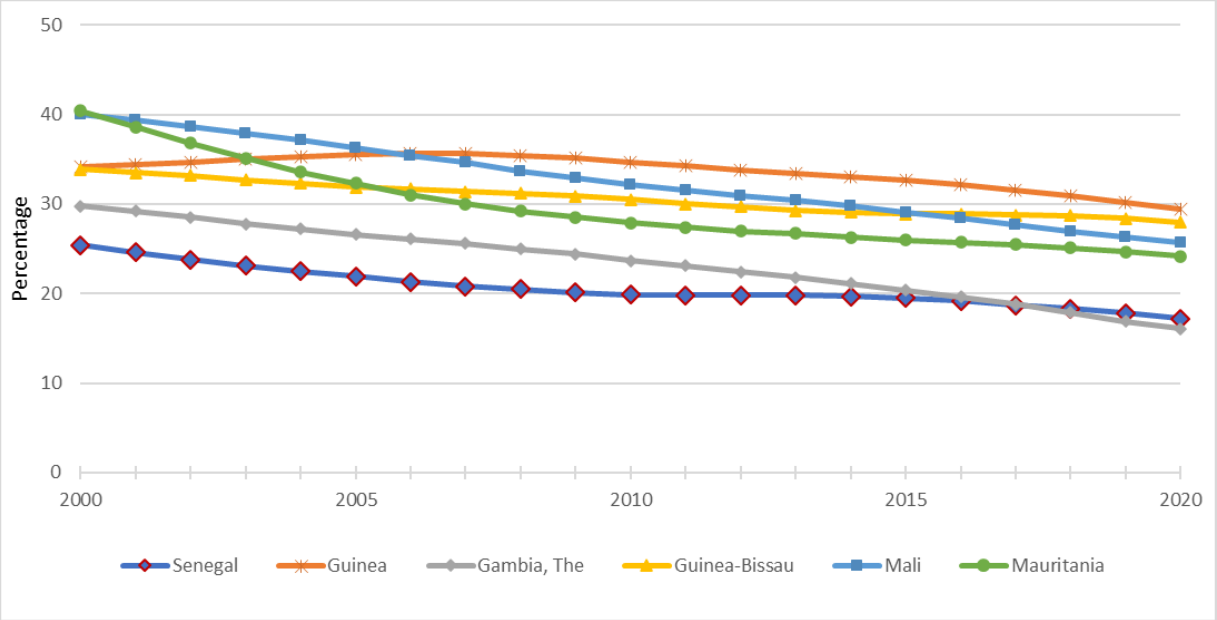


Source: UNCTAD secretariat calculations based on data from World Development Indicators database [accessed October 2022]

Similarly, the prevalence of stunting in Senegal has been declining and stood at 17.2 in 2020 (Figure 36) – equivalent to 449,800 children, or 0.3 per cent of the corresponding global figure –with a 2.6 percentage points decrease from 2012 (UNICEF et al., 2021). In comparison with neighbouring countries, Senegal's prevalence has been lower across the years except for around 2000 when Gambia had the lowest stunting level. In this regard, the level of stunting in Senegal is categorized as medium, which has a threshold of between 10 and 20 level. However, the effects of COVID-19 ongoing pandemic are likely to reverse the downward trend and exacerbate the prevalence level. This is likely to compromise the achievement of the Sustainable Development Goals (SGD) target of reducing the number of stunted children by

40 and 50 by 2025 and 2030, respectively with the ultimate objective of eliminating childhood malnutrition.

Figure 36: Stunting trends in Senegal and neighbouring countries (2000-2020)



Source: UNCTAD secretariat calculations based on data from World Development Indicators database [accessed October 2022]

Despite these positive outcomes, the health sector continues to face a problem of coverage in terms of health infrastructure and qualified personnel. In fact, according to the WHO, Senegal is far from meeting the standards established in this area. In addition, coverage indicators show an unequal distribution of the healthcare offered in the country, to the detriment of rural areas. The same applies to the availability and quality of technical platforms. Added to this is the lack of maintenance of infrastructure and equipment to guarantee the sustainability of investments. Finally, it is worth stressing that, lacking more up-to-date evidence, it remains to be seen how the health system has responded to the additional pressures triggered by the ongoing COVID-19 pandemic, and how it will adjust to the future challenges.

3.2.2 Education outcomes

Gross Secondary School Enrolment Ratio and Gender Parity Index

In Senegal, compulsory schooling has been extended to all children aged 6 to 16 since December 2004 (République du Sénégal, 2004), which has led to an increase in enrollment.

The effect is particularly pronounced in gross enrollment. In 2018/2019 period, primary school enrollment was estimated at 78.2 nationally, but it varied by socio-economic factors such as location, gender and wellbeing (Table 5). Enrollment is higher amongst girls at 82.5 than amongst boys at 73.8, that is, 8.7-percentage point difference. Female enrollment remains higher than male one regardless of location—both urban and rural areas—leading to a gender parity index (GPI) in favor of girls at 1.12 in urban areas and 1.13 in rural areas. Overall, however, the urban/rural divide remains substantial, with rural areas trailing by 36.8 percentage points difference.

As expected, the gross enrollment level is substantially higher than the net enrollment.[24] From Table 5, net enrollment data indicate that a little more than half (53.0) of children of primary school age attended this level of education. This rate is considerably higher in urban areas (70.1) than in rural areas (42.1). The analysis by sex reveals that the proportion of girls aged 6 to 16 attending primary school (55.9) is relatively higher than that of boys (50.1), which implies a gender parity of 1.12 in favor of girls. This situation is observed both in urban areas (72.7 for girls against 67.4 for boys) and in rural areas (55.9 for girls against 50.1 for boys).

Table 5: Gross and net enrollment by gender and education level (2018/2019)

	Primary				Secondary			
	Male	**Female**	**Total**	**Gender parity index**	**Male**	**Female**	**Total**	**Gender parity index**
	Gross enrollment							
Urban	96.1	107.4	101.7	1.12	63.0	65.1	64.1	1.03
Rural	59.3	66.9	63.1	1.13	29.2	28.6	28.9	0.98
Total	**73.8**	**82.5**	**78.2**	**1.12**	**44.6**	**45.6**	**46.5**	**1.02**
	Net Enrollment							
Urban	67.4	72.7	70.1	1.08	41.3	45.1	43.4	1.09
Rural	38.7	45.5	42.1	1.18	20.9	22.0	21.4	1.05
Total	**50.1**	**55.9**	**53.0**	**1.12**	**30.2**	**33.3**	**31.8**	**1.10**

Source: UNCTAD secretariat calculations based on data from ANSD, EHCVM 2018/2019

As for secondary education, a similar pattern in enrollment is observed across the socio-economic characteristics considered above. Gross enrollment level is twice as high in urban areas (64.1 per cent) than in rural ones (28.9 er cent). The gender difference is minimal with a GPI in favor of girls in urban areas (1.03) but in favor of boys in rural areas (0.98). On the

[24] The gross enrollment rate is the ratio between all students enrolled in a given education level, regardless of age, and the population of the age officially corresponding to that education level. Conversely, the net enrollment rate is the ratio between all students in the theoretical age group for a given level of education enrolled in that level, and the total population in that age group.

other hand, net enrollment in secondary school shows that less than a third (31.8 per cent) of the school-age population attends this level. The rate in urban areas (43.4 per cent) is more than double that in rural areas (21.4 per cent). Net enrollment by location also varies according to sex. In fact, the proportions of girls from urban areas (45.1 per cent) and rural areas (22.0 per cent) enrolled in secondary school are slightly higher than those of boys (41.3 and 20.9 per cent, respectively). The GPI is in favor of girls in both rural (1.05) and the urban (1.09) areas. These rates do not translate to high educational attainment. Most recently, the completion rate in secondary education (level 1) was low at 36.6 in 2019 and 2020.

Despite the increase in public expenditures for education and the improvements in primary and secondary enrollment rates, the quality of the Senegalese education system remains somewhat deficient. Even before the pandemic, for instance, the results of the PASEC 2019 (an assessment of the Education System Quality in Francophone Sub-Saharan Africa) show that nearly 59 per cent of Senegalese children at the end of primary were "learning deprived", that is their reading was below the minimum proficiency level, as defined by the Global Alliance to Monitor Learning in the context of the SDG 4.1.1b monitoring for reading. Adding the fact that some children were out of school, resulted in an overall 68.6 per cent of children being in a situation of "learning poverty" (Nations Unies, forthcoming). Moreover, the pandemic has presumably caused an increase in learning poverty and exacerbated inequalities in education.

Overall, these results are rather weak in comparison with other African countries, especially considering that the government of Senegal spends in education some 5.5 per cent of GDP, more than neighboring countries such as Cote d'Ivoire (3.4 per cent), Niger (3.8 per cent), Togo (4 per cent). Fundamentally, the poor performance of the Senegalese education system is linked to several factors: (i) lack of mastery of fundamental skills in reading and mathematics; (ii) poor quality of the teaching and learning environment; and (iii) high rates of repetition and dropout.

Adult Literacy Rate

The country's low level of human capital is exacerbated by a low literacy rate which averaged 51.8 in the 2018/2019 period and has stagnated since the previous survey in 2011. The rate is even lower depending on location, gender, or income (Table 6). Literacy rates are higher in urban areas (65.1) than in rural areas (37.3), and the gender variation is substantial with a GPI of 0.76, which is in favour of men. Overall, men have a higher literacy rate (63.1 per cent) than women's (43.0 per cent). This gender disparity is replicated in both urban (75.0 per cent against 49.6 per cent) and rural (57.0 per cent against 28.2 per cent) areas. Literacy rate also varies widely across the income distribution. Indeed, while only a third of the individuals in the poorest quintile are literate, the rate is higher for those in the top quintile. Gender disparity persists by income with the GPI in favor of men and it is exacerbated for lower

quintiles. Spatial inequalities are equally visible, with Dakar being the region with the highest rate of alphabetization (72 per cent) and Matam (24 per cent), Louga (32 per cent) and Tambacounda (34 per cent) those where illiteracy is most pervasive (Nations Unies, forthcoming).

High levels of enrollment and completion, particularly at primary school level, are key school outcomes considered in identifying improvement in the level of literacy. In Senegal, the structure of the education system, which is characterized as unsuitable to the needs of its students, cultural and religious demands have been blamed for low enrollment rates. On the other hand, attainment/completion of primary level, in addition to policy, is highly dependent on both grade repetition and dropout rate among other factors. Figure 37 presents statistics on these key school indicators for the period 2011 to 2020. From the figure, both enrollment and completion rates have been stable over the past decade. This is not surprising because of the likely critical role that the low and stable dropout rate plays in primary school completion.

Table 6: Literacy rate by gender, location, and income (2018-2019)

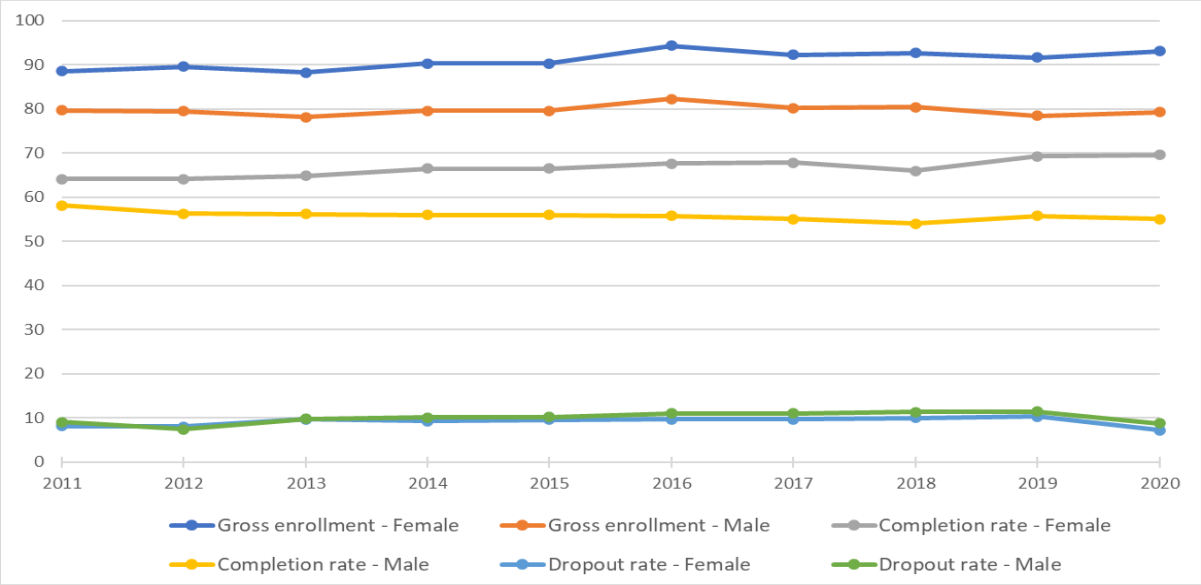
	Male	Female	Total
Location			
Urban	75	57	65.1
Rural	49.6	28.2	37.3
Income (wealth quantile)			
Poorer	43.4	24.5	32.5
Q2	50.9	31.1	39.7
Q3	61.3	40.7	49.6
Q4	69.7	45.5	56.6
Richest	80.8	64.8	72
Total	***63.1***	***40***	***51.8***

Source: UNCTAD secretariat calculations based on data from ANSD, EHCVM 2018/2019

Vocational and technical training is one way to ensure that students who drop out have opportunities to gain skills that would make them productive citizens. Training from vocational and technical colleges, which is also an option for graduates of different levels of schooling, is well suited to meet the needs of the labour market and offer prime opportunities for apprenticeship, which often lead to job placements. Given this potential, in 2015, Senegal launched the Vocational Training Project for Employment and Competitiveness (FPEC) and has continued to increase funds allocated to vocational training and technical education from less than FCFA 20 billion (or approximately $39.2 million) in 2012 to FCFA 38.4 billion (or approximately $69.1 billion) in 2018 (DGPPE, 2019). By 2018, the rate of enrollment in

vocational and technical training was growing at the rate of 21 per cent, reaching 600 per 100,000 people (up from 402 per 100,000 people in 2013). Interestingly, the gender dynamic in vocational and technical training is such that women make up 57 per cent of the students, an outcome potentially driven by affirmative action in admission and access to funding (DGPPE, 2019).

Figure 37: Key indicators in elementary school: Gross enrolment, Completion and Dropout rates (percentage)



Source: UNCTAD secretariat calculations based on data from DPRE

3.3 Planet

As shown in Figure 29, in the 2021 Triennial Review of the List of LDCs by the Committee for Development Policy, Senegal did not meet the threshold for LDC graduation under the third LDC criteria, namely the EVI. This was mainly due to the persistently high environmental vulnerability Senegal is confronted with. In line with this, indicators related to the EVI are discussed here under the rubric "Planet".

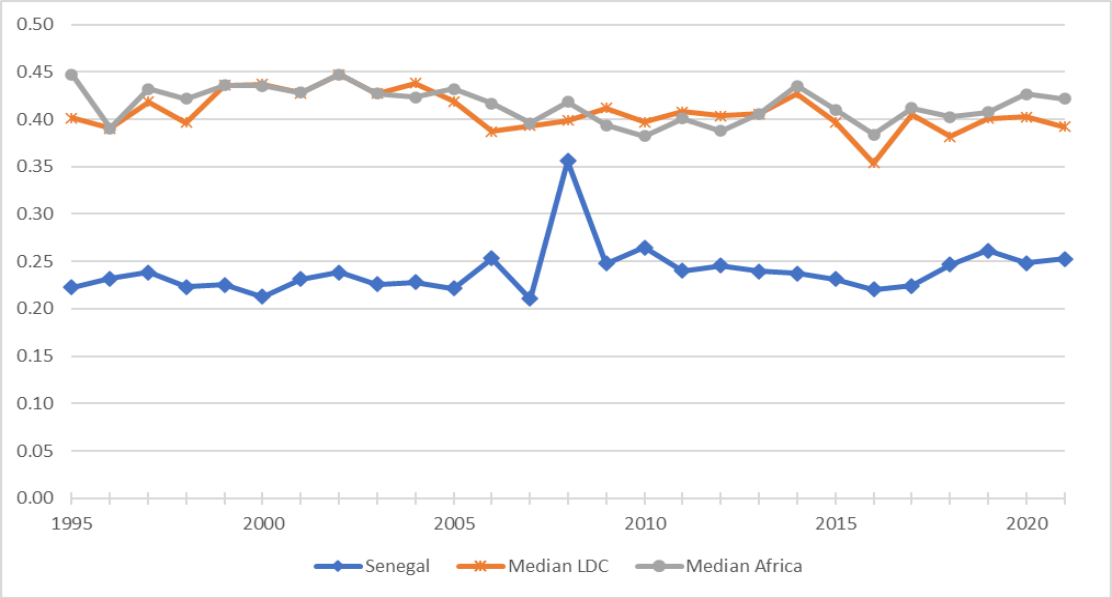
3.3.1 Economic Vulnerability

Senegal's economic vulnerability is brought to the fore by the sluggishness of structural change, the significant weight of its primary sector and the ongoing tertiarization of its economy. The **share of agriculture, forestry and fisheries in GDP** has remained rather unchanged. In the two-decade period between 2002 and 2021, it marginally declined moving from 18 in 2002 to 16.6 in 2021. Its average, over the past 20 years is approximately 15.8 as compared to 28.2 for the average LDC. This constant rate suggests that there has been a lack of structural change in Senegal, in that the manufacturing and services sectors have not grown fast enough to cause a decline of the share of the primary sector.

Regarding the second indicator of economic vulnerability, namely **remoteness and landlockness**, Senegal's remoteness index for the year 2021 amounts to 44.2, compared to an LDC average of 66.8. It is lower than comparable non-landlocked countries such as Cote d'Ivoire (49.9), Ghana (48.5) or Kenya (57). Senegal is indeed a coastal nation located in the far west of Africa. It benefits from a strategic geographical location thanks to its proximity to the European and American continents and its borders with five countries on the African continent (Mauritania, Mali, Gambia, Guinea Bissau, Guinea). It also benefits from having one of the largest ports in West Africa, and recently a new modern international airport, which facilitate transit and trade to and from the country. The costs of exporting and importing are therefore considerably lower than in other coastal countries in the region and other LDCs, but significant progress is still needed to achieve the average international competitiveness of developing countries in general (Briceño-Garmendia et al., 2011).

The **merchandise export concentration index** in Senegal has a 26-year (1995 to 2021) mean value of 0.24.[25] This score has remained rather constant during this period. It rose from 0.22 in 1995 to 0.36 in 2008, and subsequently decreased to 0.25 (Figure 38). Throughout the years, Senegal's export concentration index has consistently been lower than that the median LDC, and that of the median African country. This underscores the wide range of products that Senegal exports, and the fact that the country depends on no single products or narrow group of products for its exports, unlike countries like the median LDC or the median African country.

Figure 38: Export concentration index



Source: UNCTAD secretariat calculations based on data from UNCTADStat database [accessed November 2022]

[25] The merchandise export concentration index, also called the Herfindahl-Hirschmann index, is a measure of the degree of product concentration. The index is normalized between 0 and 1, with higher values denoting greater concentration, that is, a large share of the country's exports accounted for by a small number of products.

The **export instability index** measures the variability of the value of exports around its trend, calculated over a 20-year period, with higher values denoting greater volatility around the trend. We find that the variability of Senegal's exports (5.2) is considerably lower than that of other LDCs (24.5) and that of other resource-rich comparator countries. The composition of exports largely explains this behaviour, because Senegal's lack of large resource endowment makes its exports less subject to the sharp variations that characterize primary commodity prices.[26]

3.3.2 Environmental Vulnerability

Senegal has a Sudano-Sahelian climate characterized by alternating dry season (November to May) and rainy (June to October) seasons. The average annual rainfall ranges from 1200 mm in the South to 300 mm in the North of the country, with wide variations from year to year. As in many other parts of the world, climate change, evidenced by the observed increase in average air and ocean temperatures, and the rise in average sea level, has become a reality in Senegal. Current trends show a rise in minimum temperature values ranging from 0.58°C in Dakar (to the West) to around 1.88°C in Ziguinchor (in the South) between 1961 and 2010 (Ministère de l'Environnement et du Développement Durable, 2018). By 2035, all climate simulations predict an increase in average temperature ranging from 0.5 (in the center west) to 1.7°C, with the Northeast, Center-East and extreme Southeast recording the maximum values. Like many other LDCs, Senegal hence finds itself at the forefront of the climate crisis, heavily exposed to the adverse impacts of climate change, while having only a negligible responsibility in destabilizing the world's climate system. Indeed, in 2019 greenhouse gas emissions were estimated at roughly 0.7 tons of CO2 per capita, compared to a world average of 4.4 tons and an average of 9.8 tons for high income countries.

Looking ahead, climate change is expected to have severe, interconnected and often irreversible impacts on key ecosystems, with wide-ranging implications for the (often vulnerable) segments of the population that rely on natural resources for their livelihood (UNCTAD, 2022a). For example, it has already altered fish species range and migration patterns, with adverse impacts on fisheries, a key sector for the Senegalese economy. The threat of climate change is compounded with the prevalence of overfishing (including that due to illegal unreported and unregulated fishing), all of which is having a detrimental impact, especially on small-scale artisanal fisheries. In the same vein, climate change is expected to

[26] The fairly diversified nature of Senegal's exports and the stability of corresponding revenues are unlikely to change dramatically with the forthcoming start of production of fossil fuels, as related reserves are relatively small.

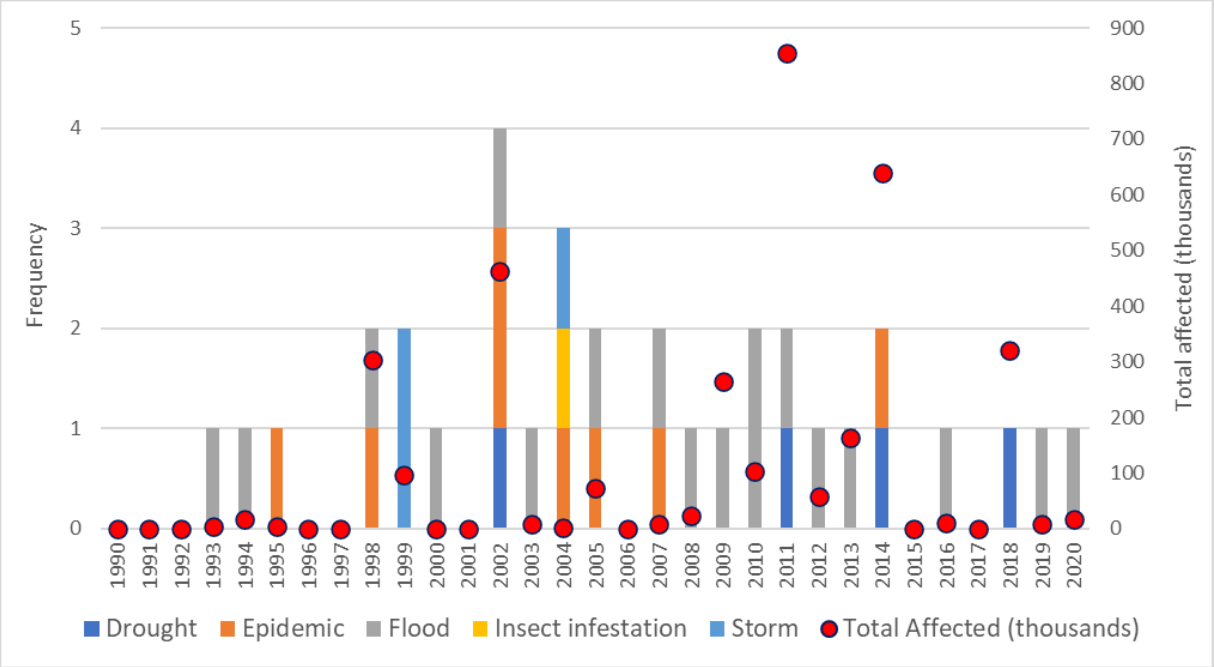
exacerbate other environmental challenges such as desertification and land degradation, which affects roughly two thirds of the country's arable land (Nations Unies, forthcoming). Again, climate change has been increasing rainfall variability, altering the frequency of rainy days and the duration of the rainy season. It is predicted that average rainfall will trend downward on average over the whole country, and especially in the North-West while the South-West region will experience more extreme rains (Intergovernmental Panel on Climate Change, 2015). Overall, models predict increased incidence of extreme climatic events such as heatwaves, droughts, floods, the rise in sea level and the resurgence of coastal erosion on the coastal strip. Sea-level changes and increased intensity of storm surges are known to lead to coastal erosion, which poses a major threat to the population and economy of Senegal. Sea-level rise is exacerbated by the country's geology (including sediment deficits, natural instability of slopes, and surface runoff), and threatens 74 per cent of households living in coastal areas.[27]

Natural hazards are among the major disaster risks facing Senegal. The exceptional Sahelian drought that occurred in the 1970s highlighted the potential impact of long-term climate variability on livelihoods and food security. The last few decades have revealed the great vulnerability of Sahelian countries to the consequences of droughts in the agricultural sector with the reduction of yields, the inflation of food prices in urban areas, the decline in the income of the poor in rural areas, thus pushing rural populations to the cities. Since the 1990s, Senegal has experienced five major drought events, which have each affected between 284,000 and 850,000 people and other hazards that are directly and indirectly dependent on the agricultural sector (Figure 39).

The increased frequency of heat waves is another consequence of climate change in the Sahel regions including Senegal. In the Sahel, heat waves are closely associated with high evapotranspiration, which, combined with a rainfall deficit, is likely to negatively impact water resources. Therefore, sectors dependent on the availability of water resources (agriculture, livestock, fisheries, ecosystems, etc.) will also be strongly impacted. Furthermore, from an economic perspective, heat waves affect both human productivity (Heal and Park, 2013) and agricultural productivity (Schlenker and Roberts, 2009).

[27] World Bank, Knowledge Portal Key Vulnerabilties, Senegal, https://climateknowledgeportal.worldbank.org/country/senegal/vulnerability. Accessed on July 7, 2022.

Figure 39: Frequency of natural hazards and number of people affected in Senegal (1990 – 2020)



Source: UNCTAD secretariat calculations based on data from EM-DAT database [accessed November 2022]

Flood events, which constitute a major economic, social, health and environmental constraint, are also predicted to increase in frequency. For many years, floods during the rainy season have been recurrent in the suburbs of Dakar and other large cities. Floods in the country are the result of river overflows (particularly in the Gambia and Senegal rivers due to heavy rains)- a combination of heavy rains and insufficient drainage infrastructure (in Kaolack and Dakar especially) - and storm surges leading to salt-water intrusion into agricultural lands (particularly in the Saloum Delta). Both urban and rural areas have been vulnerable to floods; however, most at risk are the areas in and around Dakar, Saint Louis, Matam, Kaolack, Thiès, Diourbel, Kolda, Kaffrine, and Tambacounda. Since 1983, Senegal experienced no less than 21 flood events that affected a total of more than 1.2 million people. The 2009 flood, one of the worst in recent memory, caused damages estimated at $104 million, mainly in Dakar, and affected approximately 360,000 people, and led to loss of lives. The recovery / rehabilitation costs were estimated at $204.5 million (Ministère de l'Environnement et du Développement Durable, 2018). In 2012, the floods affected 287,384 people and caused 26 deaths, 6,524 houses destroyed and 4,884 damaged (Ministère de l'Environnement et du Développement Durable, 2018). This disastrous event also marked a turning point in the policy of sustainable flood risk management, with the adoption by the government of the Ten-Year Flood Risk Management Program (PDGI) with a budget of more than FCFA 700 billion (or approximately

$1.4 billion). In addition to the losses and damage caused, the occurrence of floods has health implications. Health vulnerability to climatic hazards is often greater in poor communities.

Environmental vulnerability index

In the framework of LDC graduation, the concept of environmental vulnerabilities combines four key risk factors. The first one pertains to the high **share of population living in low elevated areas**. These populations are susceptible to rising sea levels that erode coast lines and submerge low-lying land masses. In 2020, as much as 7 per cent of the Senegalese population (corresponding to over 1.4 million people) were living in low elevated coastal areas compared with 6 per cent in LDCs. The proportion of people residing in low-lying zones remains stable since 2002.

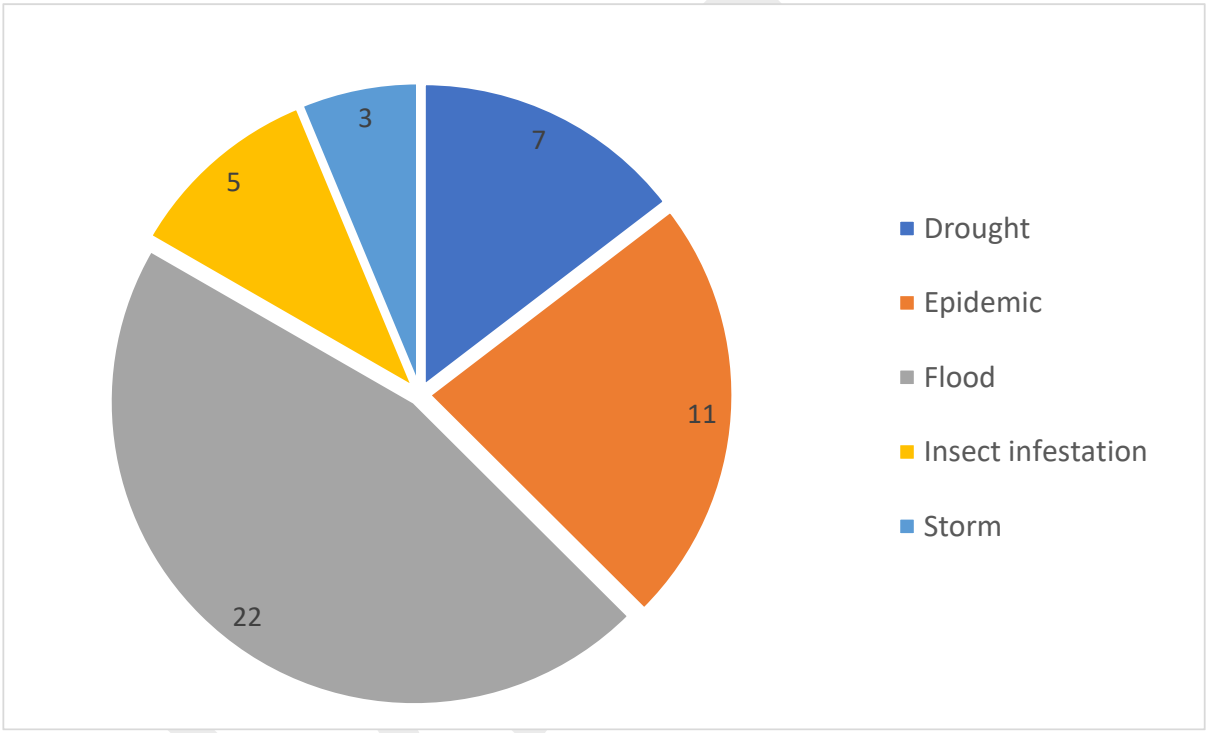
The second environmental vulnerability relates to the **share of population living in drylands**. These populations have limited opportunity for livelihood and are particularly vulnerable to droughts, which exacerbate an already precarious situation. In Senegal, roughly 91 per cent of the population live in drylands compared with only 33 per cent on average in LDCs.

According to data from the emergency events database EM-DAT, Senegal has been affected by 48 disasters, from 1990 to 2020. Floods have been the most frequent disasters in Senegal (22 occurrences), followed by epidemics (11) and droughts (7) (Figure 40). While floods occur more frequently than droughts, the latter have more severe and long-lasting consequences and tend to affect many more people per event (UNCTAD, 2022a). Droughts in Senegal are concentrated mostly in the arid and semi-arid Sahelian regions of the country, located in northern and center Senegal. Between 1977 and 2002, six major drought events affected the country. The trends in the **victims of disasters** index suggests increased vulnerability for the past two decades, with the index increasing from 50.8 in 2002 to 71.6 in 2021. However, Senegal's 20-year average score (64.9) is still below that of LDCs (71.2).

Agricultural production in Senegal is rainfall-dependent, hence highly vulnerable to weather conditions and, in particular, to droughts and rainfall levels, which can vary considerably from year to year. Risks to agricultural production can seriously slow down economic growth and increase the level of poverty in rural areas since the sector makes an important contribution to GDP. The last indicator considered in the computation of the EVI is **instability of agricultural production**. Senegal has displayed a remarkably greater instability score (64.9 out of 100) than the LDC average (26.9). This index captures the unusually high volatility of Senegal's agricultural production, one of the highest in sub-Saharan Africa (Ending Rural Hunger: The Case of Senegal, 2017). In fact, production and food supply are erratic in Senegal due to dependence on rain-fed agriculture, unfavourable climatic conditions, and low water availability, with less than 4 percent of arable land being equipped for irrigation. Added to

lack of storage infrastructure and transport problems, these factors constitute binding constraints to the stability of food supply in Senegal. Senegal also falls far below the sub-Saharan African average for both cereal yields and agricultural value added per worker (Hathie et al., 2017). The average cereal yield in Senegal (1,157 kg/ha) is lower than the sub-Saharan Africa average (1,355 kg/ha) and less than half of the developing countries average (2,432 kg/ha). Similarly, in terms of agricultural value added per worker, Senegal is 10th within West Africa and 22nd in sub-Saharan Africa. So, any adverse shocks are likely to cause production to plummet, thus causing high volatility.

Figure 40: Number of natural hazards, by type (1990 – 2020)



Source: UNCTAD secretariat calculations based on data from EM-DAT database [accessed November 2022]

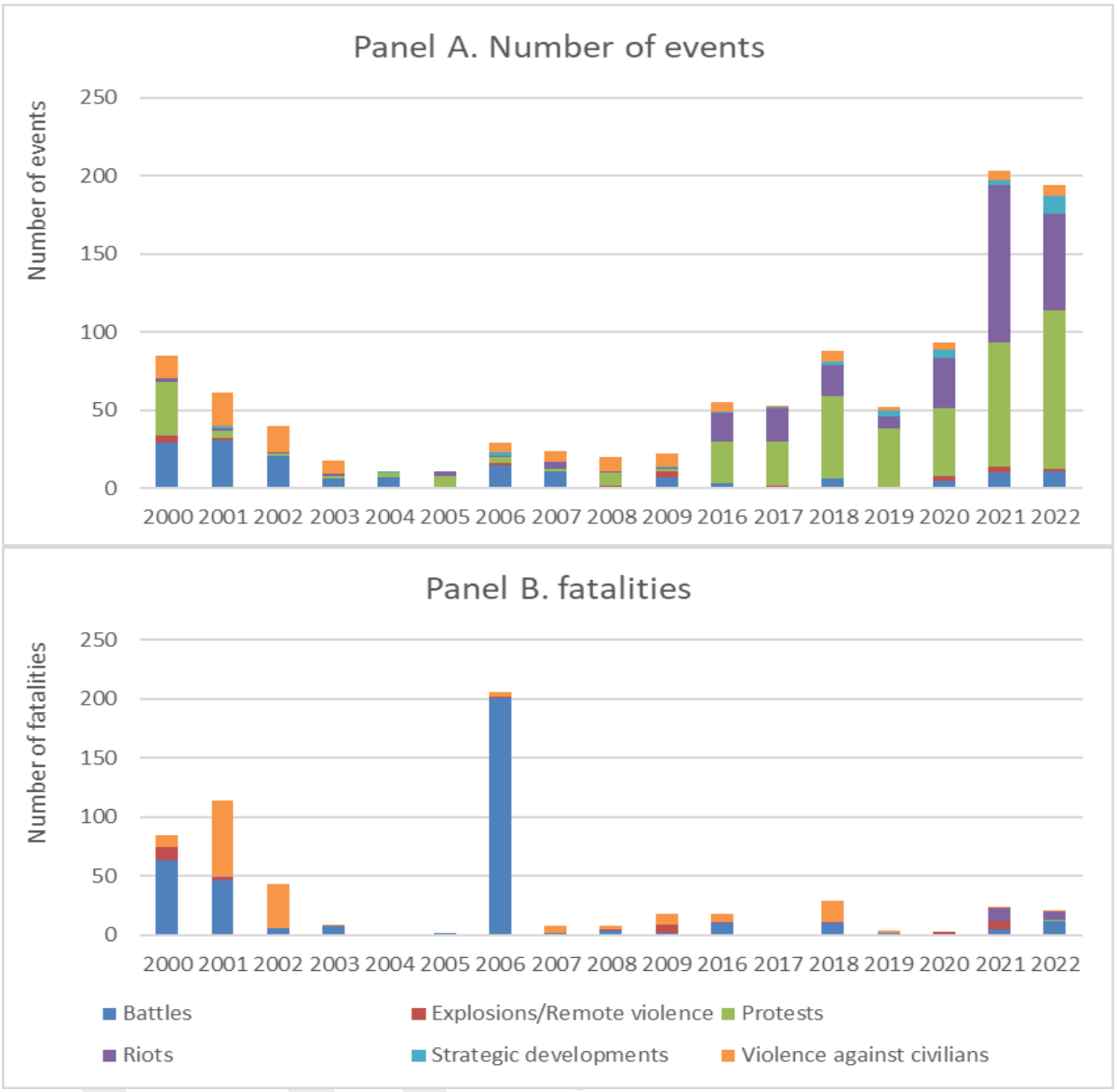
The impacts induced by the main climatic trends observed in Senegal in recent decades rarely manifest themselves in isolation. The impacts on a given sector can also be felt in other sectors. Thus, the drop in rainfall and the increase in temperature have generally led to a deficit in the availability of water resources and have negatively affected the productive sectors as well as the ecosystem. The agriculture, livestock and fishing sectors which constitute key sectors of the national economy, whose exploitation is essentially based on the use of ecosystem services, are particularly vulnerable.

3.4 Peace

Sustainable economic and social development is only possible in an environment of peace, stability and security. Senegal is a diverse country and a multi-ethnic society, composed predominantly of Wolof representing 37 per cent, Pular 26 per cent, and Serer 17 per cent. In a region characterized by political instability, Senegal has remained relatively stable since independence with steady formal institutions and peaceful democratic transitions. Since independence the country has neither experienced military coup d'états nor ethnic conflicts. Despite being a relatively stable democracy, Senegal is however not immune from occasional periods of social and political instability as the long-standing rebellion of the Mouvement des forces démocratiques de Casamance (MFDC) and riots during election years have shown.

The above considerations are validated by Figure 41, which reports the occurrence of critical events and related fatalities for the period 2000-2020, distinguishing the type of incident. The data reveal that the number of critical events has been on the rise in the last few years, notably in relation to protests and riots. As in other parts of the world, this suggests that the advent of the pandemic and the polycrisis have exacerbated social tensions. On the other hand, the data suggest that the number of casualties has remained relatively low (13 per year, on average since 2019). Nonetheless, like other countries of the Sahel and West Africa, Senegal is exposed to the terrorist threat. Islamist terrorist groups remain a non-negligible threat of destabilization. The attacks perpetrated in Mali, Mauritania and Burkina Faso over the last decade have notably intensified geopolitical risks in the entire Sahel region in general and in Senegal in particular. The year 2019 is the deadliest according to the United Nations Office for West Africa and the Sahel. These activities can jeopardize populations' and investors' trust, undermining the success of public policies. To deal with this risk, it is necessary to strengthen the defense and security forces by investing in equipment and human resources, improve intelligence systems, strengthen military and security cooperation among the countries of the sub-region and those engaged in the fight against terrorism.

Figure 41: Number of critical events and related number of fatalities per year, by type of incident



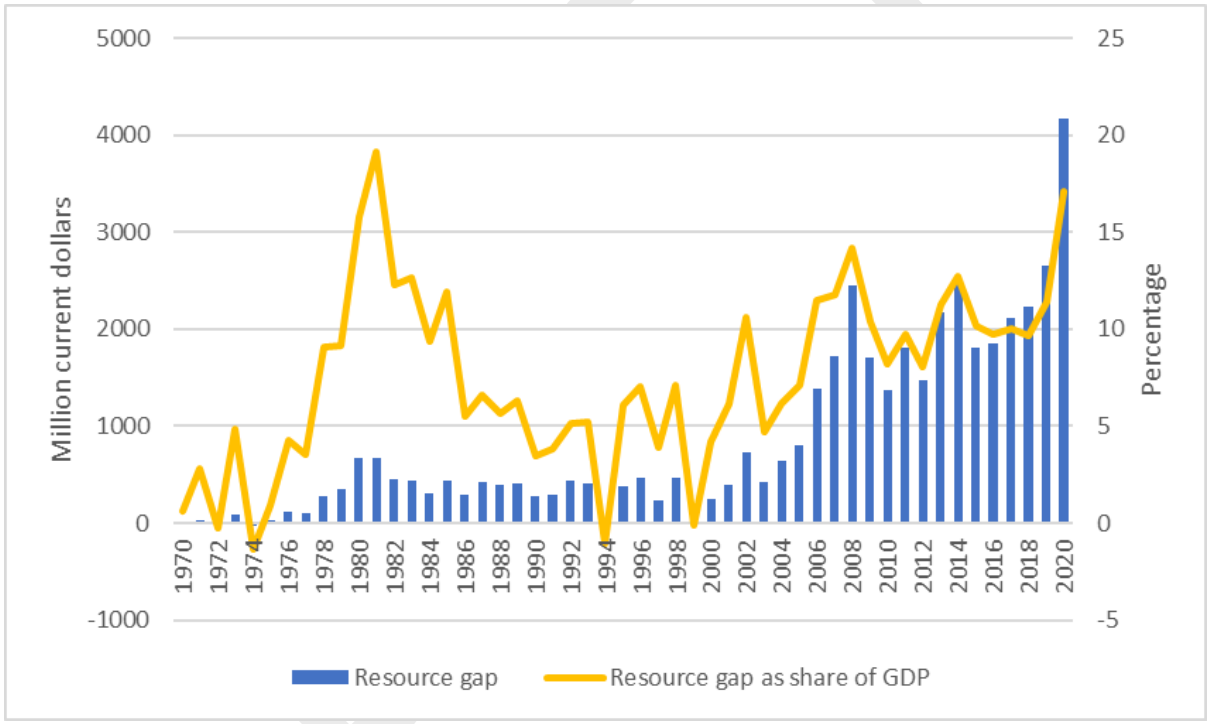
Source: UNCTAD secretariat calculations based on data from ACLED database [accessed November 2022]

3.5 Partnership

While since the Monterrey Consensus "each country has primary responsibility for its own economic and social development" (UN, 2015: 9), the global partnership for sustainable development is essential to Agenda 2030 and as such is enshrined in SDG 17. The global partnership pertains to many interrelated domains, ranging from international trade and investment flows to technology transfer and international cooperation. Whatever the sphere of action, the global partnership for sustainable development is especially critical for LDCs, given their specificities and heightened development needs. Having already addressed trade and investment issues in other parts of the Vulnerability Profile, the present section focuses on external financing and international cooperation.

Like most LDCs, Senegal has traditionally relied on foreign savings to finance its capital accumulation process. The resource gap, which is defined as the difference between domestic savings and gross fixed capital formation, have climbed from less than $1 billion per year in the early 2000s to $2.5 billion prior to the pandemic, and 4 billion in 2020, the year marked by the COVID-19 shock (Figure 42). Relative to GDP, the resource gap has hovered around 10 per cent of GDP since the mid-2000s and rose to 16 per cent of GDP in the wake of the pandemic. If the existence of a wide resource gap is a common occurrence across LDCs, ultimately reflecting weakness in productive capacities, its structural nature represents a source of vulnerability, particularly in a complex global economic context, and calls for strengthening efforts to enhance domestic resource mobilization.

Figure 42: Senegal's resource gap



Source: UNCTAD secretariat calculations based on data from UNCTADstat database [accessed November 2022]

Senegal's peculiarity is, rather, in the composition of external financial inflows that contribute to closing the resource gap. The composition of external financial inflows to Senegal is depicted in Figure 43. Remittances have witnessed a remarkable expansion over time and steadily represented the largest component of these flows, reaching some 10 per cent of GDP since 2014.[28] In 2020, remittances inflows totaled $2.6 billion (11 per cent of GDP), most of

[28] Migration-related issues are critical for Senegal not only because of the relative size of its remittance flows and diaspora community, but also because of the complexity caused by the fact that Senegal is simultaneously a country of origin, transit and destination of migrants.

which was channeled towards consumption purposes, and to a lesser extent human capital. ODA has traditionally represented the second largest source of external finance, pointing to the importance of aid flows and international cooperation for Senegal. Since 2015, however, the weight of FDI has also increased, to the point that in 2020 they represented the second largest source of external finance, at $1.8 billion, or 8 per cent of GDP and as much as 26 per cent of gross fixed capital formation. This compares to $ 1.6 billion of ODA flows. Portfolio investments, conversely, have played a subdued role with highly volatile flows.

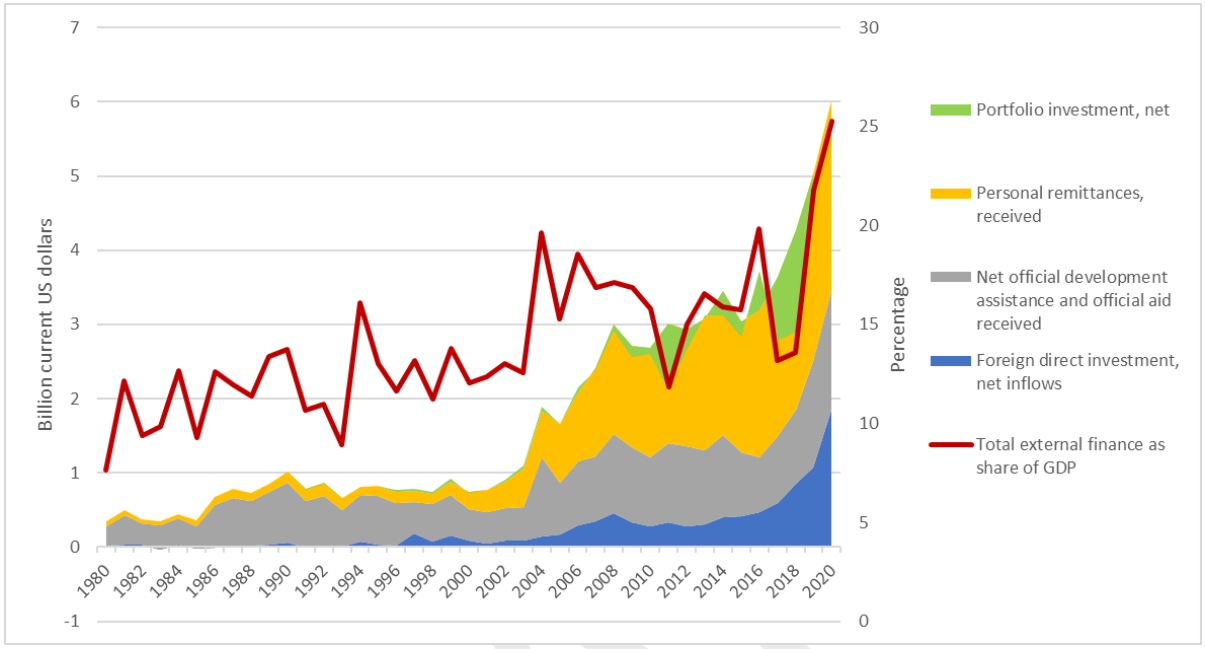
The rising prominence of FDI is a welcome sign of investors' confidence, but should not trigger a complacent approach reliant on natural resources and extractive sectors. Rather, investment promotion should target market-seeking and efficiency-seeking FDI, as the forthcoming implementation of the AfCFTA could open new opportunities for regional value addition. In this context, Senegal, like a growing number of developing countries, is establishing several Special Economic Zones (SEZs) as a key measure of FDI mobilization.[29] While SEZs are becoming increasingly popular, their success is not guaranteed, and much of their development impact depends on the emergence of productive linkages and knowledge spillovers to the broader domestic economy (Oqubay and Lin, 2020; UNCTAD, 2021d). This calls for a strong consistency between SEZs' value proposition and the country's transformation and trade policy strategy, as well as a cogent analysis of the expected costs (investments and forgone public revenues) and benefits (employment creation, export revenues, knowledge and productivity spillovers). Equally important, SEZs' success will hinge upon effective implementation and strong performance, which in turn require the capacity to provide key services to investors, ensure the availability of needed human resources, close stakeholders' coordination, and monitoring of impacts, including in terms of environmental sustainability and climate-change resilience (Oqubay and Lin, 2020).

Moving to ODA and other official flows, OECD data confirm that related flows to Senegal have nearly doubled in real term between 2010 and 2020, with a significant acceleration in the second half of the decade (Figure 44). In both 2019 and 2020, more than $2 billion were disbursed to Senegal, summing together ODA and other official flows. However, the increase in cooperation flows can be mainly traced to the expansion of ODA loans and other official flows, underpinning a gradual worsening of the degree of concessionality. Meanwhile, equity investment (which also belongs to ODA) and private development finance (i.e. philanthropy) play a marginal role. As documented in UNCTAD (2019), the growing weight of ODA loans and to a lesser extent of other official flows is a relatively long-term trend that was common across most LDCs well before COVID-19. Yet, concerns about the worsening of concessionality

[29] For instance, Bangladesh (one of the LDCs currently in the process of graduation) is implementing its 2015 plan to set up 100 SEZs by 2030.

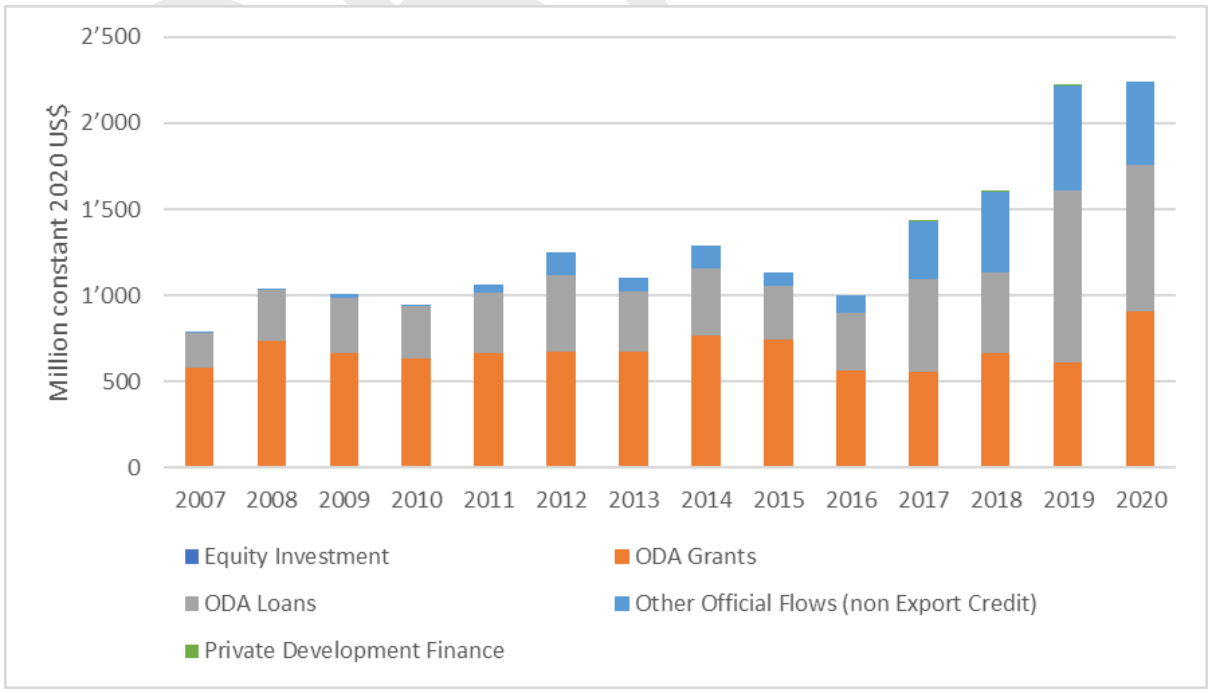
assume a whole different gravity at present, as the monetary tightening in key financial centers raises international interest rates and puts pressure on exchange rates.

Figure 43: Main inflows of external finance, by type



Source: UNCTAD secretariat calculations based on data from World Development Indicators [accessed November 2022]

Figure 44: Trends in overseas development assistance, other official flows and private development finance to Senegal



Source: UNCTAD secretariat calculations based on data from Creditor Reporting System [accessed December 2022]

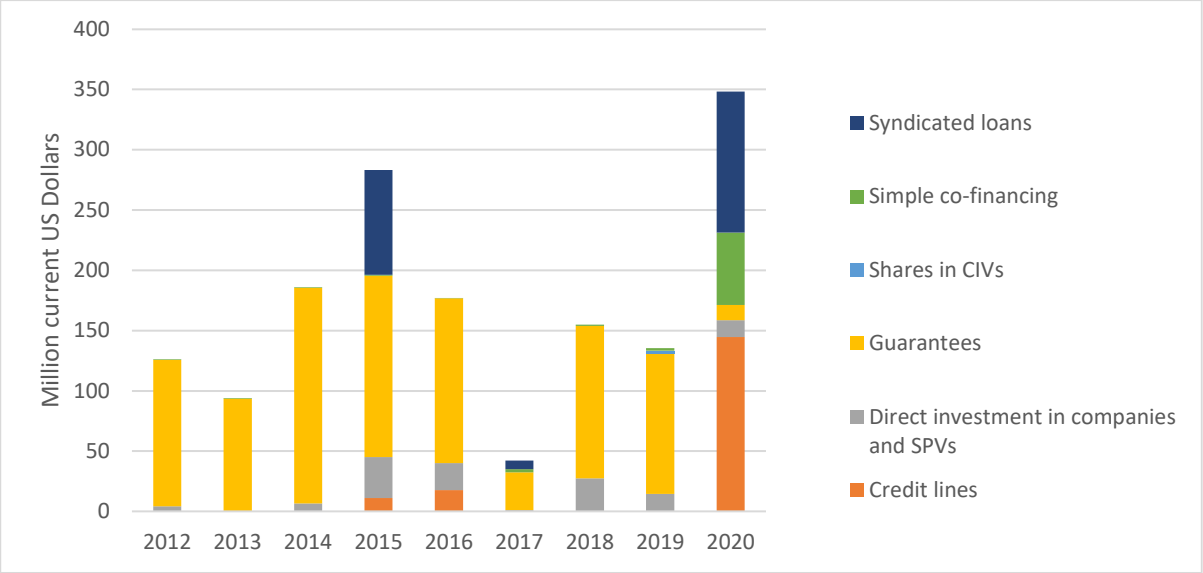
An interesting development in terms of partnerships is the growing attention of development partners to mobilizing resources for development from the private sector, through instruments such as syndicated loans, co-financing, collective investment vehicles, guarantees, direct investments and credit lines. As argued elsewhere (UNCTAD, 2019a, 2020a), for reasons related to the scale of investment, risk perceptions, complexity of related instruments and weakness of the domestic private and financial sector, the mobilization of private finance has so far played a marginal (though growing) role in most LDCs. OECD data reveal that in Senegal mobilization of private investment for development has averaged some $170 million per year (Figure 45), a far lower amount than traditional ODA. Most of the mobilization took place through de-risking and the provision of guarantees, although in the year 2020 there was a remarkable shift towards lines of credit and syndicated loans. Moreover, blended finance targeted almost exclusively productive sectors and infrastructures (mainly energy and transport), while water and sanitation, health and education sectors remained largely underfinanced, confirming the lower appealing of these sectors for private investors.

Concerns about the scale of financial assistance and related modalities apply similarly to the sphere of climate finance, as seen in the context of the Just Energy Transition Partnership (JETP) Senegal is currently negotiating with the G7. With the expected start of production of oil and natural gas in 2023, the JETP is regarded as a key initiative to accelerate Senegal's transition to renewable energy sources and to a low-carbon economy. Yet, significant investments are needed to combine accelerated progress towards universal energy access, enhanced energy security, and lower carbon-intensity of the energy sector. Moreover, expectations are high also in terms of macroeconomic improvements and budgetary outcomes from the exploitation of fossil fuel reserves. In this context, it will be critical to ensure that the JETP is aligned with the PSE and sectoral strategies, is genuinely country owned, and provides an adequate and sufficiently generous financing framework to marry development needs, environmental ambitions and debt sustainability concerns.

The above discussion on external finance essentially points to the role of debt-creating financial instruments as means to finance capital accumulation in Senegal, especially in more recent years. As of September 2022, Senegal continued to be classified at "moderate risk of debt distress" under the IMF and WB Debt Sustainability Analysis, but long-term evidence confirms the rising level of external indebtedness of the country (Figure 46). After the debt relief of 2006 (under the Highly Indebted Poor Countries initiative and the Multilateral Debt Relief Initiative), the debt stock predictably started to trend upward, with a visible acceleration – both in absolute value and as a share of GNI – since 2016, as debt instruments were used to mainly finance infrastructural investments. In 2020 the situation was further worsened by the COVID-19 pandemic; as a result, the debt stock reached 107 per cent of GNI

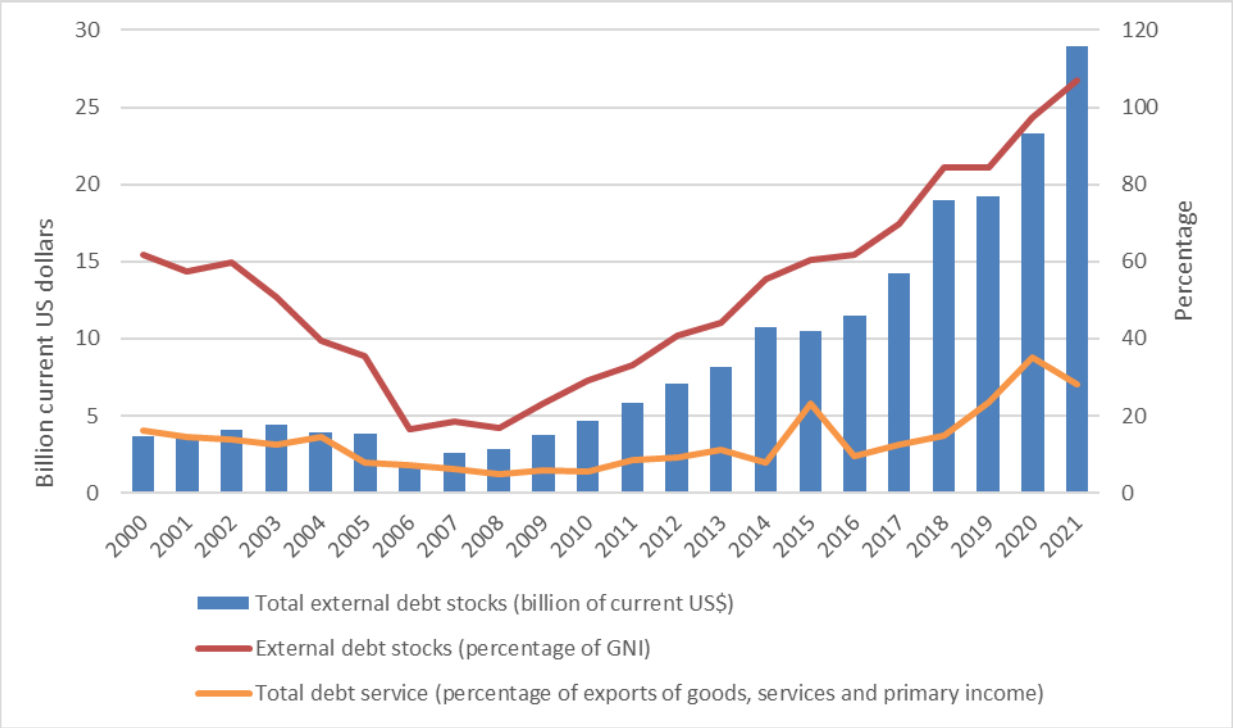
while external debt service remaining at some 30 per cent of exports of goods, services, and primary income.

Figure 45: Amounts mobilized from the private sector for development, by leveraging mechanism



Source: UNCTAD secretariat calculations based on data from Creditor reporting system [accessed November 2022]

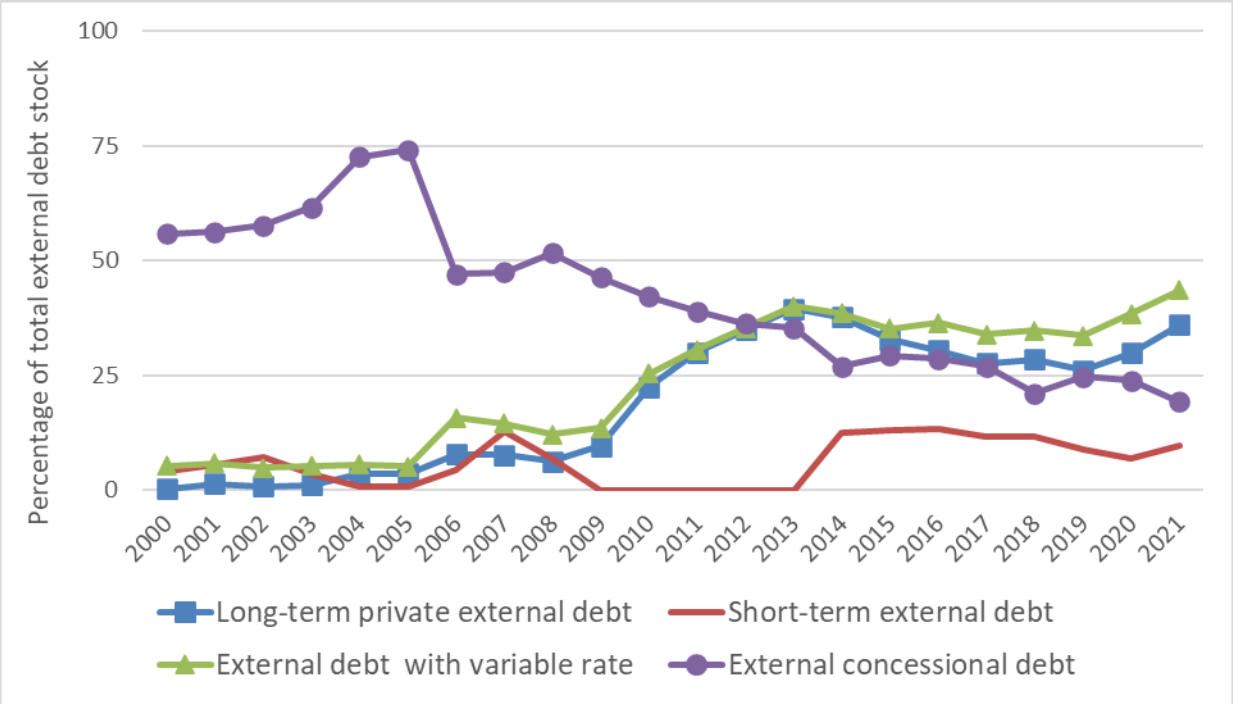
Figure 46: Key indicators of Senegal's external indebtedness



Source: UNCTAD secretariat calculations based on data from International Debt Statistics [accessed February 2023]

These trends are not intrinsically worrying, especially in light of the country's macroeconomic fundamentals, but they warrant nonetheless some caution, especially in view of the current global conjuncture and the rise in international interest rates. Over time, the composition of Senegal's external debt has shifted towards more costly and riskier instruments (Figure 47). The weight of concessional debt, for instance, has declined substantially and currently represent not more than 20 per cent of the total, while the proportion of debt with variable rate has moved in the opposite direction, reaching an estimated 44 per cent in 2021. Finally, short-term external debt only account for some 10 per cent of the total. Especially between 2009 and 2013, the rise in external indebtedness has been largely driven by private non-guaranteed debt, whose relative share has hovered around 30-15 per cent of the total debt stock since 2014. Conversely, public and publicly guaranteed debt nowadays accounts for about half of the total external debt stock (down from 85 per cent in 2006), even though related debt stock doubled in absolute terms between 2016 and 2021. From the point of view of exchange risk, it is also worth noting that the exposure to dollar-denominated debt has increased over time, with related instruments nowadays accounting for half of public and publicly guaranteed debt stock.

Figure 47: Selected components of the external debt stock as proportion of the total



Source: UNCTAD secretariat calculations based on data from International Debt Statistics [accessed February 2023]

National data confirm that public indebtedness has increased hand in hand with the external one: in 2022, public debt is estimated to have reached 66 per cent of GDP, up from 42 per cent in 2014. According to the figures by the Ministry of Finance, some 42 per cent of public debt is financed through concessional instruments, 27 per cent by Eurobonds, 13 per cent by domestic Treasury Bonds (mainly at fixed rate), 9 per cent by semi-concessional instruments, and the remaining 8 per cent by commercial debt (CNDP, 2020). Against this background, Senegal's medium-term debt management strategy aims at strengthening its recourse to the domestic bond market, while stabilizing its exposure to external debt. This appears to be reasonable, considering the worsening international conditions, as well as the need to gradually strengthen the domestic financial market.

The composition of external and domestic financing sources has some bearing on the scope for mobilizing resources for development purposes, as well as on their macroeconomic risks and expected volatility over time. If mobilizing remittances and other private domestic resources for long-term investment purposes remains a priority, equally important – especially in the context of LDC graduation – will be to engage development partners to ensure that important levers of international cooperation and development financing will not be abruptly discontinued. It will also be fundamental to retain genuine ownership of the country's development strategies, channeling domestic and foreign private sector participation to strategic sectors that can deliver on the promise of sustainable development.

4. Towards a policy agenda for graduation with momentum

As Senegalese authorities are engaging in the formulation of the PAP3 2024-2028, which constitutes the 5-year declination of the PSE, the country finds itself at a critical juncture. Having weathered relatively well the series of exogenous shocks that characterized the last few years – from the COVID-19 pandemic to the "cost-of-living crisis" – the country is now called to reembark onto a path of sustained and inclusive growth. This will be critical to attenuate (and ultimately reabsorb) the lingering social costs of the above crises, but it will also be fundamental to ensure the necessary sustainability to the socioeconomic dynamism that preceded the pandemic. The planned start of fossil fuels production in 2023 bodes well for a sustained rebound. However, meeting the ambitious targets of the PSE calls for a sustainable exploitation of natural resources, under a strategy capable of fostering domestic value addition and economic diversification, instead of exacerbating commodity dependence and locking-in carbon-intensive technologies for short-lived gains.

At international level, the broader global environment is itself evolving rapidly, and this will inevitably affect the degrees of freedom Senegal's policymakers will have in pursuing their development strategy. Not only have the recent events led to sharp changes in international

markets, notably in terms of higher and more volatile commodity prices, as well as higher international interest rates. Amid heightened geopolitical tensions and more visible impacts of climate change, the ongoing international discourse is also bringing a renewed attention to the reliability of global value chains, the importance of energy security, and the need for climate change adaptation, along with mitigation.

Further changes to the international environment will depend directly on Senegal's own progress towards graduating from the LDC category, and the ensuing gradual loss of access to LDC-specific ISMs. In 2021 Senegal met the LDC graduation criteria for the first time, exceeding the graduation threshold under the income and HAI criteria (albeit in the latter case by a narrow margin), but remaining still far from meeting the graduation threshold foreseen under the EVI. Due to lags in data availability, that assessment took only partly into account the fallout from the COVID-19 pandemic. The next Triennial Review (scheduled for 2024) will reassess countries' progress against the LDC criteria, and it is expected that part of the debates will focus on the socioeconomic impacts of the pandemic and of the ongoing "polycrisis". In this context, achieving a sustained and broad-based economic rebound will also be important to confirm the encouraging progress towards LDC graduation, in line with the PSE's ambitions of seeing the emergence of the country by 2035.

Regardless of the specific timeline of graduation, this Vulnerability Profile and the related discussions present a valuable opportunity to effectively mainstream LDC graduation issues into the medium-term national planning process, starting with the PAP 2024-2028. Importantly, this will entail utilizing as efficiently and as long as possible the available ISMs, while adequately preparing for their progressive phasing out, thus anticipating the likely evolution of key external conditions, undertaking the required awareness-raising and engaging partners to ensure a smooth transition. The experiences of other graduated and graduating LDCs (see Box 5) can be extremely useful in this respect, providing the inspiration for the formulation of a roadmap on graduation with momentum, and for engaging more effectively development partners.

Box 5. Selected experiences from other graduated and graduating LDCs

Though admittedly the nature of the challenges and policy options related to LDC graduation depends on each country's structural characteristics, the experiences of other graduating and graduated LDCs can provide instructive insights for a roadmap towards graduation with momentum (UNCTAD, 2016). This box outlines selected policy initiatives by graduated LDCs that could be relevant to Senegal.

Sectoral policies: fisheries in the Maldives

Fisheries have traditionally played a fundamental role for the Maldives, representing over 90 per cent of the merchandise exports, constituted predominantly of tuna. Over time, the tuna industry has evolved from small-scale fishery into a commercial enterprise employing modern technology in terms of boats and gear, as well as contemporary approaches to trading in the global marketplace for tuna products (Jaleel and Smith, 2022). As the country approached LDC graduation, which took place in 2011, strengthening the fisheries sector represented a key necessity, not least in view of the expected preference erosion it will face. In this context, the government decided to focus its sectoral strategy on sustainability, thereby creating synergies with other blue economy industries, notably maritime tourism. The Maldives pursued the Marine Stewardship Council sustainability certification (obtained in 2012) and became member of the Indian Ocean Tuna Commission (IOTC). Certification required the improvement of monitoring and management practices, but the practices of fishermen and their vessels have not been significantly affected, since the fisheries were already based on largely sustainable practices and a licensing system was already in place (Hohne-Sparborth et al., 2015). Coupled with the predominant use of pole and line gear technology that produces a high quality of catch with minimal environmental impact, the certification allowed the Maldives to obtain premium prices for its tuna exports. This also created further incentive for processing and local value addition, allowing for the retention of key aspects of small-scale fishery characteristics in the gender-based division of labor, in which men go to sea and women play a key role in the shore industry. The strategic focus on sustainability continued long after graduation, as demonstrated by the Maldives Fisheries Act (which came into effect in September 2019) that promotes sustainable forms of fishing while imposing a complete ban on harmful methods such as fishing with trawl nets.

Mitigating the loss of LDC-specific preferential market access: Cabo Verde and GSP+

One of the main preoccupations for graduating LDCs is retaining some degree of preference margin in key destination markets. In the case of Cabo Verde, which graduated from the LDC category in 2007, the European Union was by far the main trade partner. Through early engagement and negotiations with the European Union, Cabo Verde obtained a three-year extension of its eligibility under the Everything But Arms (EBA) initiative – currently the standard practice for beneficiaries of the initiative –followed by an additional two-year transition period until 1 January 2012. In late 2013, Cabo Verde became one of the first 10 countries to qualify for the European Union's enhanced Generalized System of Preferences-plus (GSP+) trade regime, which is available to vulnerable countries that have ratified and implemented international conventions relating to human and labor rights, environment and good governance (UNCTAD, 2016).

A reform of the European Union's Generalized System of Preferences will enter into force at the end of 2023 (EU Commission, 2021), but the option of transitioning from the EBA regime to the GSP+ remains available to Senegal. Moreover, the country has already ratified all the conventions required to be eligible for the GSP+. While the transition from EBA to GSP+ regime would allow Senegal to retain some significant preference margins upon LDC graduation, it should be borne in mind that differences in the applicable rules of origin may also entail significant adjustment costs. This is particularly the case in the clothing and apparel sector, where the transition would imply a shift from single transformation to double transformation.

Sustainable development finance: post-graduation partnerships in Cabo Verde and Samoa
In the runup to its LDC graduation, in 2007, Cabo Verde signed a Special Partnership Agreement — a cooperation facilitation framework (unrelated to the Economic Partnership Agreement - EPA) covering a broad set of issues, from stability and regional integration to development and poverty reduction. It also concluded a Mobility Agreement with five European Union member States (France, Luxembourg, Netherlands, Portugal and Spain) allowing temporary and circular migration by Cabo Verdeans. Finally, Cabo Verde also negotiated with multilateral agencies, including the World Bank and the African Development Bank, to ensure that it retained partial access to concessional financing (though at somewhat greater cost) as a "blend" country.

In the same vein, ahead of its 2014 graduation from the LDC category, Samoa approached the Australian authorities with a view to negotiate a seasonal employment scheme fostering circular migration. In July 2012, the Seasonal Workers Program was officially launched, with the intent of meeting the needs of the Australian horticulture industry for recurrent labor, while also contributing to the economic development of Samoa through the contribution of its circular migrants. The countries participating to the Seasonal Workers Program now include Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu and Vanuatu.

Importantly, the PSE already provides a strategic and comprehensive policy framework, to which the agenda for graduation with momentum can be aligned and then mainstreamed through PAP implementation. Similarly, the PSE also provide a conducive framework to engage development partners, given the buy-in it gained at the domestic and international level. Seen in this perspective, LDC graduation could in fact be regarded as an external process offering a potential "policy anchor" to support PAP implementation, spur competitiveness, and prevent the entrenchment of rent-seeking. Though not an end in itself, LDC graduation could also be leveraged as a sort of validation of the country's progress, contributing to forge a new narrative about the "emerging Senegal", hence improving the standing of the country vis-à-vis potential investors.

Consistent with the structural vulnerabilities identified above, and fundamentally in line with the priorities of the PSE, the present study has identified four mutually supporting areas underpinning a policy agenda towards graduation with momentum:

1. Accelerating structural change and strengthening competitiveness;
2. Investing in human capital for productive employment creation;
3. Charting an inclusive low-carbon transition path; and
4. Mobilizing adequate resources for sustainable development.

Each of them is devoted an individual sub-section below.

4.1 Accelerating structural change and strengthening competitiveness

One of the key lessons of the ongoing "polycrisis" is that the best avenue to achieve sustainable development and build endogenous resilience remains to spur a process transformation, underpinned by technological upgrading, knowledge accumulation, and by changes in the composition of output and employment (what is usually referred to as "structural change") towards progressively more sophisticated activities. Resilience ultimately requires adaptability, which in turn rests on firms having adequate productive managerial and technical capabilities, identifying potential opportunities, and discovering what adjustment is feasible to respond to the evolution of the market (UNCTAD, 2020a). Moreover, inclusive development outcomes largely hinge on the generation of productive employment and the concomitant increase in labor productivity, which in turns boosts resources available for investment purposes. Therefore, strengthening productive capabilities and shifting resources towards higher-productivity activities remain paramount objectives going forward.

Transforming the economy, reducing poverty and redressing spatial inequalities will inevitably hinge on boosting long-term investments, including through a scale-up of climate-resilient infrastructures to meet the demands of a viable diversified economy. LDC graduation makes the transformation imperative even more critical, since the gradual phasing out of ISMs will inevitably impinge on some of the drivers of national competitiveness and possibly require some adjustments in the country's "development bargain". Firms will need adequate support and preparation to be able to cope with the loss of LDC-specific preferential market access, or with changes to the broader Aid for Trade landscape upon graduation from the LDC category. Equally, the implementation of the AfCFTA will require adequate policy support, if Senegal producers are to leverage opportunities for economic diversification and integrating regional value chains.

Accelerating the pace of structural transformation, notably through sustainable industrialization, can support Senegal in reducing the wide inter-sectoral productivity gaps, improving the relatively sluggish TFP dynamics, and tapping into the opportunities for inter-sectoral productive linkages. Earlier sections of the study highlighted the potential of the agro-processing industry, but a similar argument applies to services, in particular in the digital, fintech and business-related segments. Many of the related developmental opportunities are ultimately contingent on a vibrant industrial basis, as a key source of demand – like in the case of business services, logistics and distribution – or through synergies and complementarities with the design and production of the goods embodying knowledge-intensive services (e.g. software development or installation and maintenance of machinery). Hence, ongoing efforts to foster domestic value addition, denser input-out linkages, and export diversification need to be intensified to pave the way for graduation with momentum.

Accelerating and localizing structural transformation will be equally important to redress the spatial inequalities, not only between urban and rural areas, but also between Dakar and other intermediary cities. Enhancing inter-sectoral linkages can go a long way in boosting domestic value addition and generating more economic opportunities for vulnerable groups. Moreover, unlocking rural non-farming activities and spurring manufacturing growth in intermediary cities could play an important role in easing pressure in the areas around Dakar.

This policy agenda will require regular dialogue between the public and private sector, as well as strategic engagement of other development partners to ensure a smooth transition out of the category. It will also call for effective entrepreneurship policies catering to the distinct needs of all types of enterprises – start-ups, Small and Medium Enterprises (SMEs), and incumbent large companies – buttressed with a strategic trade and industrial policy framework, designed to foster the progressive strengthening of productive capacities. Beyond horizontal policies (such as improving the business environment or broadening access to credit), well-designed and carefully implemented sectoral measures – such as the support to the *agro-pôles* or to the pharmaceutical sector – are rightly part of the available policy options. In this respect, the flexibilities afforded to LDCs through ISMs (including Special and Differential Treatment) should be utilized to the extent possible, while preparing for their progressive phasing out. This could be particularly relevant in relation to intellectual property rights, as the effective use of the flexibilities granted to LDCs could play an important role for the strengthening of the local industrial base and the appropriation of technologies in knowledge-based sectors, as the experience of the pharmaceutical industry in Bangladesh has shown (UNCTAD 2022c).

4.2 Investing in human capital for productive employment creation

Despite a growing investment in education and steady improvements in enrolment rates, widespread learning poverty and sluggish progress in terms of quality of education remain significant hindrances for Senegal economy. Moreover, the high prevailing illiteracy among the adult population represents an important constraint to human capital accumulation, especially in rural areas. Besides, there are well-founded concerns that the disruptions caused by the COVID-19 pandemic may have lingering effects and widen inequalities. Against this background, bold renewed efforts towards the PSE's strategic pillar of "investing in human capital" are vital.

With the labor force expected to increase by nearly 400'000 workers per year between 2022 and 2025, addressing skill shortages is critical to ensure that buoyant growth projections translate into faster productive employment creation, rather than a further expansion of informality and vulnerable employment. This calls for bold actions to enhance the quality of

formal education, as well as scale up vocational training, apprenticeship schemes, dual training programs and on-the-job upskilling initiatives, in close collaboration with the private sector to ensure that the curricula match market demand. A rapid and effective rollout of related ongoing initiatives, including the establishment of 45 departmental vocational training centers under the PSE, could go a long way in this respect. At the other end of the spectrum, it remains critical to strengthen the pockets of excellence in tertiary education, as technical specialized skills lie at the core of the Science Technology and Innovation (STI) ecosystem and have a key bearing on prospects for technology adoption, knowledge accumulation and labor productivity improvements. Furthermore, closer collaboration among the various stakeholders of the STI ecosystem will be important in the future to enhance knowledge flows and ensure closer partnerships between the private actors, research and educational institutions, and government counterparts.

Though investing in human capital admittedly requires a comprehensive approach touching all disciplines, two fields of education appear to deserve dedicated support in relation to a graduation with momentum agenda:

1. Science Technology Mathematics and Engineering, which will be crucial to underpin a greater and more fructuous engagement with advanced technologies, notably those related to climate change adaptation and energy transition.
2. Digital skills to support the adoption of digital technologies, nurture digital businesses, and leverage digitalization for inclusive and sustainable development.

4.3 Charting an inclusive low-carbon transition path

Since the adoption of the Paris Agreement, evolving consumption patterns, regulatory frameworks, technological options, and investors' appetite have started to affect comparative advantages, triggering a shift of productive resources from high-emission industries to lower-emission ones. Senegal's strategic positioning vis-à-vis this global trend will thus be crucial. Considering its heightened exposure to the adverse impacts of climate change, its development needs, and its natural resources, If the country's environmental vulnerability underpins a heightened exposure to "physical risks", its varied natural resource endowments implies both elements of "transition risks" – notably the risk of stranded assets and technological lock-in pertaining to the fossil fuel sector – and "green windows of opportunity", such as those related to the exploitation of strategic minerals like titanium or zirconium (UNCTAD, 2022a).[30]

[30] "Physical risk" refers to exposure to detrimental climate change and/or weather extremes that directly impact the real economy, damage property and disrupt trade. "Transition risk" stems from regulatory, technological, and demand-side changes that could sharply affect asset prices. Finally, "green windows of opportunity" are defined

In this context, finding an appropriate balance between harnessing the "green windows of opportunity" and relying on more mature (and possibly more carbon-intensive) technologies will be critical for Senegal to achieve continued development progress. Equally important will be to ensure that the exploitation of natural resources – notably in the nascent fossil fuel sector – be geared towards boosting domestic value addition and supporting the diversification of the economy, rather than reinforcing commodity dependence. Government plans to use oil and gas to (i) boost public revenues and foreign exchange, (ii) strengthen energy supply and related security, and (iii) promote downstream processing and intersectoral linkages look promising in this respect. However, their financing and implementation – especially in terms of monitoring sectoral performance, keeping rent seeking in checks, and maintaining stable macroeconomic fundamentals – will be key. Green industrial policies for low-carbon sectors (e.g. renewables or strategic minerals) also play an important role in mobilizing key investments (including from Public-Private Partnerships), fostering technology domestication, and supporting the accumulation of productive capabilities.

With a 30 per cent share of renewables in the energy mix, Senegal can reap significant benefits from embarking on a gradual transition to a low-carbon economy, and the government has shown its determination to do so. Nonetheless, the pace of such transition should reflect the country's development needs and be cognizant of the fact that in 2019 greenhouse gas emissions were estimated at roughly 0.7 tons of CO2 per capita, compared to a world average of 4.4 tons and an average of 9.8 tons for high income countries. Moreover, the speed at which countries can pivot to low-carbon economy depends on available skills and know-how, as well as on the availability of adequate financing, and access to advanced low-carbon technologies (UNCTAD, 2022a). Hence strengthening international support – starting with bold and generous terms for the JETP under negotiation with the G7 – remains imperative for facilitating Senegal's transition to a low-carbon economy, all the more so during the process of LDC graduation.

4.4 Mobilizing adequate resources for sustainable development

Accelerating the transformation of the Senegalese economy and gaining momentum towards LDC graduation inevitably require relatively high investment-to-GDP ratios, in line with the upward trend that accompanied the rollout of the PSE. Mobilizing commensurate resources for sustainable development spending will thus be critical to maintain stable macroeconomic fundamentals. Domestic resource mobilization is all the more important at the current

as favorable, but time-bounded conditions for latecomer development, arising from changes in institutions, markets, or technologies, associated to the green transformation (Lema et al., 2021).

juncture, since Senegal is already a "blend country" under the World Bank and African Development Bank classifications (thus facing hardened terms when accessing concessional loans), and LDC graduation may be accompanied by lower degrees of concessionality for other sources of development or climate finance.

On the public resource side, Senegal's tax revenues hovered around 16-18 per cent of GDP for the most part of the past decade, with nearly two thirds of the revenues accounted for by indirect taxes such as Value Added Tax and other taxes on goods and services. Greater efforts will thus be required to attain the 20 per cent target adopted by the WAEMU, in particular to boost the contribution of direct taxes, like the personal income and corporate income taxes. In addition, greater use of digital technologies could improve the effectiveness of tax administration while simultaneously streamlining business procedures, as illustrated, for example, by the rollout of Senegal's single window ORBUS and the ongoing shifts towards a paperless trade environment. In this respect, the experience of GAINDE 2000, the local company that created and operates ORBUS, could offer important lessons about public-private partnerships for the rollout of digital technologies for public administration purposes. Moreover, in times of scarce resources, it would also be important to continue improving the effectiveness of public expenditure.

Though public resources certainly play an important and often catalytic role, structural transformation will ultimately remain elusive without a more effective mobilization of private investments, especially in key economic sectors. Further enhancing access to credit and financial services, especially for SMEs and rural producers, could go a long way in unlocking private investments. In particular, there appears to be scope for the banking sector to enhance outreach and engage more actively in loans to productive sectors, rather than investing in bonds and other financial assets. This would be a welcomed development since banks lend themselves more adequately than microfinance institutions or tontines to cater for the needs of an expanding business sector made of SMEs, manufacturing companies, agricultural enterprises, and other growing businesses with relatively high and long-term investment needs. Needless to say, the expansion of the banks' credit to the private sector will need to take place under due vigilance and supervision, to preserve financial stability and maintain the credibility of the sector.

Maintaining the momentum in the mobilization of FDI represents another relevant policy priority in relation to private investment. FDI inflows have increased remarkably over the last few years, COVID-19 notwithstanding, and this could prove extremely valuable in supporting the country's transformation agenda, especially if foreign companies gradually deepen their productive linkages with the domestic economy thereby generating knowledge and technological spillovers. With this in mind, it is important to continue harnessing the PSE to attract more FDI to priority SDG sectors, benefitting from the considerable buying in by

international partners. With the necessary awareness raising, the LDC graduation process could also be leveraged for investment promotion purposes, contributing towards improving the image of the country and its appeal to foreign investors.

Furthermore, tapping into innovative sources of long-term finance, from Public-Private Partnerships to SDG-linked bonds and other similar instruments, may help diversify and broaden the pool of resources for sustainable development purposes. Other options worth considering include actively engaging the Senegalese diaspora with a view to channel more resources towards investment purposes, rather than consumption, as done for instance by India or Ethiopia through their Diaspora bonds. In an increasingly complex and multifaceted development finance landscape, it will be critical to put in place a conducive institutional framework, in line with the Cadre national de financement intégré (INFF), along with strengthened capacities to negotiate innovative financial instruments, ensure alignment with national and sectoral development strategies, carry out due monitoring (particularly in the case of contingent liabilities for public coffers), and assess development impact.

In light of the above analysis, mainstreaming LDC graduation in the implementation of the INFF will be an important step to anticipate any adverse impact and ensure continued support towards LDC graduation and beyond. This will also provide useful entry points for early engagement with key development partners, to ensure a smooth transition out of the LDC category. Among other objectives, the Vulnerability Profile and the related roadmap towards graduation with momentum aim at contributing to these important outcomes, thereby supporting Senegal's transformation agenda.

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