

SENEGAL ECONOMIC UPDATE

Recent Growth Drivers in Senegal, and the Role of
Agriculture in Developing a Resilient and Inclusive
Economy

Avril 2018

The macroeconomic projections are for September 2017. The actual data are those existing on 29 September 2017. Particularly, the National Accounts data used, are those based on the 1999 base year.

Preface

The *Economic Update (SEU)* evaluates the recent (2016-17) growth performance and macroeconomic policies in Senegal, thus providing a basis for the policy dialog with the Government and other stakeholders. The first section of the Economic Update evaluates the drivers of growth and the macroeconomic framework. Three-year perspectives are also included, underlining risks and challenges. The second section evaluates the agricultural sector in more detail focusing on the recent evolution of the agriculture sector and on the impact of public sector involvement.

The Senegal Economic Update is a product of the World Bank's Macro-Fiscal Management (MFM) and Agriculture Global Practices. It was prepared by Julio Loayza (Senior Economist), Adama Toure (Lead Agriculture Economist), Aifa Fatimata Ndoye Niane (Senior Agriculture Economist), Samer Matta (Young Professional) and Cédric Deguenonvo (Economic Analyst), under the general guidance of Paolo Zacchia (Program Leader), Christine Richaud (Lead Economist), Lars Moller (Practice Manager) and Christian Berger (Acting Practice Manager). The International Food Policy Research Institute (IFPRI) produced a background paper for the special focus on the agriculture sector.

The macroeconomic projections are for September 2017. The actual data are those existing on 29 September 2017. Particularly, the National Accounts data used, are those based on the 1999 base year. This implies, among other things, that this document does not use the new 2014 base year GDP data, which was not yet officially released at the time of this study's preparation. As a result, the data presented here are not directly comparable with the statistics built on this new 2014 base.

The findings, interpretations, and conclusions expressed in this SEU are those of World Bank staff and do not necessarily reflect the views of the Executive Board of The World Bank or the governments they represent.

For information about the World Bank and its activities in Senegal, including e-copies of this publication, please visit: www.worldbank.org/en/country/senegal.

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Abbreviations and Acronyms

AIBD	Aéroport International Blaise-Diagne
ANSD	Agence Nationale de Statistique et de la Démographie
BCEAO	Banque Centrale des Etats de l’Afrique de l’Ouest
CPI	Consumer Price Index
DPEE	Direction de la Prévision et des Etudes Economiques
DSA	Debt Sustainability Analysis
ECOWAS	Economic Community of West African States
EMDE	Emerging Market and Developing Economies
EU	European Union
FCFA	CFA Franc
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
IMF	International Monetary Fund
NAS	National Accounts System of the UN
PSE	Plan Senegal Emergent
SSA	Sub-Saharan Africa
USD	United States dollar
WAEMU	West African Economic and Monetary Union
WDI	World Development Indicators

Executive Summary

Section 1: The State of the Economy and Outlook

i. **Senegal's economy maintained its wide-based, strong growth in 2016 and the first half of 2017.** GDP growth accelerated from 6.5% in 2015 to 6.7% in 2016, positioning Senegal among the fastest growing economies in the African continent. All sectors of the economy contributed significantly to growth in 2016 with services being the sector that contributed the most due to its large size as a share of GDP. Until mid-2017, growth maintained its strong performance, though at a slightly slower pace (from 6.4% in H1-2016 to 5.6% in H1-2017) mainly due to a deceleration in the agriculture sector.

ii. **Exports remained the main driver of growth from the demand side, as it continued its rapid expansion due to recent reforms and a robust external demand.** The solid performance of exports, which grew on average by 10.5% in 2015-2016, resulted from stronger foreign demand in addition to structural and sector reforms implemented over the past years. Other demand components performed well, but their role as growth drivers were not as strong as exports. Total investment grew by 8.8% in 2016 (up from 6.3% in 2015) as a result of the investment program adopted as part of the Plan Senegal Emergent (PSE) (particularly transport and energy) as well as policy interventions in specific industries. While the strong import component of investments reduces their short-term impact on growth, the increase in both public and private investments bodes well for future growth, particularly if the efficiency of public investment can be enhanced. Private consumption accelerated also as its growth rate increased from 5% in 2015 to 5.3% in 2016 thanks to higher income and optimistic expectations about the future of the Senegalese economy.

iii. **Data limitations prevent full understanding of the reasons why faster economic growth did not translate into gains in terms of employment and lower unemployment.** Despite faster growth, the economy is still showing slow job creation – particularly in the formal sector –, which in turn generates an increase of unemployment in a context of a steady increase of labor supply. The unemployment rate, for instance, increased from 15.7% in June 2015 to 16.6% at end 2016. Further research is needed to explain this outcome, but some hypothesis can be advanced as poor employment creation may be caused by: skill shortages, long-standing structural rigidities in the labor market, and high costs of labor. Unfortunately, data limitations prevent us from empirically distinguishing between these potential channels and examining the causality chain between growth and employment, specifically in urban areas.

iv. **In addition to boosting growth, strong exports helped further strengthen the current account balance despite higher imports which were uplifted by total investments.** The strong growth of exports outpaced the increase in imports in 2016, boosted by gold, cement and phosphoric acid; these are sectors where significant reforms have been implemented in past years. Higher imports were driven by machinery and oil, which are linked to stronger total investment and energy demand in relation to higher growth. As a result, the trade deficit decreased, and the current account deficit narrowed further, reaching 5.6% of GDP in 2016, almost half of its 2012 level. However, in the first eight months of 2017 (8M-2017), the trade

balance worsened as rising imports driven by machinery and higher oil prices more than offset the increase in exports which were negatively affected by lower fishing production.

v. **On the fiscal side, the balance has improved due to the recent consolidation efforts – but, in 2017, lower than expected revenues and delayed payments reveal a growing fiscal stress.**

The fiscal deficit of the Central Government shrank to 4.2% of GDP in 2016 from 4.8% in 2015 because of (i) rationalized current spending stemming from the current fiscal consolidation efforts and (ii) higher revenues driven by better collection of custom taxes. This fiscal space has allowed the government to increase public investments, focusing on significant infrastructure and energy projects that are critical for future growth, as commanded by the PSE. Up to 8M-2017, revenues are lower than expected and, as a result, there is emerging information of non-quantified delayed payments. The fiscal balance is still estimated to reach 3.7% at end 2017, but delayed payments reveal underlying fiscal tensions.

vi. **Public debt has continued to rise because of below-the-line treasury operations; and although the risk of debt distress remains low, this situation might change if debt maintains its upward trend.**

Despite the fiscal consolidation process, public debt maintained its upward trend and reached 60.6% of GDP in 2016 (while a more modest increase to 60.8% of GDP is expected for 2017), mainly due to “below the line” treasury operations which relate to the financing needs of public entities that are not part of the central government’s accounts¹. According to the latest IMF-WB debt sustainability analysis, public debt in Senegal remains classified at a low risk of distress, but indicators of debt distress – such as the ratios of present value of debt to GDP+remittances, and of debt service to revenue – are showing emergent strains with respect to sustainability. Further deterioration would place Senegal in the category of countries that are subject to a moderate debt risk. In the first eight months (8M) of 2017, slightly lower revenues and strong public investment slowed down the improvement in the fiscal deficit, which declined only marginally from an estimated 5.7% of GDP in 8M-2016 to 5.6% of GDP in 8M-2017.

vii. **Despite a prudent monetary policy at the regional level, inflation, which has recently increased due to pressures stemming from the stronger economy, remains well under control.**

The improved economic performance has exerted upward pressure on prices. As a result, inflation increased from almost zero in 2015 to 0.8% in 2016. During the first eight months of 2017, inflation increased further to reach 1.9% on average, reflecting continued strong economic activity despite the recent appreciation of the Euro that helped moderate the prices of imported goods and services. Nonetheless, inflation remained under control and below the 2% target set by the regional central bank thanks to the prudent regional monetary policy, exchange rate stability and ongoing fiscal consolidation efforts.

viii. **In line with the ongoing growth performance, the financial sector has expanded from a relatively underdeveloped position, but financial inclusion remains a significant challenge.**

The stock of total assets and deposits held within the financial sector have been growing at healthy rates over the past few years, from 48.7 and 35.7% of GDP in 2015 to 53 and 37.3% of GDP in 2016, respectively. This is in line with the strong overall economic growth, but is also due to the

¹ These include the post office, the civil service pensions and the *comptes de dépôt*.

relatively low degree of initial development. Moreover, the sector is relatively stable and liquid, although concerns about the high – and rising – level of loan concentration persist. Meanwhile, digital financial services are spreading rapidly, but remain very limited due to restrictions in the regulatory and institutional framework. Overall, the financial inclusion of households and SMEs remains poor due to low income and high required collaterals. In that context, a new regional strategy to facilitate financial inclusion is currently underway.

ix. **Concerning the economic outlook, growth is expected to remain strong over the next years, but the prospects are subject to downside risks.** The World Bank projects that real GDP growth could converge to 7.0% in 2019, if the current internal and external conditions continue supporting this trend. Supported by robust macroeconomic fundamentals, Senegal is expected to remain one of West Africa’s top growth performers. Exports would remain a key driver of growth, particularly due to higher exports from the agriculture, fishery and extractives sectors. The government’s commitment to further increase public investment, with a focus on transport infrastructure and energy, is expected to support growth. However, risks can reduce growth expectations. First, the effects of the PSE program could be undermined if projects are postponed, the quality of public investments deteriorates, or reforms do not address key bottlenecks due to non-technical motivations. Second, and despite recent improvements in competitiveness and diversification, the agriculture sector would continue to be adversely exposed to volatile climatic conditions, particularly if reforms (for instance, facilitating access to land and enhancing the effectiveness of existing subsidies) are not properly implemented. Third, growth could be constrained and the fiscal and external balances could worsen if oil prices rise, mainly due to their impact on energy costs. Fourth, the appreciation of the euro (to which the FCAF is pegged) may constrain competitiveness.

x. **On the fiscal side, consolidation is expected to continue, but the growing public debt and arrears accumulated poses risks to long-term macroeconomic sustainability and challenges for treasury management.** In baseline expectations, consolidation is still expected to drive the fiscal deficit to 3.0% of GDP by 2019 (in line with WAEMU’s fiscal convergence criterion), if tax revenues and public investment stabilize and current expenditures decline further. Public debt would start declining as a ratio of GDP in 2019. However, for this to happen, additional efforts are needed to increase revenues on the one hand, and rationalize expenditures and manage accumulated arrears and below-the-line operations on the other hand. Otherwise, the fiscal situation may deteriorate instead, increasing public debt and placing Senegal at moderate risk of debt distress.

xi. **On the external front, the projected continued decline in grants and remittances is expected to slightly worsen the current account balance over the projected period, despite a smaller trade deficit.** Growing exports are expected to help reduce the trade deficit. However, the projected improvement in the trade balance would be more than offset by the continued falling trend of grants and remittances. The net result would be a slightly larger current account deficit.

Section 2: The Agriculture Sector

xii. **The agriculture sector has played a critical role in the Senegalese economy, but remains vulnerable to weather shocks, which are likely to intensify with climate change.** The agriculture sector, grew at an average rate of 3.2% between 2000 and 2016, but volatility around that average was large. The big swings in agriculture growth, which are highly correlated to large changes in the overall growth rates, are mainly the result of weather and climatic hazards which heavily impact pastoralism and rain-fed crops such as groundnut, millet and other cereals that have traditionally dominated the sector. This suggests that for Senegal to maintain the high output growth attained since 2015, more efforts are needed to protect the agriculture sector against climatic variability and enhance livelihood resilience in rural areas.

xiii. **The production of key staples has surged in the past few years due to the expansion of cropped areas and an increase in the use of inputs encouraged by public policies.** In addition to making efforts to ease financing constraints in partnership with the private sector, the Senegalese government has adopted several policies to modernize and develop the agriculture sector over the past few years. These policies, such as developing the skills and financial capabilities of farmers, subsidizing of high quality seeds, and supporting agricultural mechanization, have helped boost agriculture yields and production, in cereals, horticulture and pulses. Main beneficiary crops include those tagged as priority value chains under PRACAS (rice, onions and groundnuts, with steady increases by 160%, 74%, and 108% between 2013 and 2017, respectively). Continued public support for rice over the last two decades – by increasing investments and implementing reforms in the irrigation management systems and expanding low land (and rainfed) cropping systems – is paying off with higher rice yields, surpassing the African average and closing the gap with the World average. The private sector has contributed to the improvement in agriculture productivity due to the modern processing units that were developed along the Senegal River Valley.

xiv. **Recent improvements in agriculture output is linked more to stronger input use than to productivity increases, and had a limited impact on job creation.** Labor productivity did not improve over time – and even decreased for certain crops – mainly due to a decreasing land-to-labor ratio. In fact, the increase in agriculture output was largely due to an expansion of input use per unit of land, and to a much lesser degree to overall improvements in Total Factor Productivity (TFP), such as innovation and skills. Therefore, to achieve the objective of poverty reduction – which remains prevalent in rural areas – and drive the transformation agenda, total factor productivity, and labor productivity in particular should be significantly improved. This necessitates creating more jobs for the rural workforce ('move-out' track), while supporting farmers to modernize and better connect to the value chains with the rest of the economy ('move-up' track).

xv. **Agribusiness, particularly the emerging horticultural industry, has the potential to boost agriculture productivity and create new jobs.** Despite its relatively small size within the economy, the agribusiness industry could play a major role in agriculture development as it would improve the efficiency of farm production and mitigate the uncertainty associated with the lack of post-production outlets, hence allowing farmers to earn higher returns. In fact, horticulture,

which has been growing rapidly over the past few years, could yield several socio-economic benefits: improve food security and nutrition, increase farm-nonfarm linkages and empower women by boosting their on-farm income and off-farm employment opportunities and consequently reduce poverty rates, particularly in the rural regions. Moreover, the agroprocessing sector needs to expand significantly from its current low base as it accounts for around 5% of GDP, 10% of the total firm revenues with 97% of agroprocessing enterprises making less than \$200,000 as revenues per year².

xvi. **While public policies have helped boost production, concerns about efficiency and sustainability remain; thus the need to redress public spending to productive factors that would help achieve the transformation agenda.** Government policies included high public spending on agriculture with less than proportional impact on the added value created in the economy. While three quarters of the budget allocated to agriculture was spent on crops, only half of the agriculture GDP growth stemmed from crop production, thus raising concerns about the efficiency and sustainability of these expenditures. In fact, inputs subsidies have boosted agriculture production but not the overall total factor productivity. For instance, the government's support to groundnut prices through state-(re)owned SONACOS has proven ineffective³ as it distorts competition among players for groundnut collection. It is also delaying the modernization and realignment of the groundnut sector to the international markets trends, thus diverting critical government resources that could otherwise support the agriculture resilience agenda and/or strengthen social protection programs in rural areas. In this sense, the government may reorient its agricultural spending from less productive fertilizer subsidies to productivity-enhancing input factors such as agricultural R&D, climate change resilient technologies and advanced irrigation techniques. This could be paired with well targeted social protection mechanisms to support the poorest rural households.

xvii. **In order to deepen the reforms in the groundnut sector, the government should anchor a stable policy framework for whole nut exports, including specific protection against swings in revenues.** Reforms undertaken by the government since 2014 to liberalize the groundnut market started yielding results, with stronger exports of nuts and new investments in the value chain (storage, deshelling facilities, with significant potential in term of off-farm employments). However, distortive policies to keep alive a less profitable processing of crude oils segment prevented farmers from getting the full value of expanding to global whole nuts markets. Within that context, a new value chain centered on producing high quality groundnuts for wholenuts exports and confectionery industry is needed. This requires establishing a level playing field for the private sector to invest and innovate in the processing and marketing segments. A key step in this direction would be to privatize SONACOS. Such reforms should address the issue of revenues volatility, including safety net mechanisms when both international prices and domestic production are low.

² Rapport Global du Recensement Général des Entreprises (ANSD, 2017).

³ Only 82,000 metric tons were collected in 2017 against a total production of 1 million metric tons. The projected purchase of 300,000 metric tons in 2018 will cost about USD 120Mn or 0.8% of the country GDP.

xviii. **Several additional steps need to be implemented in order to achieve a sustained rise in agricultural production and productivity.** The agriculture sector should be better integrated with other sectors of the economy, starting with the local food transformation industry that frequently uses imported inputs. Senegal should also improve its risk management mechanisms to shield itself against volatile climatic conditions. This can be done by (i) developing sufficient livestock related infrastructure, (ii) improving farmers' resilience to weather shocks through developing climate-smart technologies such as high-yielding, drought tolerant and early-maturing varieties, (iii) developing irrigation systems to better control water and gradually move away from rain-fed agriculture, and (iv) improving access to weather forecasts. To improve productivity, a stronger cooperation between research centers and agricultural advisory councils is required to facilitate knowledge transfer. It is also important to reinforce the technical capacity of small farmers in order to boost productivity. Moreover, it is critical to support and encourage the private sector to play a bigger role in the development of agriculture. Finally, efforts should be made to improve the reliability of agricultural statistics by relying more on new information and communication technologies (ICTs), GPS and drones along with adequate estimation methodologies.

Section 1: The State of the Economy and Outlook

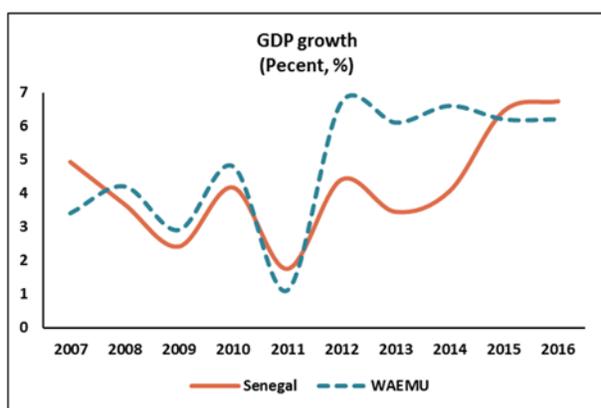
1.1 Recent economic developments

1.1.1 Growth maintained its upward trend in 2016 and the first half of 2017 thanks to robust exports

Growth accelerated to 6.7% in 2016 (3.7% in per capita terms) and recorded a strong performance in the first half of 2017. The most dynamic component of the demand has been exports as reforms in certain sectors (extractives, cement, fertilizers and chemicals) allowed to increase production and exports, and external demand remained robust. Total investment also grew rapidly but its strong import content reduces its impact on growth in the short-run. From the supply side, all three main sectors of the economy grew at similar, high-speed rates, but the services sector contributed the most to growth due to its large size as a share of GDP.

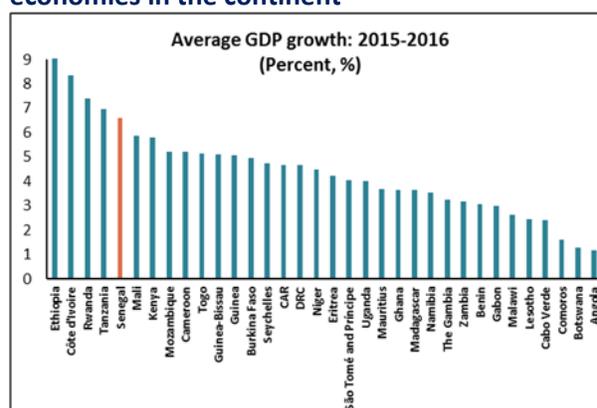
1. The strong economic performance that started in 2015 improved further in 2016 and remained solid in the first half of 2017. GDP growth accelerated from 6.5% in 2015 to 6.7% in 2016, positioning Senegal among the fastest growing economies in the WAEMU region and in the African continent (Figure 1 and Figure 2). This is almost twice as high as the 3.7% average growth rate achieved over 2005-2013. National account figures for H1 2017 show a lower growth rate (5.6%), but the General Activity Index (IGA) – a proxy for monthly economic activity, excluding agriculture – grew by 6.3% during the first 8 months of 2017 compared to 3.3% during the same period of 2016, thus suggesting that the economy continues to grow robustly. High growth achieved over the past few years, which can be considered as outliers when comparing to Senegal’s muted growth history, have allowed the country to recover from its past poor economic performance and attain its highest GDP per capita level since independence (Figure 3).⁴

Figure 1: Senegal leads growth in West Africa ...



Source: WEO IMF, 2016

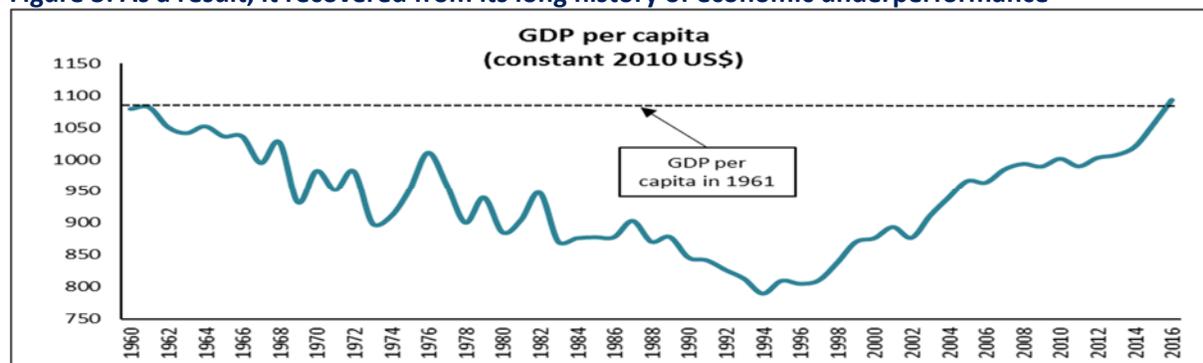
Figure 2: ... and is among the fastest growing economies in the continent



Source: World Bank, Global Economic Prospects, 2017

⁴ Box 1 presents an overview of the government’s plan to rebase the national accounts using the 2008 National Account Systems.

Figure 3: As a result, it recovered from its long history of economic underperformance



Source: WDI

Box 1: GDP Rebasng

The Government is revising the National Accounts using 2014 as the new base year and incorporating new GDP measurement methodologies. The structure of the economy changed substantially since the previous base year (1999) and GDP measuring methodologies evolved (the UN updated its National Accounts System – NAS – guidelines and manuals in 2008). To be as exhaustive as possible, the national statistical agency ANSD included all available statistical information (censuses, surveys, and administrative records), including surveys specifically designed for the rebasing. In line with the NAS, ANSD included activities not captured by the previous GDP or that were captured differently. These include services produced by the regional Central Bank (BCEAO), requalification of R&D expenditures as investment instead of intermediate consumption, and adjustments in the measurement of financial intermediation services. Certain activities and products were also reclassified. For instance, ICT-related activities – which were previously dispersed in different branches – are now grouped.

ANSD will officially replace the current GDP series once it completes recalculating a new one. ANSD is validating the preliminary results for 2014 – which determines a GDP that is around 30% higher than previously measured for that year – and will process new National Account and GDP numbers for 2015-17 until 2018. Hence, users will not have access to the new series until end 2018, when a dissemination campaign will take place. As a result, this Economic Update does not consider the GDP rebasing results and is based on the existing series.

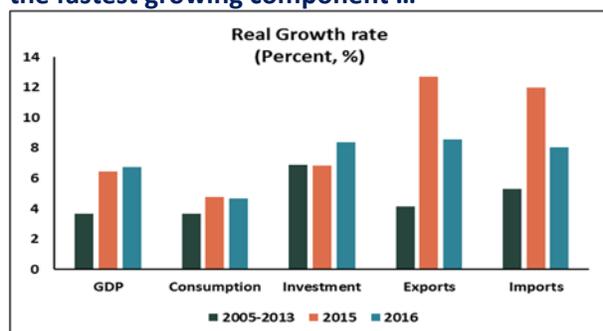
Source: MEFP (2017)

2. **Exports have been the fastest growing component on the demand side, and have contributed substantially to overall growth thanks to a combination of higher foreign demand and recently implemented structural policies.** While the growth rate of exports⁵ decelerated from 12.7% in 2015 (record high) to 8.6% in 2016, it remains well above the 4.1% averaged observed between 2005 and 2013 (Figure 4). Exports, which account for around 30% of real GDP, contributed to 37.4% of total growth in 2016. (Figure 5). In addition, following years of a declining share of Senegalese exports as ratio of global trade, the trend has been reversed in the last few

⁵ To better attribute growth to demand components, we don't use net exports. Instead, each demand component is netted out from its imported content, and the net value is used to calculate its contribution to growth. Hence, demand components with a strong imported content have a lower impact on growth, and vice versa. In the case of exports, they grew rapidly and don't have a strong imported content, so their (net) contribution is quite strong. The contrary happens with investment, that has an important imported content.

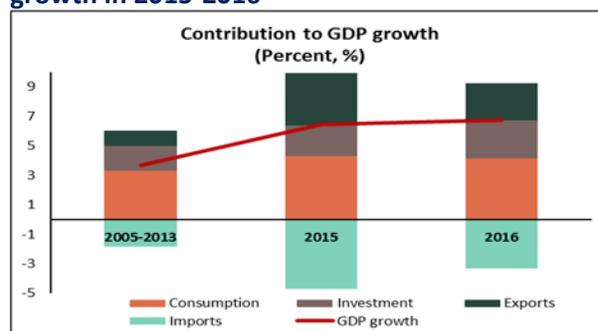
years, with a particularly strong recovery since 2015 (Figure 6). This good performance has been driven by significant increases in the production of goods in the extractives (particularly phosphoric acid and gold), cement, fertilizers and chemicals sectors (see section d below for more detail on the composition of exports). This can be explained by two factors. First, the relative contribution of external demand to overall growth has increased (Figure 7). Second, local authorities have implemented reforms and introduced new policies in 2014 in order to boost exports in the extractives and cement industry, and in the chemicals and fertilizers sectors.⁶ As discussed in detail in section 1.1.3 (below), exports have moderated more recently as their growth decelerated from 7.9% (yoy) during the first eight months (8M) of 2016 to 4.5% (yoy) in 8M-2017 due to slower increases in fishing exports.

Figure 4: From the demand side, exports were the fastest growing component ...



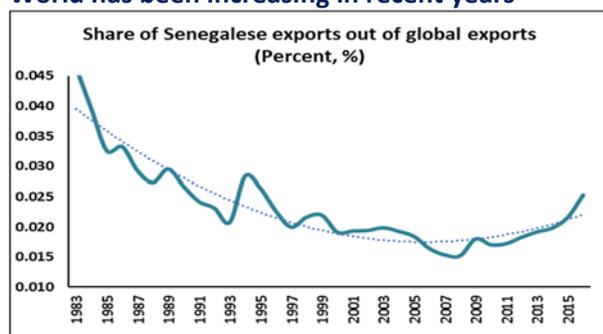
Source: DPEE and World Bank staff calculations

Figure 5: ... and contributed substantially to growth in 2015-2016



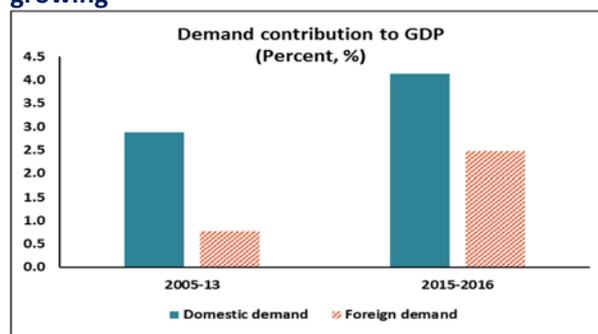
Source: DPEE and World Bank staff calculations

Figure 6: The share of Senegalese exports in the World has been increasing in recent years



Source: WDI

Figure 7: The share of external demand has been growing



Source: DPEE and World Bank staff calculations

3. Both public and private investment also accelerated in 2016 thanks to the PSE investment program and new infrastructure projects in energy and infrastructure, but their

⁶ In effect, in 2014, through the Inter-Ministerial Committee for the Restructuring of Public Enterprises (CIREP), the Government restructured the Chemical Industries of Senegal (ICS), boosting its capitalization and promoting greater private sector participation. After years of struggles, ICS have since generated exceptional growth rates, reflected in substantially higher production and export of phosphates. Similarly, in the cement sector, the government allowed, in 2014 the entry of new private players and increased competition in the sector, which resulted in a rapid recovery in production and exports. More details can be found in the 2016 Economic Update.

contribution to growth is diluted due to their high import content. Total investment growth accelerated from 6.8% in 2015 to 8.4% in 2016 (Figure 4). This improvement was driven by 7.9% increase in private investment which was accompanied by a 10.1% growth in public investment. Strong investment dynamics are related to the ambitious investment projects of the PSE, more specifically in energy and infrastructure.⁷ Nonetheless, the short-term contribution of total investment to growth is lower as a large share of machinery and equipment goods is imported. Thus, we estimate that net-of-imports investment contribution to growth was just about 15% in 2016. This is in line with results observed over the past few years. In 2015, for instance, the contribution of investment to growth was almost null after excluding imports.

4. **In line with the PSE goals, there is evidence that public investment is likely to be crowding-in private investment, but challenges remain.** Eden and Kraay (2014) showed that crowding in effects result from (i) high complementarities between government and private investment and/or (ii) high marginal returns on government capital. In the case of Senegal, both conditions are met. In fact, the authors found that the estimated marginal return on public capital was high (26.8% over the world interest rate) while the ratio of private and public investment was 1.87. In addition to those findings, the efficiency of total investment has likely increased recently as the Incremental Capital Output Ratio (ICOR) dropped from 8.7 in 2013 to 5.2 in 2016. This contrasts with the average ICOR in SSA which increased from 4.5 in 2013 to 7 in 2016. However, the management of public investment requires attention as Norris et al. (2012) found that Senegal ranked 61st out of 71 developing countries when it comes to the quality of public investment management.

5. **Increasing real income and higher consumer confidence have sustained private consumption, which represents the largest component of GDP on the demand side.** Private consumption, which accounts for three-quarters of GDP, grew by 4.7% in 2016, slightly below the 5% attained in 2015, but faster than the 3.7% averaged over 2005-13. As a result, it accounted for 54.4% of overall GDP growth in 2016, slightly lower than the 60.1% contribution recorded in 2015. This healthy performance reflects higher real income as well as higher consumer confidence regarding the overall economy. In particular, the consumer confidence index increased by an average of 6.8% in 2016. Available high frequency indicators suggest that the strong dynamism of private consumption continued in 2017. For instance, the stock of commercial banks' credit to the private sector has increased by 12.2% (yoy) in June 2017 compared to 7.1% (yoy) in June 2016.

6. **Public consumption grew at a relatively slower pace than its private counterpart, in a context of sustained fiscal consolidation.** Public consumption grew by 3.8% in 2016, up from 3.3% in 2015 and in line with a 3.6% average over the 2005-2014 period. The contained growth in public consumption is in line with the current fiscal consolidation process where the

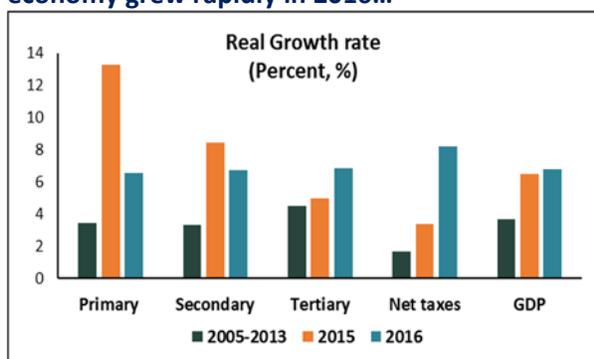
⁷ These investments include the new international airport and ministerial city at Diamniadio, a major upgrade of the Dakar port, and the extension of the Dakar-Diamniadio toll highway among several others. Recently, the construction of a new port terminal, *Port du Futur*, was announced. This port, which is expected to be Africa's most advanced industrial zone, will be well situated to become an international logistics hub and gateway.

government is trying to rationalize current expenditures, increase revenues and create more fiscal space to fund public investment projects. In fact, during the first eight months of 2017, primary current spending, a proxy for public consumption⁸ increased modestly by 3.2% (yoy) in nominal terms.

7. **On the supply side, growth was driven by the three main economic sectors in 2016.** Growth in the primary, secondary and tertiary sectors of the economy was strong and close to the overall average GDP growth of 6.7%. More precisely, the primary, secondary and tertiary sectors grew by 6.5%, 6.7% and 6.5% in 2016, respectively.

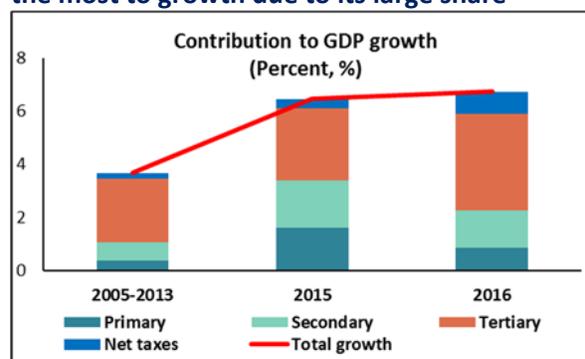
8. **Growth in the primary sector decelerated in 2016 relative to 2015, but it remained well above its historical average, driven by long-standing support programs, the development of new export markets, and favorable climatic conditions.** Following impressive growth in 2015 (over 13%), the primary sector continued growing in 2016, though at a much lower rate of 6.5%. This rate remains, however, considerably higher than the 3.5% growth averaged over the period 2005-13 (Figure 8). Traditional agriculture and fishery, which grew by 9.7% and 12.7% respectively in 2016, were the main drivers of this healthy performance. In particular, the agriculture sector benefited from favorable climatic conditions and government interventions such as subsidizing rice production. Furthermore, the development of new export markets, such as China for groundnuts, has helped Senegal strengthen its agriculture sector. Meanwhile, the growth of the fishery sector mainly reflected a recovery from a low base. In the first semester of 2017, however, the primary sector experienced a slowdown in its growth rate (from 10% in the H1-2016 to 4.4% in H1-2017) primarily driven by a 15.7 pp drop in the growth rate of the fishery sector. Reasons for lower production in the fishery sector are not clear but may be related to overfishing in the last years, in response to higher demand from China⁹.

Figure 8: From the supply side, all sectors of the economy grew rapidly in 2016...



Source: DPEE and World Bank staff calculations

Figure 9: ... but the tertiary sector contributed the most to growth due to its large share



Source: DPEE and World Bank staff calculations

9. **The good performance of the secondary sector is related to the industrialization strategy outlined in the PSE, which, if successful, would reverse the industry's long-term stagnation.** At 6.7% in 2016, growth in the secondary sector remained high. It is somewhat below

⁸ Primary current spending is defined as total current spending minus interest rate payments.

⁹ Overfishing may be worsened by Chinese unauthorized distant-water fleet fishing near West Africa coasts.

the 8.4% attained in 2015, but well over the 3.3% growth averaged over 2005-13 (Figure 8). This improvement was fueled by the extractive sector (particularly phosphates) and chemical industries, which grew by 33.7% and 26.7%, respectively. As mentioned before, those sectors have expanded rapidly since 2014, following policy reforms that allowed to attract private investors. The progress observed in the secondary sector is in line with the industrialization objective of the PSE, where most of the PSE's 27 flagship Projects are related to manufacturing. Moreover, the government expects the secondary sector to continue growing steadily in the next few years. In line with this, newly published GDP data suggest that the sector's growth in the first half of 2017 maintained the same rate (3.1%, yoy) as in the first half of 2016. If industrialization materialize, it would reverse Senegal's long-term trend, where labor from the primary sector was absorbed by low productivity tertiary sectors while the secondary stagnated (see Appendix 2).¹⁰

10. Driven by tourism, transport and financial services, growth in the tertiary sector accelerated in 2016. The growth rate of the tertiary sector¹¹ accelerated to 6.5% in 2016, up from 4.8% in 2015 and 4.4% in 2005-2013. Moreover, this sector contributed the most to overall growth in 2016 as it accounted for 55.3% of real GDP (Figure 9). This improvement was mainly driven by a 17.8% increase in both financial services and financial intermediation services. This robust result reflects growing credit to the economy which was driven by more dynamic private consumption and investment. Other tertiary sub-sectors also performed well, including transport (+15.6%) and hotel and restauration services (9.3%), due to strong aggregate demand and the recovery of the tourism sector following the end of the Ebola crisis in the region. However, growth in the tertiary sector slowed down from 8.2% in H1-2016 to 6% in H1-2017, although it remained the fastest growing sector of the Senegalese economy during the first half of 2017.

1.1.2 Growth still has a very limited impact on job creation

The rate of job creation is slower than the rate of economic growth, and barely responds to fluctuations in growth. The modern (formal sector) creates jobs at even lower rates. As labor supply is increasing (both due to demographics and probably higher participation rates), weak job creation implies higher unemployment. Simulations suggest that poverty reduced due to higher growth – despite the lack of response from the labor market. Weak job creation (particularly in the formal sectors) may be linked to skills shortages and long-standing, structural rigidities. Data is insufficient for a clear explanation, but further analysis of the causality chain between growth, employment and poverty would be needed.

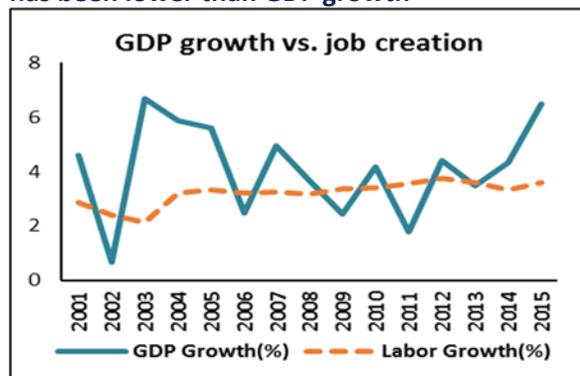
11. There is a disconnect between growth and employment as job creation is slow and reacts only sluggishly to changes in economic growth. Between 2000-2015, job creation was slower than overall economic growth: the average rate of job creation attained 3.1% (or around

¹⁰ Most of the variation in growth performance between economies is due to labor shifts from lower to higher (and growing) productivity sectors. As in other countries in Africa, structural change has been only marginally growth-enhancing as Senegal has experienced very limited shifts to sectors with high productivity (such as manufacturing). This is so despite its potential. For instance, labor productivity in agriculture is one fourth of manufacturing. Similarly, manufacturing-to-agriculture productivity ratio in Senegal is higher than the African average by about 2.3. This points to allocative inefficiencies and sizable room for productivity-increasing structural change.

¹¹ We also add the services sector the activities of the public administration.

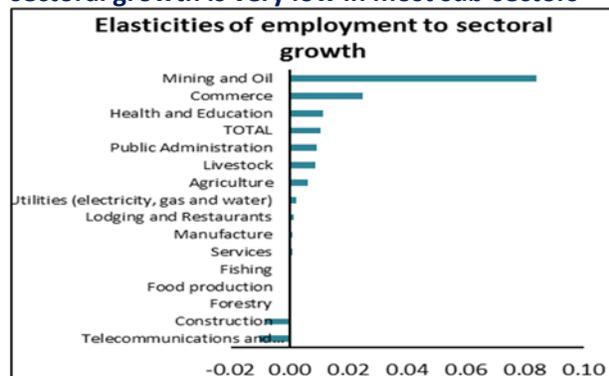
153.000 new jobs in 2016), below the economic growth rate of 3.8% (Figure 10). In addition, job creation barely reacts to annual changes in economic growth as the average annual elasticity of employment to growth is very low, at 0.01, like most sectors of the economy (Figure 11).¹² Results in the formal sector are even more disappointing because the 12-month average growth of the modern sector job index increased by 2.8% during 2015, 2.6% during 2016 and barely 1% until mid-2017. This result also implies that the increase in the labor supply has been mostly absorbed by the informal sector, which employs around 90% of the workforce.

Figure 10: Over the past few years, job creation has been lower than GDP growth



Source: DPEE and World Bank staff calculations

Figure 11: The elasticity of employment to sectoral growth is very low in most sub-sectors



Source: ANSD and World Bank staff calculations

12. **Despite stronger economic growth, the already high unemployment rate has risen as the slow growth in job creation was accompanied by an increase in the labor force participation rate.** According to the Q1-2017 employment survey, unemployment is very high in Senegal, particularly among the women and the young. While the series is still too short and scattered to define a clear trend¹³, the unemployment rate increased from 15.7% in June 2015 to 16.6% at end 2016 and to 22.7% in the first quarter of 2017 (or more than 3.1 million people, of which 1.9 million are between 15 and 34 years old). Labor force participation rate also increased in the same period, passing from 53.5% in mid-2015 to 57.7% at end 2016. This implies that the increasing unemployment rate was driven by a higher number of job seekers who were not absorbed by newly created jobs as full-time formal employment is a rarity in Senegal.

13. **Low job response to growth may be linked to skills shortages, and existing rigidities and costs in the labor market¹⁴.** Over 70% of workers in Senegal are unskilled with an adult literacy rate of 40%, well below SSA of 60%. Key shortcomings in human capital prevent the inclusive articulation of the poor – and particularly the young – in the opportunities created by growth.

¹² Higher job to growth elasticity in Mining and Oil is explained by the low number of jobs in those sectors. As a result, small changes in jobs imply high elasticities.

¹³ There are gaps and methodology changes in the series of surveys that officially began in 2016, though a previous version of the survey has been implemented in 2015.

¹⁴ World Bank(2016)

Worsening this context, employment regulations are rigid and labor costs are high in Senegal¹⁵. According to the Doing Business dataset, the ratio of minimum wage to value added per worker is about 1.14 or more than twice the SSA average, severance pay for labor in the formal sector attains 16.2 weeks of wages for workers employed 10 years (also higher than the SSA average), priority rules for redundancy disconnect these decisions from efficiency requirements, while fixed term contracts are prohibited for permanent tasks¹⁶. Concerning labor costs per worker in the formal sector, they were about \$1,709 in Senegal in 2014-15 (similar to the level in 2008), and over labor costs in other countries with similar development levels. For instance, labor costs were \$603 in Mali, \$660 in Cote d'Ivoire and \$933 in Ethiopia. They are even higher than in some middle-income countries such as Indonesia (\$774) or Vietnam (\$1,777).

14. Simulations suggest that despite labor stagnation, poverty reduced in the last few years, which can be linked to changes in revenues or labor intensity. World Bank simulations show that monetary poverty may have decreased by 3-5 p.p. from 46.7% in 2011 (the latest available official number), mainly in rural areas. The recent growth outburst in agriculture – which absorbs a significant share of the labor force and has the highest elasticity of poverty to growth – may help explain this outcome. As labor changed only slightly, lower poverty is probably linked to higher incomes and labor intensity.¹⁷ However, data is insufficient to provide a clear picture of the mechanisms.

15. Data limitations prevent a deeper analysis. As a result the transmission mechanism between growth, the labor market, and poverty remains a key element for further research. As mentioned above, information concerning the labor market is still poor as the labor market series from the recent employment surveys are still short and incomplete. Moreover, the latest available household survey is from 2011. Therefore, the causality chain between growth, employment, and poverty remains a key pending issue for further analysis and appropriate policy design.

1.1.3 Dynamic exports helped to strengthen the external balance

In addition to its major contribution to economic growth in 2016, higher exports helped reduce the current account deficit further in 2016, despite higher imports that were uplifted by machinery. The strong increase of gold exports – which benefited from substantial regulatory reforms in past years – helped explain this performance. However, during the first eight months of 2017, imports grew faster than exports (because of higher oil prices), thus the trade deficit worsened.

¹⁵ Labor market also suffers from high reliance on informal channels to match supply and demand. 65% of formal firms use family and friends' networks instead of placement offices or advertising for hiring. This situation reflects informational deficiencies in the labor market affecting the matching of supply and demand, and extends the length of the recruitment process, particularly in manufacturing, for skilled workers, and for firms outside of Dakar.

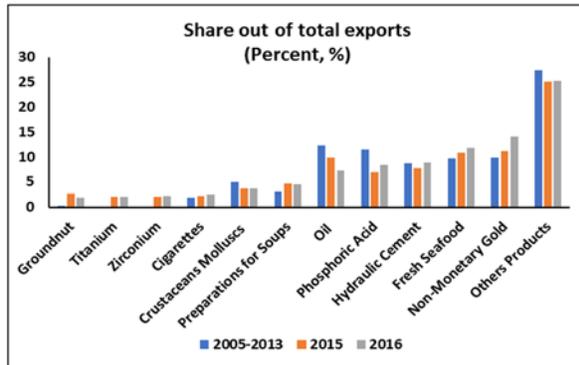
¹⁶ Curiously enough, only 5% of formal firms declare that labor regulations represent a major problem. However, formal firms represent only 3% of total firms and are much bigger and have much higher productivity than informal firms. Actually, informal firms' dominance in the economy is linked to the existing restrictions for private investment in Senegal, including in the labor market.

¹⁷ Rural-urban migration played only a minor role in poverty reduction and most of the recent poverty reduction must be accounted by the dynamics within urban and rural areas.

16. **Exports grew rapidly in 2016 partly due to robust gold exports, and despite smaller exports of food products.** Exports grew by 8.6% in 2016 mainly due to a 28.5% increase in gold exports which accounted for 14% of total exports (Figure 12). In fact, this industry has been expanding rapidly over the past decade due to (i) investor-friendly policies and (ii) higher prices.¹⁸ The production of cement and phosphoric acid also boosted exports as they grew by 19.8%. Conversely, exports of food products slowed down because of a 26% reduction in groundnut exports which were partly offset by a 12% increase in seafood exports. More recently, exports have moderated as their growth decelerated from 7.9% (yoy) during the first eight months (8M) of 2016 to 4.5% (yoy) in 8M-2017. This deceleration reflected slower increases in fishing exports as well as a 29.3% (yoy) decline in phosphoric acid.

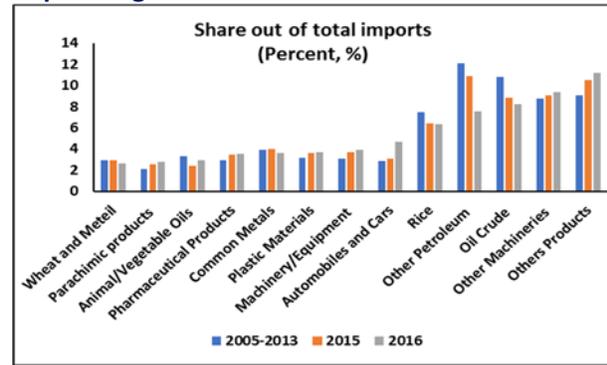
17. **While machinery imports drove the increase in imported goods in 2016, higher oil imports contributed to the rise in imports during the first eight months of 2017.** Driven by a 6% increase in imports of machinery (Figure 13), total imported goods maintained their rising dynamic and increased by 8% in 2016. This trend is linked to the strong performance of total investments and their high import component which may support future growth and the performance of the secondary sector.¹⁹ In contrast, oil and derivatives fell by 21% due to lower prices. However, this drop has been reversed during the first eight months (8M) of 2017 as oil imports increased by 28.7% (yoy) due to a 25.9% (yoy) increase in international oil prices which was accompanied by a 3.8% (yoy) increase in the quantity of imported crude oil mainly reflecting the strong energy consumption that is in line with the robust economic growth. As a result, total imported goods grew by 16.6% in 8M-2017 compared to a decrease of 1.9% during 8M-2016.

Figure 12: Gold was the main exported product in 2016 ...



Source: ANSD

Figure 13: ... while machines were the main imported goods

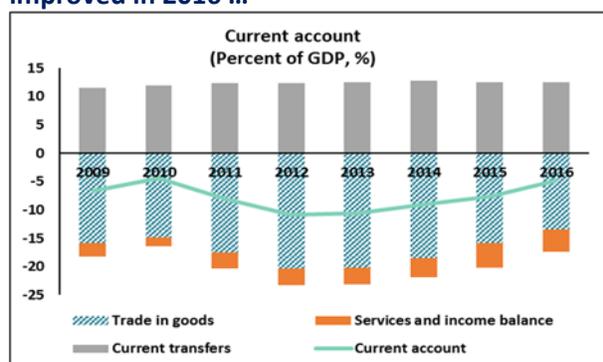


Source: ANSD

¹⁸ A new mining code in 2003 offered significant benefits to investors, such as tax and custom duty exemptions and revenue payments of only three percent. This has resulted in an exploration boom as 55 exploration licenses were granted during the ten years following the approval of the mining code. Gold prices, which have increased from around 5 CFA/Kg in 2006 to 20 CFA/Kg in 2016, have also contributed positively to the growth of this sector.

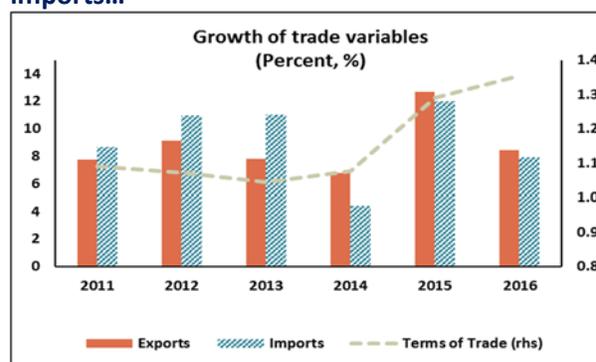
¹⁹ This trend is also linked with the strong increase of banking credit to the manufacturing sector (See below).

Figure 14: The current account balance improved in 2016 ...



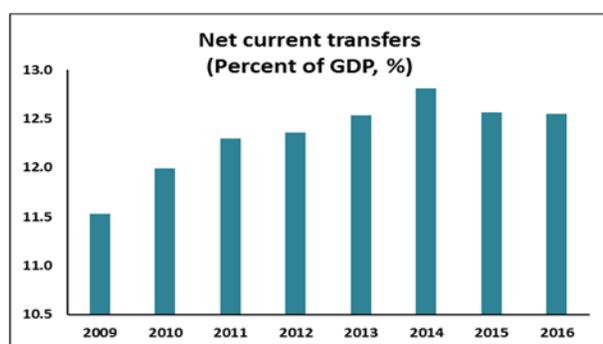
Sources: DPEE, BCEAO and IMF

Figure 15 ... as exports grew faster than imports...



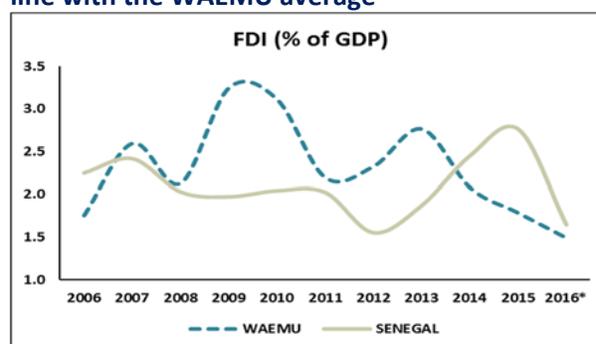
Sources: DPEE, BCEAO and IMF

Figure 16: ... and current transfers remained high



Sources: DPEE, BCEAO and IMF

Figure 17: Meanwhile, FDI is relatively modest in line with the WAEMU average



Sources: DPEE, BCEAO and IMF

18. **The improved trade balance helped reduce the current account deficit in 2016, but growing imports have widened the trade deficit during the first eight months of 2017.** Senegal's current account deficit narrowed to 5.4% of GDP in 2016, down from 7.6% in 2015 (Figure 14), driven by higher exports (Figure 15). Moreover, current transfers (including remittances), a key source of external inflows, remained robust at 12.4% of GDP (Figure 16). Meanwhile, FDI, which accounted for 2.4% of GDP was mostly focused on the extractive sector. This is not a particularly large amount, but is similar to what the WAEMU region usually receives (Figure 17). However, during 8M-2017, the trade deficit worsened by 29.3% (yoy) to 184.4 billion CFAF on account of growing imports and more moderate exports. While data on the current account is not yet published, this development is expected to weigh down on the balance of payment in 2017.

1.1.4 The fiscal stance improved and public investment increased notably, but public debt continues to increase and debt indicators worsened

The Central Government's fiscal balance in Senegal improved in 2016 as a result of rationalized current spending stemming from current fiscal consolidation efforts. Restrained current spending and higher revenue collection has created fiscal space for more public investment, particularly in infrastructure and energy projects that are critical for future growth. Notwithstanding this improvement, public debt maintained its upward trend mainly due to "below the line" treasury operations that financed deficits in other public institutions such as La Poste. These operations

may not have an impact on the central government's fiscal balance, but reduce the treasury's liquidity, thus forcing the government to issue more debt. According to the latest IMF-WB debt sustainability analysis, public debt in Senegal remains at low risk of distress, but debt indicators of the DSA stress scenarios have worsened. Further deterioration would place Senegal's debt at a moderate risk. Aggregate fiscal data for the first eight months of 2017 suggest that the fiscal improvement persisted, although at a slower pace as revenues were lower than expected resulting in some expenditures to be delayed.

19. The fiscal deficit narrowed further in 2016, but much more slowly in 2017. The overall fiscal deficit continued to narrow, in line with the trend observed since 2010, attaining 4.2% of GDP in 2016 - down from 4.8% in 2015 (Figure 18). This reflects the policies undertaken by the government over the past few years to increase tax revenues, maintain current expenditures under control, while generating fiscal space for public investment. This improvement in the central government's accounts has continued in 2017, although at a much slower pace as the fiscal deficit is estimated to have attained 5.6% of GDP during the first eight months (8M) of 2017, only slightly down from 5.7% during the same period of 2016.²⁰

20. On the spending side, current expenditures remained under control as a result of a rationalized wage bill and lower spending on goods and services – both there is emerging information concerning arrears accumulation in 2017. As new hiring in security and defense were constrained, the wage bill reached 6.6% of GDP in 2016, up by only 0.1% of GDP compared to 2015 (Figure 19). This wage bill containment was accompanied by lower expenditures on goods and services, which dropped by around 1.1% of GDP. These spending reductions, which were partly offset by a 0.2% of GDP increase in the debt service and a 0.9% of GDP rise in other expenses, led to a marginal decline in current expenditures (0.1% of GDP). The fiscal consolidation efforts have continued in 2017 as current expenditures registered an estimated 12.5% of GDP in 8M-2017, down by 0.3 pp compared to the same period of 2016. However, there is emerging information related to payment delays to suppliers, both public and private in 2017.

21. On the revenues side, tax receipts increased from a high 19.8% of GDP in 2015 to 20.5% in 2016, partly due to improved collection of customs tax. Senegal is WAEMU's best performer concerning tax revenues, surpassing 20% of GDP – one of WAEMU's convergence criteria²¹. This is the result of enhanced customs and tax administration, which included efforts to modernize the organizational structure, simplify procedures, develop a compliance enforcement program, and ensure robust IT support (IMF, 2016). Non-tax revenues also increased considerably in 2016,²² causing total revenues to grow from 25.1% of GDP in 2015 to 26.8% in 2016 (Figure 20). This sound mix of higher revenues and lower current spending in 2016 allowed Senegal to comply with its budget "golden rule" that requires borrowing to fund capital spending, while current expenditure should be financed by revenues. More recently, however, total revenues have

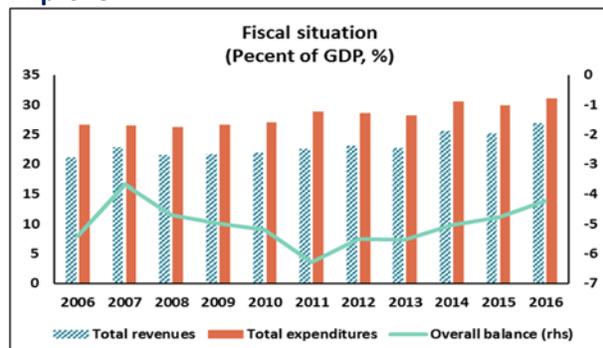
²⁰ Based on aggregate fiscal data published in the August 2018 issue of the "Point Mensuel de Conjuncture".

²¹ This performance should be reevaluated once the GDP rebasing is completed in 2018. In effect, for 2014 (the only rebased GDP available), tax receipts would fall from 19.6% of the original GDP to 15.1% of the rebased GDP.

²² Two relevant additional non-tax revenues include 100 billion CFAF (USD162 million) from SONATEL 4G license and 40 billion CFAF (USD 60 million) of swap-related revenues.

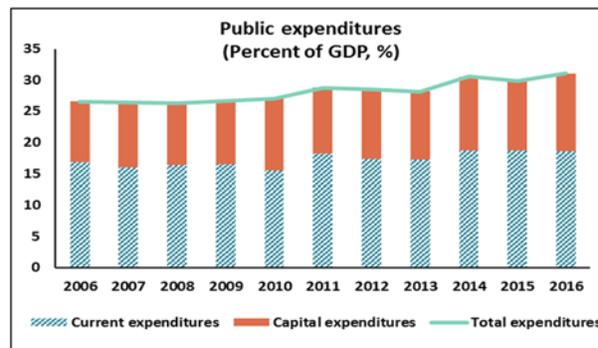
decreased from 17.1% of GDP during 8M-2016 to around 16.3% during the same period of 2017. Lower than expected revenues are partially linked to lower gasoline-related revenue as the final consumer price remains fixed in a context of rising international oil prices.

Figure 18: The fiscal balance continues to improve



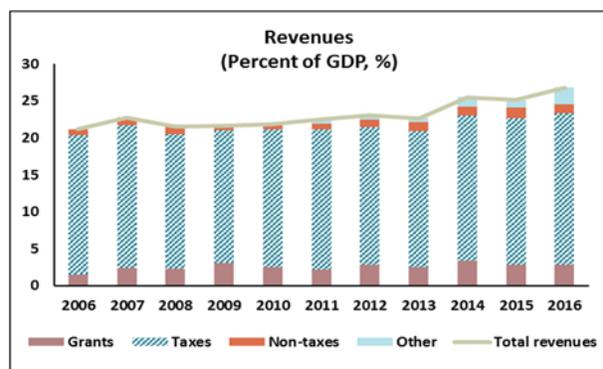
Sources: DPEE, BCEAO and IMF

Figure 19 ... thanks to contained spending ...



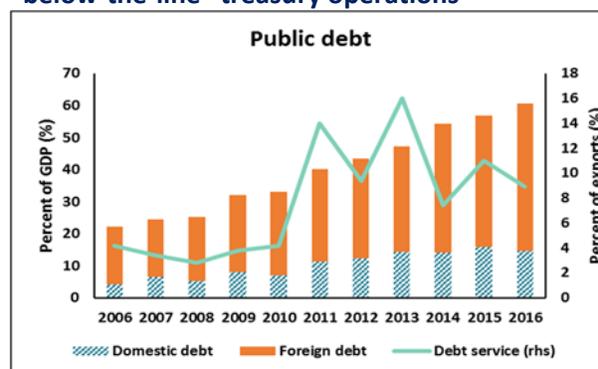
Sources: DPEE, BCEAO and IMF

Figure 20: ... and higher revenues...



Sources: DPEE, BCEAO and IMF

Figure 21: However, debt is still growing, due to "below-the-line" treasury operations



Sources: DPEE, BCEAO and IMF

22. **Restrained current expenditures and higher revenues allowed the government to increase public investment.** Public investment rose from 11.2% of GDP 2015 to 12.5% in 2016, mainly reflecting the approval of major investment projects within the framework of the PES. For instance, a 15-years production plan, which aims to diversify the energy mix and reduce energy prices that are among the highest in the continent (USD 0.19 per kWh, compared with USD 0.13 in Côte d'Ivoire and USD 0.09 in Nigeria), was approved in 2016. Concerning infrastructure investment, around USD 230 million were allocated for road and railroad new projects. Such infrastructure and energy projects are particularly important, as they have cross-cutting effects and would help crowd in private investment in the future. This increase in capital spending was facilitated by higher tax revenues as the ratio of capital expenditure to tax revenues (excluding taxes on international trade), increased from 66.4% in 2015 to 70.2% in 2016, indicating the government's consistent efforts in financing public investment through domestic revenues. Following the substantial increase in 2016, recent data suggests that capital spending as a ratio of GDP has slightly decelerated, from 10% in 8M-2016 to an estimated 9.4% in 8M-2017.

23. **Despite the improvement in the fiscal balances, public debt increased more than expected partly due to “below the line” treasury operations.** Despite the narrowing fiscal deficit and high growth rate, public debt maintained its upward trend and reached 60.6% of GDP in 2016 (Figure 21). This result was partly driven by below-the-line treasury operations that financed deficits in other public institutions, such as La Poste. These operations may not have an impact on the central governments’ revenues and expenditures (i.e. over the line) or on the fiscal balance, but implies changes in the Central Government’s assets and liabilities (i.e. below the line). In effect, as these operations reduce the treasury’s liquidity, they force the government to issue more public debt with a simultaneous increase in its assets.²³

24. **Debt remains at low risk of distress, but indicators worsened; further deterioration could place the country at moderate risk.** The share of external public debt out of total debt increased from 72.2% in 2015 to 75.9% in 2016, but over 80% of it is in concessional or semi-concessional terms. Debt service has also increased relatively fast, attaining a high of around 25% of fiscal revenues in 2016.²⁴ According to the latest IMF-WB Debt Sustainability Analysis (IMF 2017, not yet published), Senegal is still classified at a low risk of debt distress. However, debt indicators have deteriorated and two of them (the ratios of present value of debt to GDP+remittances, and of debt service to revenue) exceed their sustainability thresholds in the DSA stress scenarios, one multiple times. This vulnerability is related to the important rollover risk of the Eurobond bullets. Further deterioration of the DSA indicators could place Senegal at a moderate risk of debt distress²⁵.

25. **Stonger public debt management would also be important to support the fiscal consolidation process.** Since 2012, Senegal produces technically robust yearly Medium-Term Debt Strategies, which underlines the need to reduce refinancing risks and to lower the cost of new debt. To this end, it suggests prioritizing concessional debt and issuing new external debt in Euros to reduce the exchange rate risk. Despite some improvements, including the extension of domestic debt maturity, the MTDS has not been fully implemented due to institutional fragmentation, an insufficient guidance role for the Public Debt National Council, and the absence of quantitative targets. As a result, the exchange rate risk remains a concern as only one third of total public debt is in CFA Franc. Concerning revenues, the government has embarked on reforms

²³ The expenditures incurred by the Postal Service, the Fonds National de Retraite (FNR) or public entities owing a *Compte de Dépôt* do not affect the Central Government fiscal balance, as they are not part of it, but the resources that the Treasury must divert to cover them are registered as a change in assets (a decrease due to the use of deposits and an simultaneous increase as the Postal Service would reimburse them). For more details about these operations which are estimated at 2% of GDP in 2016, kindly refer to Box 1 of the IMF (2017) report.

²⁴ Debt service is defined as the payment of both the interest and the principal of a loan.

²⁵ In the context of the PSI, the IMF will include a new quantitative target addressing additional borrowing needs (i.e. over the usual needs implied by the fiscal deficit and debt roll-over), aiming to eliminate them until 2019.

to improve revenue mobilization and management coupled by efforts to increase the quality of public expenditure^{26, 27}.

1.1.5 Despite strong growth, inflation remains well under control due to the prudent monetary policy adopted at the regional level

The strong economic performance achieved over the past few years has exerted upward pressure on prices. Consequently, inflation has increased from almost zero in 2015 to an average of 1.9% (yoy) during the first eight months of 2017. This increasing rate is, however, in line with the long-term objective of 2% set by the regional Central Bank as part of its prudent monetary policy reflected in its inflation-targeting policy in a context of a fixed exchange rate regime.

26. Senegal is a WAEMU member, with a regional central bank that adopts a common currency pegged to the Euro and follows an inflationary-targeting monetary policy. As a WAEMU member, Senegal's monetary policy is determined by the regional central bank (BCEAO) which adopts a common currency (the CFA Franc) that is pegged to the Euro²⁸. Moreover, BCEAO follows a conservative, inflationary-targeting monetary policy with a long-term objective of 2%.

27. Monetary indicators reflect the BCEAO's prudent approach. Following a relatively loose monetary policy during most of 2016 with a corridor of policy interest rates of 2.5%-3.5%, the BCEAO widened this corridor in December 2016 to 2.5-4.5% thus tightening its monetary stance. This decision was linked to growing public debt in the region – related to widening fiscal deficits in some countries – and falling international reserves, which slightly bounced back from 4.2 months of imports at end 2016 to 4.3 by June 2017. In Senegal, the behavior of monetary aggregates reflects the prudent stance of the regional monetary authority as monetary supply (M2) increased by 8.6% (yoy) in June 2017, down from 20.1% in June 2016. This sharp deceleration in M2 growth was driven by a slowdown in all of its components, particularly term deposits which contributed to only 0.8% out of the total growth in July 2017 as opposed to 6.8% in June 2016. However, this tightening was mitigated by the BCEAO lowering the reserve requirement ratio from 5% to 3% in March 2017 in order to boost liquidity in the markets. This

²⁶ Measures to increase revenues include broadening the tax base through better controls and arrears recovery by way of operationalising the single taxpayer number (NINEA), introducing electronic filing, and enhancing information sharing. The government is also aiming to rationalize tax expenditures. Tax administration reforms include the reorganization of the head office and regional directorates, reorganization of a large taxpayer unit, introduction of electronic filing procedures and enhancing risk-based controls and audits. The government has recently conducted a financial audit to identify the treasury's cash flow gaps. Reforms to address the low quality of public expenditure include a medium-term budget framework that will be implemented in the 2018 budget. Also, the 2016 budget extended the use of the Precautionary Reserve Envelope (PRE) to current expenditures, linking the access to progress in key reforms in priority sectors (such as agriculture and education).

²⁷ GDP rebasing would imply a fall in the fiscal pressure from around 20% of GDP to 15% of GDP, making revenue mobilization measures even more important.

²⁸ The CFA Franc is issued by the BCEAO for the eight member countries of the WAEMU (Benin, Burkina Faso, Guinea-Bissau, Côte d'Ivoire, Mali, Niger, Senegal and Togo). It is pegged to the Euro at a fixed rate of 655.957 FCFA/Euro, last modified in 1994. France insures "unlimited convertibility" to the Euro while at least 50% of BCEAO's reserves must be deposited in an account of the French Treasury. The peg to the Euro implies that the BCEAO's monetary policy is influenced by that of the European Central Bank (ECB).

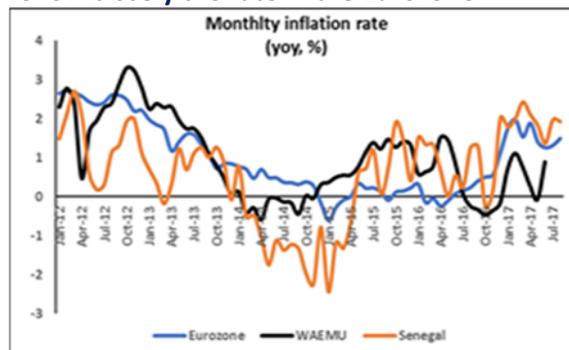
policy has translated into lower interbank rates which dropped from 5.2% in March 2017 to 4.5% in August 2017, hence offsetting the 0.3 pp increase recorded between December 2016 – the month when BCEAO widened its policy interest rate – and March 2017.

Figure 22: Inflation was under control despite increasing recently



Source: ANSD and World bank staff calculations

Figure 23: Inflation rates in Senegal and WAEMU follow closely the rate in the Eurozone



Source: BCEAO and Eurostat

28. **As a result, inflation remains well under control – despite some recent pressures concerning food prices.** The fixed exchange rate and BCEAO’s inflationary-targeting approach helped maintain inflation under control at a 1.9% average during the first eight months of 2017 compared to a 0.9% average during the same period of 2016 and -0.4% in 2015. The observed increase in the inflation rate, which is still in line with BCEAO’s target of 2%, was essentially driven by 0.8%, 1.2% and 5.7% increases in the prices of clothes, education and food and beverages. On the other hand, price reductions on housing – particularly, the price of domestic gas – and communication – linked to the lower telephone prices following the increase in bonus credits during Eid al-Adha –partly eased inflationary pressures (Figure 22). While, Senegal’s inflation rate was higher than the WAEMU rate during the first eight months of 2017, Figure 23 illustrates that these two measures are closely related to each other in the long-run and follow closely the inflation rate in the Eurozone given that the CFAF is pegged to the Euro.

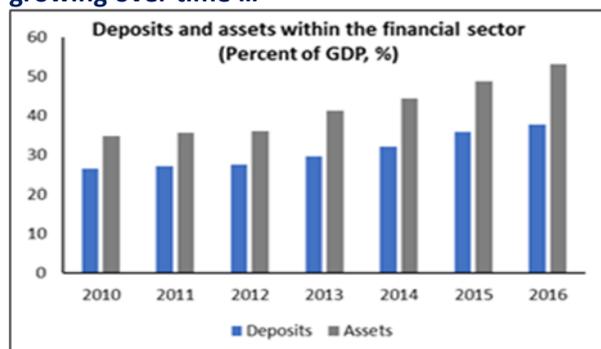
1.1.6 The financial sector performed robustly – from a low base – but inclusion remains a significant challenge

The financial sector has improved in parallel with the ongoing high growth process and due to a very low base. The sector is relatively stable and liquid, and lending to the private sector has been growing due to the dynamism of private consumption and investment. However, concerns remain about the high – and rising – level of loan concentration. Also, despite some advances including in digital financial services, financial inclusion for households and SMEs remains poor due to low income and extremely high collateral requirements for bank loans. A regional strategy to facilitate financial inclusion is underway.

29. **The financial sector has improved over the past few years albeit from a low base, while remaining stable and liquid.** The number of credit institutions in Senegal increased from 23 (22 banks and 1 nonbanking financial institution) in 2011 to 27 (24 banks and 3 nonbanking financial institutions) in 2016. More importantly, total assets and deposits held within the financial sector have increased from 34.8 and 26.3% of GDP in 2010 to 53 and 37.3% in 2016, respectively (Figure

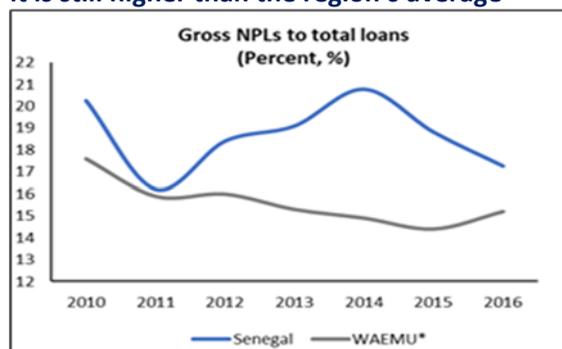
24). The ratio of Non-Performing Loans (NPLs) to total loans maintained its downward trend since 2014 and reached 17.3% by end-2016 (Figure 25). However, this rate is still much higher than the 15.2% averaged across the WAEMU region by mid-2016 (latest data available), suggesting that more effort is required on that front to protect the local financial sector from adverse spillover effects that might stem from potential economic downturns. On a related subject, the liquidity within the banking system has also improved significantly as reflected by the 2.8 and 7.5 percentage points (pp) increases observed in the ratios of liquid assets and deposits to total assets in 2016, respectively. These improvements indicate that the banking system has become more resilient to short-term liquidity constraints (Figure 26).

Figure 24: Assets and deposits have been growing over time ...



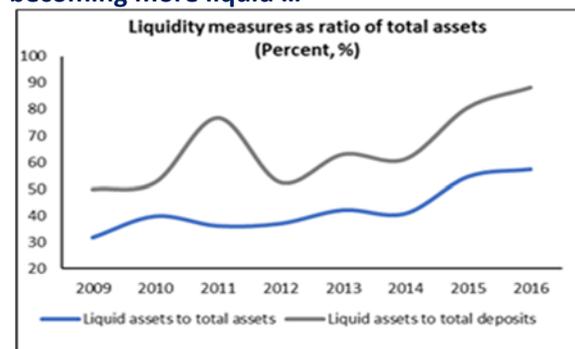
Sources: BCEAO and World bank bank staff calculations

Figure 25 ... and the NPL ratio is decreasing, but it is still higher than the region's average



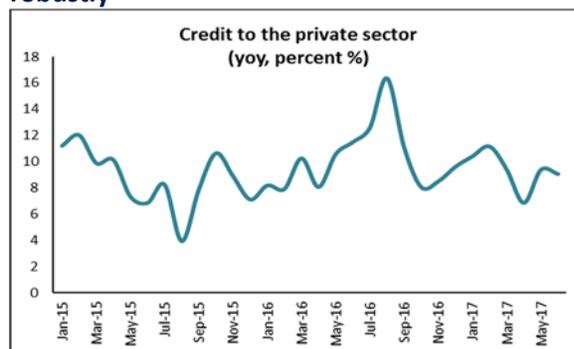
Sources: IMF. * For 2016, the NPL ratio WAEMU corresponds to June 2016

Figure 26: Moreover, the financial sector is becoming more liquid ...



Sources: IMF

Figure 27: ... and private sector credit is growing robustly



Sources: BCEAO and World Bank staff calculations

30. **Lending to the private sector continues to grow, but the rising level of loan concentration remains a vulnerability.** Banks' credit to the private sector increased by 8.9% (yoy) by end-2016 compared to 6% during the same period of 2015 (yoy). This improvement – maintained during the first half of 2017 (Figure 27) – comes with a caveat. The lending concentration ratio, measured as value of loans to the 5 largest borrowers as a share of bank capital, reached 170.9% by end-2016 up from 159.8% by end-2015. Therefore, financial authorities are encouraged to closely monitor this rising lending concentration that would increase the financial system vulnerability to firm-specific shocks.

31. **Digital financial services have grown rapidly over the past few years.** Technological innovations begin to change the financial landscape and the structure of payments in Senegal. According to BCEAO data, the percentage of adults using financial electronic services increased from almost 0% in 2010 to 17.8% in 2015; an improvement also observed across the WAEMU region. The development of the digital financial sector may gain additional momentum after the government launched the Digital Senegal 2025 strategy (*Sénégal numérique 2016-2025*) which aims to position Senegal as a leading digital country in Africa.

32. **Despite these emerging developments, financial inclusion remains poor partly due to regulatory and institutional restrictions.** At end 2015, only 17.4% of adults had an account in a formal financial institution²⁹. This has increased in the last years, from around 6% in 2011, but remains very low and lagging behind the 28.9% averaged in SSA countries in 2014. Similarly, less than 3% and 6% of adults hold a credit and debit card, respectively, and around one quarter of the top income quartile hold a formal account, compared to 7% in the bottom quartile, which restricts the ability to manage risks for the poor (World Bank, 2016).³⁰ Moreover, access to finance is the most binding business constraint to Senegalese firms, with only 19% of SMEs having a credit compared to 28% in SSA. 38.6% of companies identify access to finance as the biggest obstacle to their growth compared with 21.6% in SSA. This proportion is even higher among smaller firms (44.9%) (Figure 28). In fact, access to digital financial services remains limited in Senegal partly due to restrictions in the regulatory and institutional framework such as (i) the lack of norms protecting clients; (ii) competing and unclear mandates related to financial supervision; and (iii) a regulatory framework treating institutions differently even when they supply similar financial products³¹.

33. **Low income for households and the extremely high collateral requirement for firms – particularly for SMEs – are significant constraints to financial inclusion in Senegal.** Knowledge of financial products does not seem to be the main restriction for access to finance as 69% of adults are familiar with products offered by banks and 75% declare being familiar with mobile financial services. On the other hand, 54% argue that the lack of money is the main reason for not opening a bank account (World Bank, 2016). Moreover, the average value of collateral needed for a Senegalese firm to get a loan from a bank is 429.7% of the total loan amount which is the highest ratio among SSA countries (Figure 29).³² This high collateral impedes the establishment of start-ups and hamper the growth of small firms which usually lack assets to pledge as collateral and the track record of sound performance that banks require to mitigate risk.

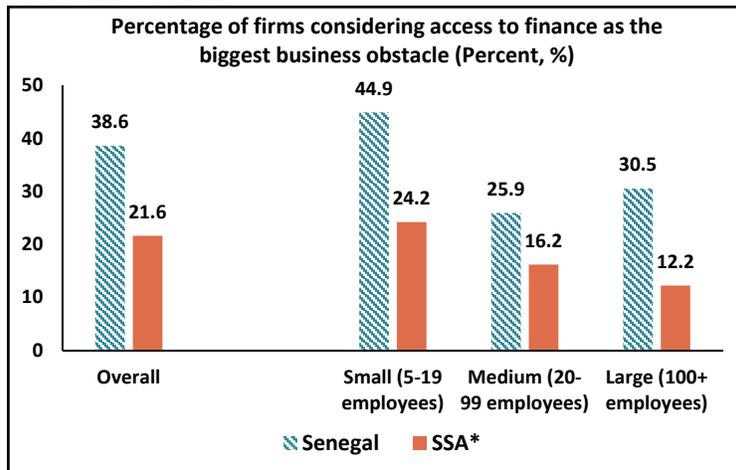
²⁹ This analysis relates only to the formal banking system. According to informal sources, 18% of adults have an account in microfinance institutions.

³⁰ There are also deep differences in access. Around one quarter of the top income quartile hold a formal account, compared to 7% in the bottom quartile, which restricts their ability to manage risks.

³¹ This is despite other advances in the sector, such as the establishment of the Credit Information bureau in 2015, which facilitates financial institutions' access to credit information from potential customers, under the supervision of BCEAO.

³² Moreover, only 6 decentralized financial institutions have a SME department offering small credit up to 300 million FCFA.

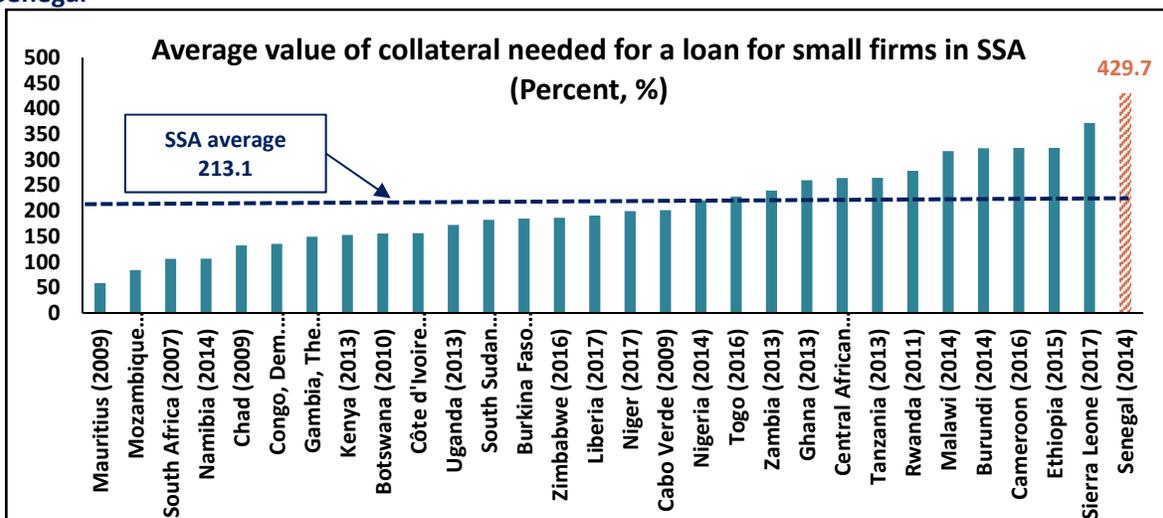
Figure 28: Access to finance is considered the biggest constraint to firms



Source: World Bank Enterprise Survey and World Bank staff calculations

34. In this context, the BCEAO launched the Regional Financial Inclusion Strategy. The strategy, launched as an information note “Note d’Information” by BCEAO in March 2017, focuses on groups that were traditionally excluded from access to financial services (rural population, women, youths and PMEs). It aims to increase access to financial services from 61.7% of the adult population in the WAEMU region to 75% by 2020. To achieve its main goal, the strategy intends to (i) promote a legal and effective supervision framework, (ii) strengthen the microfinance sector, (iii) encourage innovations that are favorable to financial inclusion, particularly among excluded groups, (iv) improve financial education, and (v) establish fiscal and political incentives that are conducive to financial inclusion.

Figure 29: The average collateral needed for small firms to get a bank loan is extremely high in Senegal



Source: World Bank Enterprise Survey and World Bank staff calculations

1.2 Outlook: growth is expected to remain high and sustainable

Supported by robust macroeconomic fundamentals, growth is expected to remain strong over the next years, converging to 7.0% in 2019. Exports (particularly from agriculture, fishery and extractives) would remain a key driver while strong public investments would also support growth. However, growth prospects are subject to downside risks related to the incomplete implementation of the PSE investment program, a volatile agriculture sector, and potential increases in oil prices. On the fiscal side, consolidation is expected to continue, but further efforts are needed to increase revenues and control expenditures and below-the-line operations. Otherwise, the debt situation may worsen, hence placing Senegal at moderate risk of distress. On the external front, the current account deficit is expected to worsen due to lower grants and remittances, and despite a smaller trade balance.

1.2.1 Baseline scenario 2017-2019

35. **Growth is expected to remain high, approaching 7% over the projection period, doubling the average for Sub-Saharan Africa, while remaining close to the WAEMU performance.** Despite high growth, inflation would remain below 2% due to the stable regional exchange rate, BCEAO's prudent monetary policy, and fiscal consolidation (Table A.2 in Appendix 1).

36. **Due to its large share, private consumption would contribute the most to growth but total investment and exports would grow faster.** Private consumption represents three quarters of the economy and is projected to grow at around 5% per year as household income is expected to continue increasing and expectations remain optimistic. Historically, high growth periods were associated with the implementation of structural policies (see Appendix 3). Within that context, the 9-10% projected increase in total investment per year is expected to spur growth. PSE-related public investment endeavors would continue and better infrastructure and energy supply would improve the investment climate and help attract private investment, which is expected to accelerate. In particular, the implementation of the Special Economic Zone of Diamniadio, the new mining private endeavors and emerging activity in the oil and gas sector would help attract FDI. Finally, exports would continue its robust growth at similar rates as in the recent past.

37. **From the supply side, the tertiary sector would be the bigger contributor to growth due to its large share, but the primary and secondary sectors would grow faster.** The tertiary sector is expected to growth above 6% per year, but would contribute to almost half of total growth due to its large size as a share of GDP. Following very high growth rates recently, the primary sector would moderate to over 7% per year. However, agriculture is expected to continue growing rapidly (over 8% per year) as support programs to and (external) demand for groundnut, rice, horticulture and others continue. The secondary sector is projected to grow at around 8%-9% due to strong investment and the continued development of the extractives, chemicals and pharmaceuticals, and construction sectors – in line with PSE objectives.

38. **Stronger primary and secondary production would feed higher exports and help reduce the trade balance, but falling grants and remittances in terms of GDP would slightly worsen the current account deficit.** Dynamic exports (particularly from agriculture, fishing and extractives) are expected to help reduce the trade deficit in the medium-term, despite higher imports linked

to strong domestic demand and recovering oil prices. Interest paid on public debt would decrease as a ratio of GDP, as narrowing fiscal deficits and nominal growth weakens its impact. Remittances are expected to stabilize in nominal terms but would slightly fall as a share of GDP. As a result, the current account deficit would stop its recent downward trend and slightly worsen to attain around 6% of GDP during the projection period. Concessional aid inflows, borrowing on capital markets (including Euro bonds) and FDI would finance the current account deficit.

39. From the fiscal side, consolidation would continue and debt is expected to remain manageable as the nominal economy continues growing. The Government intends to follow the same consolidation strategy applied until now, including additional efforts to increase tax revenues (mostly with administrative measures, including better controls, arrears recovery and rationalizing of tax expenditures), maintaining current expenditures under control, and increasing the efficiency of public investment. In baseline expectations, and despite arrears accumulation, consolidation would still drive the fiscal deficit to 3.0% of GDP (WAEMU's fiscal convergence criterion) by 2019, as tax revenues and public investment stabilize as a share of GDP, but current expenditure falls. In effect, spending on goods and services would continue falling, while the wage bill and interest payments stagnate. With a narrowing fiscal gap and nominal economic growth, public debt would start declining as a ratio of GDP since 2019.³³

1.2.2 Risks ahead

40. A key risk for future growth is linked to the implementation of PSE-related public investment projects and reforms. The expected positive effects of the PSE program could be less significant than expected or delayed due to technical restrictions, evolving priorities, or if reforms do not address key bottlenecks due to non-technical motivations. Also, the effectiveness of public investments could be smaller than expected by the PSE, while private investment may stagnate if the investment climate does not improve as expected. Moreover, delays in implementing the intended reforms in the agriculture sector (such as enhancing the effectiveness of subsidies) would interrupt the nascent diversification and maintain the high vulnerability of the sector to volatile climatic outcomes, thus affecting overall growth.

41. The macroeconomic framework is sustainable but fiscal risks remain, particularly concerning public debt and arrears accumulation. Pressures to further increase public investments beyond what is programmed – or to stop reducing current expenditures – in view of the 2019 Presidential electoral process would interrupt the consolidation process and affect the level of public debt. Higher oil prices would also worsen the fiscal balance, in particular if gasoline prices and electricity tariffs remain frozen, thus reducing gasoline tax revenues and increasing energy-related subsidies. High and opaque below-the-line treasury operations may continue generating liquidity pressures if not controlled and made more transparent. This would prevent public debt as a ratio of GDP to decrease as currently expected, and would put additional pressure on debt sustainability indicators, which breached their thresholds under DSA stress scenarios. As noted before, further deterioration could place Senegal at moderate risk of debt

³³ For this to happen, “below the line” treasury operations, such as those with the Postal Service, should be eliminated until 2019. The PSI will include explicit indicators to control this issue. In this sense, the IMF expects that these operations will fall from around 3% of GDP in 2016 to 1.6% of GDP in 2017 and ultimately to 0 in 2019.

distress. Moreover, public debt is sensitive to exchange rate risks as 40% is in currencies different than the CFA Franc or the Euro. Finally, arrears accumulated during 2017 will put additional pressure on the 2018 fiscal balance and budget.

42. **Unexpected terrorist threats and worsened security conditions in the region may increase uncertainty, and undermine tourism and investment.** Despite increased response from the government in terms of intelligence and coordination with other countries, terrorist attacks cannot be ruled out following the events that took place in Western Africa in the past two years. Recent threats (terrorists were detained in Dakar in early 2017) would increase uncertainty and this may weigh on investment and tourism.

43. **External economic risks are linked to higher oil prices and subdued growth in trade partners.** Potential increases in oil prices would constrain supply and growth due to its impact on energy costs. They would also negatively affect the external balance due to higher energy imports and, as mentioned above, the fiscal deficit. Both effects may reduce the aggregated demand, therefore negatively affecting growth. Some of Senegal's financial contributors, such as China or oil exporters such as Saudi Arabia, are also facing complex perspectives that may reduce their willingness to invest. China is also an important trade partner, absorbing almost 11% of total exports in 2016. Hence, Senegalese exports (particularly groundnut) would be adversely affected if China's growth slows down more than expected. Also, since 15% of the Senegalese exports are directed towards the Euro Zone, subdued growth in Europe would have a negative impact on growth in Senegal, while appreciation of the euro (to which the FCAF is pegged) may also constrain competitiveness affecting exports to other markets beyond Europe.

44. **On the upside, commodity prices may recover less rapidly than expected, while oil and gas-related FDI begins earlier than announced.** Less rapid price recovery of some commodities, (imported oil and food) would alleviate pressures on the external and fiscal balances. Looking forward, nascent activity around the recently discovered oil and gas reserves – not expected to begin production until 2022 at least – may boost FDI ahead of schedule.

Section 2: The Agriculture Sector

The agriculture sector accounts for a small share of the Senegalese economy, but it is key to reduce poverty and share boost prosperity as it represents a major source of employment and income for poor households who are mostly located in rural regions. This section aims to (i) evaluate the recent performance of the agriculture sector and explore the role that agribusiness could play in boosting productivity and creating new jobs, (ii) examine the impact of the recent public sector involvement in the sector, and (iii) propose policy recommendations that would drive the agriculture transformation agenda.

The key findings of this section can be summarized as follows. Agricultural production has been growing modestly over the medium-term mainly due its high exposure to climate variability and its dependence on rain-fed based production systems. The performance of the sector improved substantially in the past few years, but significant challenges remain, particularly concerning low productivity and still high vulnerability. Growing agribusiness and horticultural exports – though from a very low base – can play a major role in reversing the downward trend in agriculture productivity – thus reducing the sector’s vulnerability – if the necessary conditions are put in place. Similarly, the recent export-oriented government interventions and the significant increase in government subsidies and spending have facilitated access to high-quality seeds which in turn have helped boost the production and productivity of some crops (particularly groundnuts and rice). However, the efficiency of public spending and the weak link between domestic production and the food industry remain key issues that are preventing Senegal from transforming its agriculture sector into an engine of sustainable growth. To achieve a sustained rise in agricultural production and productivity, several steps need to be taken: invest more in agricultural research and advisory services, improve risk management mechanisms; tackle financial constraints; boost human capital; integrate agriculture with other sectors of the economy; support and encourage private sector participation; and improve the reliability of agricultural statistics.

2.1 Agriculture and the economy

2.1.1 Recent trends in agriculture production: agriculture plays a key role in Senegal’s economy

45. **The agriculture sector growth has expanded at a moderate pace, but with very high volatility partially due to climatic hazards.** While the agriculture sector grew at an average rate of 3.2% between 2000 and 2016, the volatility around that average was extremely large at 10.8% (1 standard deviation), in contrast to the non-agriculture GDP which exhibited a much smoother growth path over the same period (Figure 30). These results compare even less favorably to the SSA region where the agriculture sector grew on average by 4.6% with a 3.3% standard deviation over the same period. The high volatility in agriculture growth in Senegal, which has a substantial influence over the overall GDP trends (Figure 31), is mainly the result of weather and climatic hazards as the two major trough periods (2002 and 2011) coincided with adverse climatic

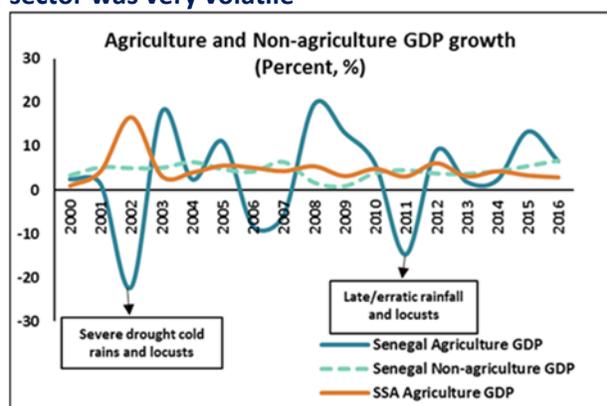
conditions that affected agriculture productivity.³⁴ Moreover, when considering crop production separately, the growth swings are even more important as they can reach 30-40 % from year to year, pointing to the efforts needed to protect the agriculture sector against climatic variability and to enhance livelihood resilience, in order to secure stable overall economic growth and poverty alleviation.

46. **Rain-fed crops, which are particularly vulnerable to climatic shocks, dominate the agriculture sector.** Over the 2000-2016 period, crops production was the main driver of agricultural production and growth, consistently accounting for more than half of the overall agriculture GDP (Figure 32). It is followed by livestock and hunting (26-35% of agriculture GDP), then by fisheries (8-14%) and forestry products (4-6%). Crop production was also the fastest growing sub-sector as it expanded by an average of 4.8% over the period of analysis. However, this performance is particularly influenced by the 15.8% growth averaged over the past two years (Figure 33). Livestock and hunting, and forestry also grew by 3.6% and 2.9% respectively between 2000 and 2016, whereas the fishery sub-sector contracted on average by 0.3% over this same period.

47. **Similar to other countries in SSA, farm households in Senegal are very vulnerable to climate change effects, which include insufficient and erratic rainfall.** The adverse impact of climate change is exacerbated by the fact that Senegal is an arid land where there is limited alternative for irrigation. Farmers' vulnerability results from their difficulty to cope with weather shocks because of lack of assets and limited access to credit and insurance market. Usually, farmers' only coping strategy is to sale their few assets to mitigate the immediate impact of the shock while compromising their expected future income. Such coping strategy is generally inefficient and contributes to lock farm households in a vicious circle of chronic poverty and making the sustainable development goal of ending extreme poverty more challenging. In such a context, climate-smart agriculture is required to provide farm households with more capacity to mitigate the effects of weather shocks such as irregular and insufficient rainfall that occur frequently in Senegal. Evidence from the West Africa agricultural Productivity Program (WAAPP), showed that the generation and dissemination of climate-smart, high-yielding, early-maturing and drought-resistant varieties could help build farmers' resilience to weather shocks. For instance, with the diffusion of improved varieties of sorghum, farmers are achieving high level of yield even during years when there was a rainfall deficit (e.g. in 2011 and 2014). These varieties helped famers build their resilience to weather shocks and mitigate the adverse effects of crop failure that non-beneficiaries of these new varieties faced (Table 1).

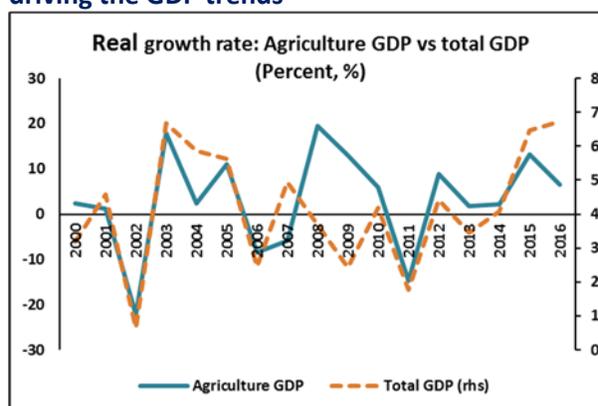
³⁴ Kindly refer to Figure ES.1 in the Agriculture Assessment Report (World Bank, 2015).

Figure 30: The growth rate of the agriculture sector was very volatile



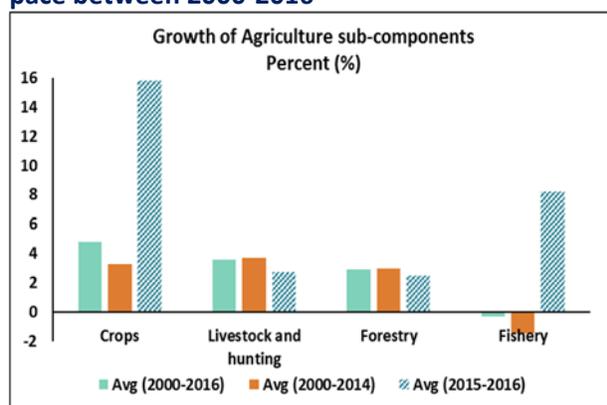
Sources: DPEE and WDI

Figure 31: Agriculture volatility in Senegal is driving the GDP trends



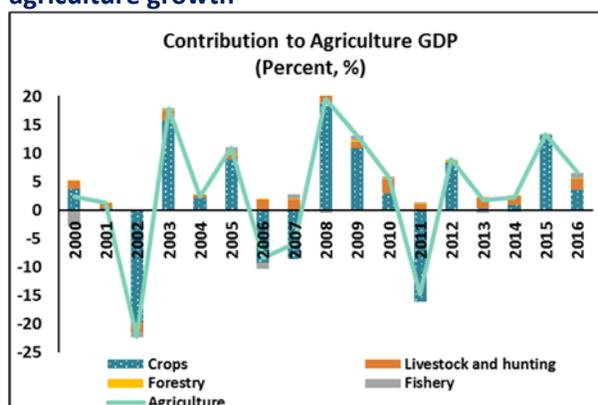
Sources: DPEE

Figure 32: Crop production grew at the fastest pace between 2000-2016



Sources: DPEE

Figure 33: As a result, it contributed the most to agriculture growth



Sources: DPEE and World Bank staff calculations

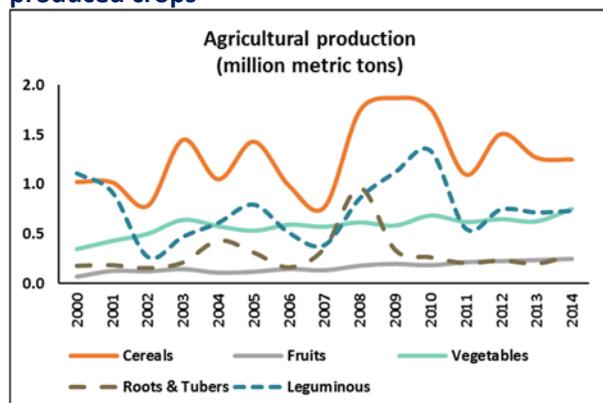
Table 1: Yield achieved by a sample of farmers' beneficiaries of new varieties of sorghum

	Sample of producers beneficiaries of new varieties of sorghum				National average yield (kg/ha)	Yield increase (%)
	Sample of producers	Area cropped by producer (ha)	Production (kg)	Average yield (kg/ha)		
2011/12	159	0.83	1,309	1,775	882	101
2013/14	310	0.81	985	1,216	846	44

48. **Cereals are the dominant crop, with rice recently taking over the traditional dominance of millet.** As illustrated in Figure 34, cereals have been the dominant crop: with slightly over 1 million metric tons (MMT) in the early 2000s they increased to close to 2 MMT over 2008-2010 then dwindled down to less than 1.5 MMT thereafter. Volatility is again linked to changing climate conditions – particularly rain – as most crops are rain-fed dependent. Millet has been traditionally the main produced crop, accounting for more than half of total cereals production. But since 2007-2008, rice cultivated under rain-fed systems across the country and under irrigated conditions in the Senegal River Valley (SRV) has been catching up and became the most important

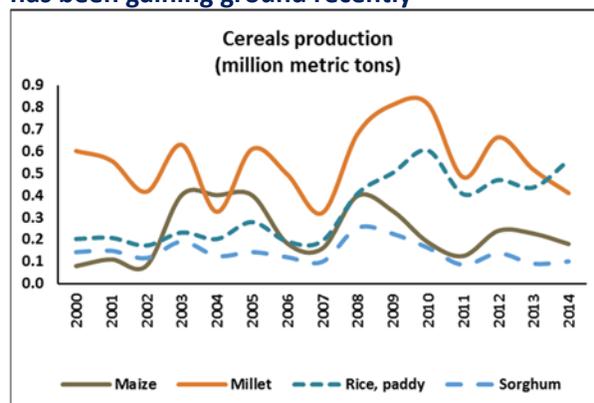
cereal crop since 2014 (Figure 35). This evolution coincided with the Great Agriculture Offensive for Food and Abundance (GOANA) initiative, developed by the government in 2008 as a response to the 2007-2008 food crisis. The recent evolution of rice production also reflects the implementation of the PSE food security and self-sufficiency strategy (see below for more details). Maize and sorghum are the third and fourth most important cereals respectively, both displaying downward trends since the increase in rice production.

Figure 34: Cereals and pulses are the main produced crops



Source: FAOSTAT

Figure 35: Millet is the main cereal, albeit rice has been gaining ground recently



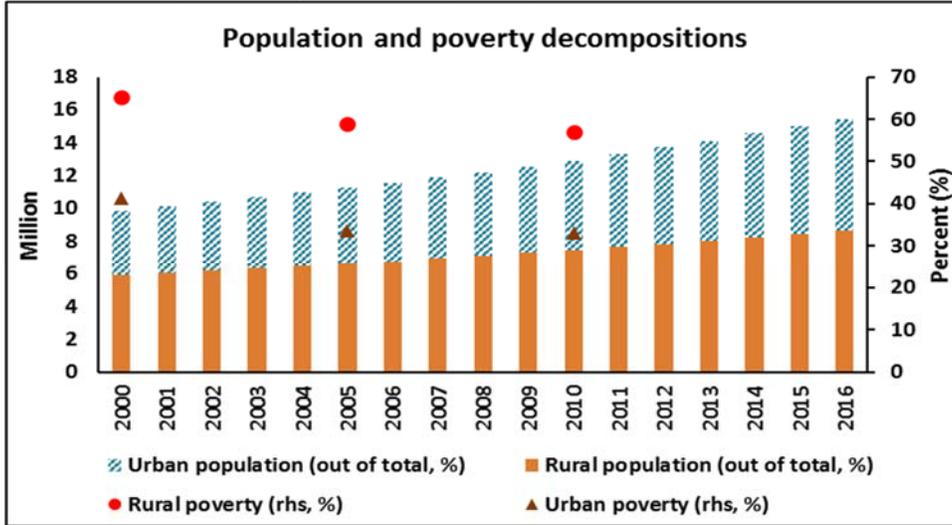
Source: FAOSTAT

49. **The contribution of groundnuts (the main leguminous by far) dropped over 2000-16, with critical implications for income and food security in rural regions.** The contribution of industrial and exported crops, which accounted for 38% of the crop value added over the period 1980-2000, decreased to 27% during 2000-2016. This reflects various setbacks that the groundnut value chain has suffered from. In fact, groundnuts represent more than 90% of commercial and industrial crops. They are also a primary source of income and livelihood for a majority of rural households as they are cultivated by 52 percent of households living in extreme poverty (ANSD, 2011). Moreover, groundnuts account for about half of the total cropped area in Senegal, employ two-thirds of the rural population (mostly below the official poverty line) and contribute immensely to food security in rural areas as more than a third of the total production is self-consumed. Groundnuts also provide an important part of the animal food (groundnut straw and cake from industrial and traditional processing) with an important agronomic role through nitrogen fixing in the poor groundnut basin soils. This renders groundnuts a multidimensional crop rooted in agricultural production systems.

2.1.2 The relation with poverty and productivity

50. **Despite falling over time, poverty in Senegal remains concentrated in rural areas, where most of the population still lives.** The latest available data shows that poverty rates in Senegal have been decreasing, but in rural areas, the percentage of poor individuals was still very high at 57.1% as of 2010. In addition, and notwithstanding the rural to urban migration over time, the rural population remains significantly larger than the urban one (Figure 36). With higher poverty rates and a larger share of the population, poverty is thus more widespread in rural areas, despite recent advances.

Figure 36: Despite falling over time, poverty is still concentrated in rural areas



Source: WDI

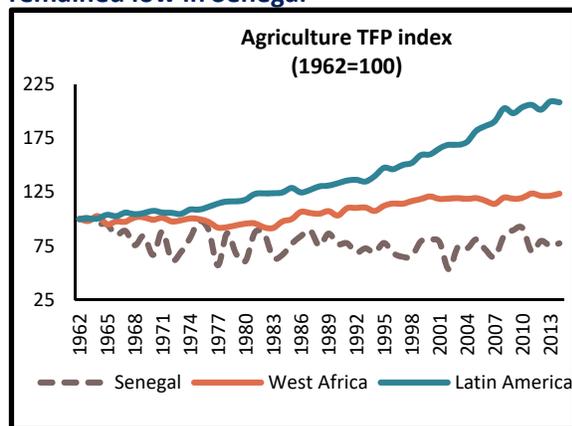
51. **The majority of rural residents engage in agriculture activities, which represent a major source of employment and income for poor individuals.** According to RGPFAE (2014), there are 755,532 households who are involved in agriculture activities (including crop, livestock, fishery and forestry), among which 73.8 % live in rural areas. In the labor market, agriculture is a main source of employment for poor individuals as it accounts for 30% of self-employment (only behind the services sector which contributes to an estimated 39%), which itself contributes to 63% of total employment in Senegal (ANSD, ENES, 2016). Hence, the agriculture sector has a crucial role to play in poverty alleviation in the rural sector of Senegal.

52. **Nonetheless, agricultural productivity did not improve over time.** A comparison of Senegal’s performance in agricultural productivity (a measure of overall efficiency in using all inputs) with that in the West African region and Latin America shows that Senegal was constantly lagging and fell even further behind since the 2000s (Figure 37). In fact, the increase in agriculture output was largely due to an expansion of input use per unit of land, and to a much lesser degree to overall productivity improvements such as innovation and skills (Figure 38). Moreover, Table 2 (below) shows that the deterioration in the value added per agricultural worker, over the 2000-2014 period was coupled by a drop in the land-to-labor ratio (proxied using the harvested area per worker) given that the increase in the number of agricultural workers outweighed the rise in the amount of cultivated area.³⁵ In addition, most crop yields have not improved over time and have been much lower than the world averages and even lower than the SSA averages (Table 3). However, rice yields are an exception (see below for more details) as they are high by regional norms and are catching-up with the global average (Figure 39). Furthermore, while Senegal is mainly importing rice from India (59%) and Thailand (22.7%), it has better rice yields than these

³⁵ The value added per agricultural worker is defined as $\frac{Q}{L}$ where Q denotes the real agriculture GDP and L denotes the workforce in the agriculture sector. This definition can be re-written as $\frac{Q}{A} * \frac{A}{L}$ where A denotes the aggregate cultivated area. The former expression, $\frac{Q}{A}$, measures land productivity, while the latter, $\frac{A}{L}$, (also known as the Land-to-Labor ratio) measures the pressure on land.

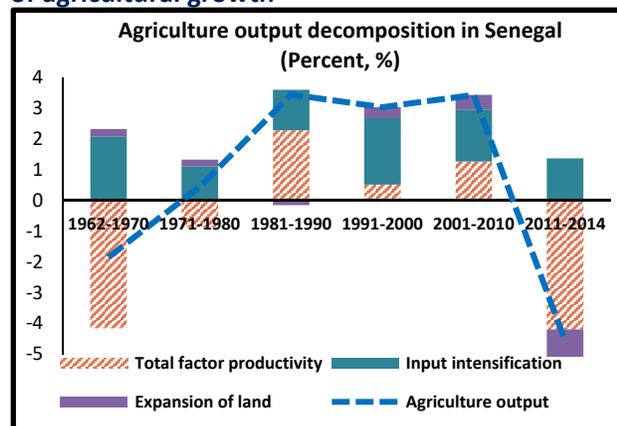
countries (Figure 40). Finally, high underemployment (at 29.5% and 10.3% in rural urban areas, respectively) and the seasonality of jobs are additional constraints which weigh down on the productivity of agriculture sector.

Figure 37: Agriculture productivity has remained low in Senegal



Source: USDA Economic Research Service data

Figure 38: Input intensification was the main driver of agricultural growth



Source: USDA Economic Research Service data and World Bank staff calculations

Table 2: Productivity measures in Senegal, average over the periods

	2000-2004	2005-2009	2010-2014	2015-2016
<i>Senegal</i>				
Agriculture value added per worker (constant 2010 US\$)	463	454	460	529
Fertilizer consumption (kilograms per hectare of arable land)	11.37	4.60	8.39	n.a
Arable land (hectares per person)	0.28	0.27	0.25	n.a
Harvested area per worker (hectares)	0.73	0.72	0.61	n.a
Agricultural workers (million)*	3.12	3.52	4.05	4.48
<i>SSA</i>				
Agriculture value added per worker (constant 2010 US\$)	865	1,032	1,164	1,237
Fertilizer consumption (kilograms per hectare of arable land)	11.86	12.24	15.70	n.a
Arable land (hectares per person)	0.26	0.25	0.23	n.a
Harvested area per worker (hectares)	n.a	n.a	n.a	n.a
Agricultural workers (million)*	177.8	193.3	210.6	224.6

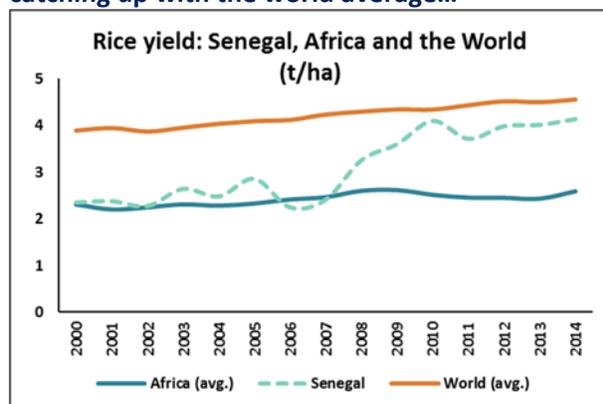
Source: FAOSTAT (2017), WDI (2017). Note: *Following Dorward (2013), the WDI provides 'Agriculture Value Added' and 'Agricultural Value Added per Worker at constant 2010 US\$', from which Agricultural Workers can be calculated.

Table 3: Yields (tons per hectare), average over the periods in Senegal and SSA

	Senegal				Africa				World			
	2000-2003	2004-2008	2009-2013	2014	2000-2003	2004-2008	2009-2013	2014	2000-2003	2004-2008	2009-2013	2014
Cereals												
Maize	1.6	1.7	1.4	1.2	1.7	1.8	2.0	2.1	4.5	5.0	5.2	5.6
Millet	0.6	0.7	0.7	0.6	0.7	0.8	0.6	0.6	0.8	0.9	0.9	0.9
Rice, paddy	2.4	2.9	4.0	4.1	2.3	2.5	2.5	2.6	3.9	4.2	4.4	4.6
Sorghum	0.8	0.9	0.8	0.8	0.9	0.9	0.9	1.0	1.4	1.4	1.4	1.5
Roots and Tubers												
Cassava	5.3	7.7	7.4	8.2	8.9	9.5	9.2	8.4	10.7	11.8	11.7	11.2
Potatoes	16.1	17.0	22.6	20.9	10.8	12.2	14.3	13.7	16.5	17.4	18.9	20.0
Sweet potatoes	16.4	28.1	30.6	34.0	4.1	4.6	5.1	5.8	14.2	13.1	12.5	12.8
Leguminous												
Cow peas, dry	0.2	0.4	0.4	0.4	0.4	0.5	0.6	0.4	0.4	0.5	0.6	0.4
Groundnuts, with shell	0.8	0.8	0.9	0.8	1.0	1.0	1.0	1.0	1.5	1.6	1.7	1.7
Vegetables												
Beans, green	10.3	10.5	13.1	12.4	7.8	9.5	9.0	9.2	8.3	12.3	13.5	14.2
Onions, dry	18.9	28.1	27.1	29.3	14.6	16.2	12.5	10.6	18.1	19.1	18.4	16.7
Tomatoes	23.9	27.2	26.3	25.7	18.6	20.2	17.5	15.9	28.9	32.1	33.4	34.0
Watermelons	14.4	12.5	10.9	11.2	20.2	22.7	24.2	25.2	25.7	28.2	30.5	31.9

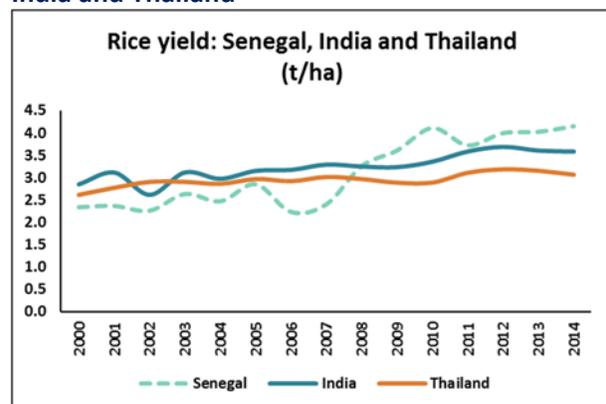
Source: FAO and World Bank staff calculations.

Figure 39: Senegal's rice yields have been catching up with the world average...



Source: FAO

Figure 40: ... and have surpassed the yields from India and Thailand



Source: FAO

2.1.3 Can agribusiness and horticultural exports lead the structural change?

53. **The size of agribusiness within the economy is still small and has limited links with other industries – including agriculture itself.** The agribusiness sector accounted for 6% of overall GDP in the early 2000s, but its share has declined and stabilized below 5% since 2004 (Table 4). Animal processing (fish and meat processing) accounts for about half the value added, although this share approached 60% around the turn of the century. The strong growth observed in 2015 (and to a lesser degree over 2009-13) is not enough to increase the share of this sub-sector, but it is still a promising evolution. Paradoxically, while agribusiness represents one third of the industrial value added, the recent General Enterprise Survey (ANSD, 2017) shows that only 3.7% of firms

are involved in food-processing. Furthermore, trade data (ANSD 2016) suggests weak links between the agri-food industry and the agriculture sector, as a substantial share of inputs are imported. Indeed, agro-processed crops such as maize and cereals products represent around 5-6% of total imports and about one third of total food related imports.³⁶

54. **Despite its current under-development, agribusiness has the potential to play a major role in boosting productivity and creating new jobs.** Agribusiness would improve the efficiency of farm production and mitigate the uncertainty associated with the lack of post-production outlets, hence allowing farmers to earn higher, more stable returns. The government acknowledges the importance of strengthening the agribusiness as 5 of the 27 PSE flagship projects are aimed at developing the agribusiness and agriculture sectors (MAER, 2015).

Table 4: The agri-business sector in Senegal, 1999-2015

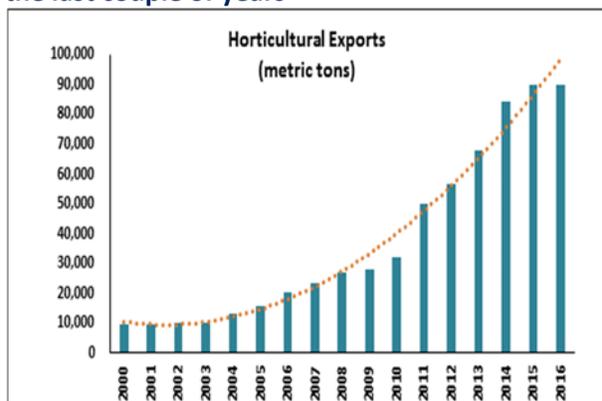
	1999-2003	2004-2008	2009-2013	2014	2015
Agro-processing (% of current GDP, average)	6.27	4.96	4.71	4.80	4.78
Agro-processing, Growth (annual average , %)	-0.90	2.02	6.32	2.27	7.51
Decomposition of Agprocessing segment (%)					
Processing of edible oils	1.86	2.33	2.42	1.60	1.35
Meat and Fish processing	59.23	47.80	48.89	50.70	51.95
Flour mills	7.55	10.95	11.14	9.85	7.96
Other cereals-based food and feed	8.22	11.31	12.31	11.05	11.50
Sugarcane Processing	9.16	9.12	6.76	7.93	7.58
Other non-specified food processing	8.46	10.94	10.54	11.19	12.85
Beverage and drinks	5.51	7.55	7.93	7.70	6.82
TOTAL	100	100	100	100	100

Source: DPEE (2017), authors' calculations

55. **Horticulture is a rapidly growing industry.** The horticultural sector in Senegal has expanded rapidly over the past decade as evident by the observed jump in exports from 24,000 metric tons in 2007 to 90,000 tons in 2016 (Figure 41 **Error! Reference source not found.**). This improvement was accompanied by a remarkable diversification of the production basket as Senegal started producing sophisticated products such as cherry tomatoes, butternut squash, various species of pepper, sweet potatoes with high vitamin A content, and sweet corns which have been the major exported product that grew by 34% between 2005 and 2016 (Figure 42). As France is gradually reaching out to other African countries such as Cote d' Ivoire, Morocco, Mauritania and Ghana as lead buyers, Senegal has diversified its horticultural export market with Europe still representing the main export destination market. Further expansion of the horticultural industry is being slowed down by an outdated land regime which hardly allows mobility of land user rights and discourages investors with cumbersome procedures to secure land holdings. It is also important for Senegal to maintain good quality control and food safety systems in order to keep its privilege status in the EU markets, while extending its comparative advantage beyond horticulture to other promising value chains such as high quality groundnuts products and processed food.

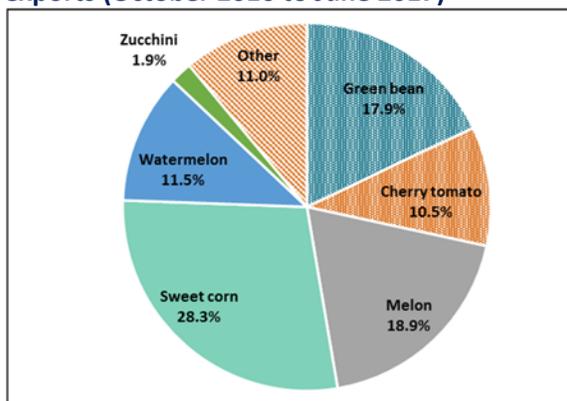
³⁶ Authors calculation from ANDS data

Figure 41: Horticultural exports have surged over the last couple of years



Source: WDI

Figure 42: Decomposition of horticultural exports (October 2016 to June 2017)



Source: Dupuy (2017)

56. **In fact, Senegal enjoys a clear comparative advantage in the horticulture industry due to several reasons.** According to a World Bank (2013) report, Senegal has a comparative advantage in the production of several horticulture products for both the domestic/regional and European markets because of the following factors: (i) land and water resource availability; (ii) generally favorable agro-ecological and climatic conditions; (iii) proximity to European markets due to rapid maritime transport and competitive air routes; (iv) low production (mainly labor) costs; (v) privatization of input markets which allows farmers to access quality inputs; (vi) emergence of competitive players along the horticulture value chains; and (vii) a regulatory environment that is conducive to private sector investment with little policy distortions (unlike other agricultural sectors such as groundnuts and sugar).

57. **Horticulture could help reduce poverty rates and enhance food security.** Empirical evidence suggests that the growth of horticultural exports has improved food security in Senegal as private sector investments in this sector have boosted off-farm wage employment opportunities in rural areas, especially for women and young (thus taking advantage of the demographic dividend), as well as on smallholder farming (Box 2). Actually, the boom in this sector fits well within Senegal’s strategy of agricultural export diversification towards higher-value commodities and boosting trade revenues.

Box 2: Myths and facts on Agribusiness in developing countries. Lesson from SENEGAL Horticultural exports

Issues	Facts from studies and reports
<p>1. Marginalization of poor countries with increased standards and regulations: Increasing standards are trade barriers for developing countries and cause the marginalization of poor households.</p>	<p>Senegal horticultural exports have grown sharply despite increasing standards, with important income and poverty effects. The value of horticultural exports has more than quadrupled over the past 15 years – from 25.8 million USD in 2000 to 123.6 million USD in 2015. Indeed, response of F&V exporting companies to increased standards has resulted in consolidation and increased vertical coordination at different levels of the supply chain. (Van Den</p>

	Broecke & Maertens, 2017). Which raises concerns discuss in issue #2 and # 3.
2. Agribusiness and smallholder famers: it is commonly believed that agribusiness development may result in possible shift away from smallholder contract-based farming towards large-scale agro-industrial production.	That may be true in certain circumstances and specific value chains, but not necessary a bad news for rural households. For horticultural exports, studies show that earnings from off-farm employment in Senegal River Delta are partially reinvested in farm intensification and diversification resulting in larger farm sizes, higher farm expenditures, and increased farm incomes. Development of rural labor markets can be associated with farm-nonfarm linkages and growth multiplier effects, and should therefore be an important element in rural development strategies (Belieres & Toure, 1999; Maertens, 2008).
3. Agribusiness and poverty: A major concern about trade is that, while it may accelerate growth, the poor may not benefit.	The impact on poverty reduction is stronger as the poorest benefit relatively more from working on large-scale farms than from contract farming. Horticulture exports have a highly significant and large effect on income, which demonstrates that rural households involved in high-standards export supply chains, either through contract farming or as workers on estates, do gain from export (Maertens & Swinnen, 2007)
4. Agribusiness and Food Security: concerns have been raised about the consequences of export-oriented agribusiness development on local food security through substitutions of resources (land and labor)	Recent evidence suggests that, because of low competition for land and labor between the export sector and domestic food production, horticultural exports improve food at the micro-level through wage employment, with important intrahousehold gender effect. Indeed, female wage employment in the horticultural export sector improves the quality of food consumption, reduces the probability of food insecurity by 11.1%, and shortens the hunger season by 77.7%. (Van Den Broecke et al, 2017).
5. Agribusiness and Women Empowerment: off-farm employment has been argued to be an important poverty-reducing strategy in rural areas of developing countries, but the impact on women and structural change in rural societies was unclear.	Employment in the horticultural export with accompanied services such as health care, training and transport services, can be a way out of poverty and subordination for women, especially less empowered women with a low level of education, low access to information, low decision-making power within the household, a high risk of being poor and living in more remote villages. Surveys have also shown that employed women in the sector have a significantly higher age at marriage and at first childbirth, a significantly fewer children (25% less children/women), and a higher likelihood of primary-school-aged children. Moreover, fertility-reducing effect is as large for poor as for non-poor women and larger for illiterate than for literate women (Van Den Broecke & Maertens, 2015)
6. Important issues raised about horticulture exports in Senegal which are less documented and require further investigation for sustainable expansion of the industry	<ul style="list-style-type: none"> • Increased interest and competition of stakeholder's community and local SME over land which could further fuel illegal deals and corruption. • Sustainability of use of land water resources, and overall environmental impacts (long term and cumulative impacts in the Delta ecosystem). • Whilst exports increase the availability of high quality food in the domestic markets, agribusiness production could in the shorter to long term compete with small horticultural producers of other

	regions in the domestic markets and depress prices and farm revenues.
7. Impediments to rapid expansion and the sector	<ul style="list-style-type: none"> • Weak land regime with little security, and lengthy transaction deals, with political interference • Absence of private investments in supporting infrastructure to facilitate access to energy and water; • Unpredictable sector policies, and complex institutional fabric over water management in the areas with unclear roles and assignments (SAED, OLAG, SONES); • Inefficient system for processing environmental and social diligence with the administration.

58. **In spite of this potential, several constraints impede further agribusiness development.** Several studies (FAO, 2016a; UNEP, 2015; World Bank, 2013) have shown that in certain areas of Senegal, investors suffer from a lack of access to water as well as land degradation (salinization). These areas include the Niayes, the traditional horticulture base surrounding Dakar, and along the northern coast. In the Senegal River Valley, where the horticultural exports industry has been gradually relocated from the urbanizing Niayes over the last decade, agribusinesses suffer from a limited access to secured land, face political interference with regards to land allocation, and are constrained by poor transport infrastructure. Smaller businesses are also constrained by their limited access to finance and skills, which prevents them to increase their scale (see below). The 2014/15 World Bank Enterprise Survey (WBES) shows that, in general, access to finance was the most binding obstacle to Senegalese firms (with 38.6% of them citing this constraint as the biggest obstacle to their own growth). Also, according to the General Enterprise Survey (ANSD, 2017), 72.3% and 74.3% of firms in the agriculture sector (highest proportions across all sectors) cited that they need more financing in order to invest and develop their activities.

59. **More importantly, and as discussed earlier, agribusiness suffers from underdeveloped value chain activities, with poor linkages between the various segments.** For instance, it is estimated that only 5 % of the fruits and vegetables grown in Senegal are processed, while the bulk of dairy products consumed in the country are either imported directly or processed from imported powdered milk. In fact, the country imports many processed products that could be otherwise produced locally, and exports raw materials that – if processed – could be sold at much higher profit margins. Processing could also help reduce post-harvest losses, which affect farmers’ incomes. Other underexploited segments of the value chain include, among other things, lack of storage facilities and financial skills, underdeveloped roads and high transportation costs and poor marketing. This context underlines the importance of adequate policy interventions allowing to solve the existing bottlenecks for industries with high potential.

60. **Senegal can shield itself against an eventual downturn in global food markets by taking advantage of the developing agribusiness markets in Africa resulting from the rapid change in consumption patterns.** Indeed, African agri-food systems are evolving rapidly as Africa is expected to urbanize rapidly in the future and is projected to become 65% urban by 2050 according to UNFPA. Moreover, urban shares of food consumption and food markets are higher

than the shares of urban populations. In fact, a recent study (Reardon et al., 2015) suggests that in West Africa, where the urban population share is half of the region's population, the urban share of the food economy is at least two-thirds and is probably closer to three-quarters. Moreover, urbanization in Africa is less concentrated than generally believed and the middle class is growing. To benefit from this expanding regional market, Senegal should enhance its agricultural business environment; strengthen its food production system by improving the agricultural linkages between production, processing and business services; and encourage greater regional integration with neighboring countries and with member countries of regional economic communities (ECOWAS and WAEMU).

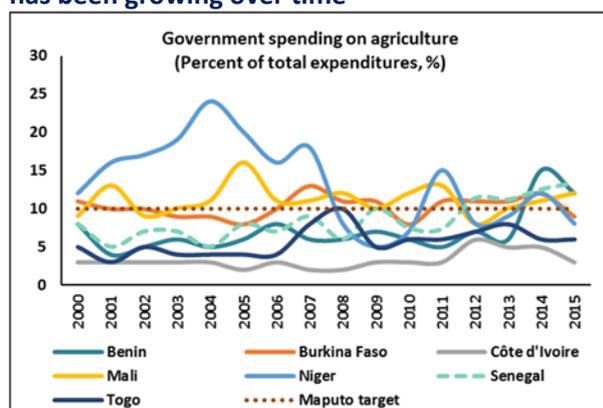
2.2 Public sector involvement in the agriculture sector

2.2.1 Government spending on agriculture

61. **Government spending on agriculture has been rising over time and is similar to other countries in the region, but remains below what other countries spent to achieve agriculture transformation.** The share of public expenditure on agriculture as part of total government expenditure has increased from 5-8% over the 2000-2004 period, to around 10 percent in 2012-2015. This increase is in line with the 10% target agreed upon as part of the Maputo declaration and the trends observed across regional comparators (Figure 43). However, the actual spending was about 73% of what was initially allocated in the budget. Moreover, and despite the efforts to increase public expenditures on agriculture, the share remains far below what some other Asian countries spent during their corresponding phase of agriculture transformation. For instance, India was spending 27.8 percent of its annual budget on agriculture in 1980 and maintained this high rate throughout the 1980s. While this rate dropped in 2000, it remained relatively high at 15% (Byerlee et al., 2005).

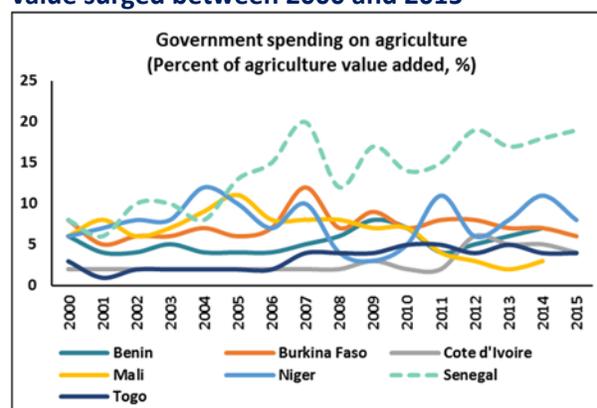
62. **The ratio of public expenditure on agriculture to its value added suggests some efficiency issues.** This ratio, which is an indicator of the cost of wealth creation by the government in agriculture, has been rising over time: from about 5 percent at the beginning of the 2000s to around 19 percent by 2015 (Figure 44). This surge positions Senegal as an outlier compared to regional comparators. One might argue that this rise might be driven by exogenous factors, such as climate change, which might increase the cost of creating the same amount of agricultural wealth. While we cannot empirically discard this argument, it is plausible to assume that this was not the case in Senegal given that other developing countries which were at a similar stage of the agricultural transformation had much lower ratios. In India, for example, this ratio increased from 10 percent in 1980 to merely 11 percent in 2000, and in Bangladesh it rose from 2 percent in 1980 to 6.6 percent in 2000. Another, more plausible, reason is related to efficiency issues. As noted earlier, Senegal's quality of public investment management is poor compared to other developing countries. Moreover, Grigoli (2014) shows that Senegal ranks 76 out of 88 developing countries on the efficiency of public spending on education. These low rankings suggest that Senegal's public spending dynamics are not very efficient.

Figure 43: Government spending on agriculture has been growing over time



Source: ReSAKSS and FAO (2016b)

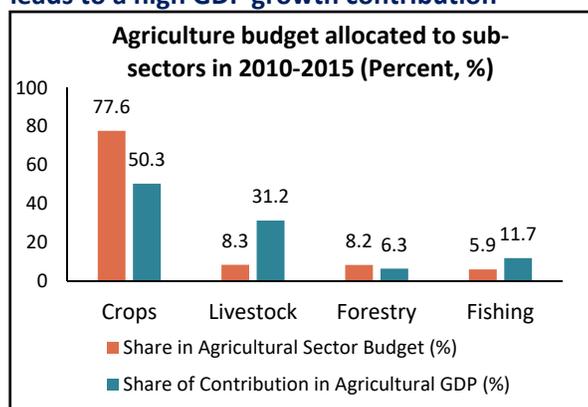
Figure 44: The ratio of public spending to added value surged between 2000 and 2015



Source: ReSAKSS

63. The recent agricultural expenditure review completed in 2016 shows that the rise in agriculture spending lead to disproportionately low contributions to agriculture GDP growth.³⁷ While 77% of the agriculture budget was spent on crops, the return on this spending was low as only half of the agriculture GDP growth stemmed from crop production (Figure 45). In contrast, the 11.7% and 31.2% contributions of fishing and livestock to agriculture GDP growth were much higher than the 5.9% and 8.3% shares of public spending allocated to these sub-sectors, thus indicating high returns on investment. It is important to note that a sub-sector's contribution to the economy is not only limited to the direct added value it creates, but also to the possible spillover effects it may have on other sub-sectors. For instance, a good cropping season impacts positively livestock performance with more crops' residues and pasture to feed the cattle.

Figure 45: Investment in livestock and fishing leads to a high GDP growth contribution



³⁷ The light agricultural expenditure review was initiated by the WB and conducted in 2016-2017 by the Ministry of Economy Finance and Planning and the Ministry of Agriculture and Rural Equipment with technical support from FAO.

64. **Public spending on agriculture has been dominated by investment with subsidies capturing the largest share, although much less so since 2014.** According to the latest review of the agriculture sector (Ministry of Agriculture and Rural Equipment, 2015), the share of investment out of government spending on agriculture has consistently exceeded 80% in 2011-2015 (Figure 46). Subsidies – which are considered within the Senegalese budget as investment expenditures given that they are included in specific projects and programs – accounted for a large share of spending in at least three years: 2011, 2012 and 2013 (Figure 47). However, the emphasis placed on subsidies has been significantly reduced recently as the share of subsidies dropped from around 40-60% between 2011 and 2013 to less than 20% in 2015.

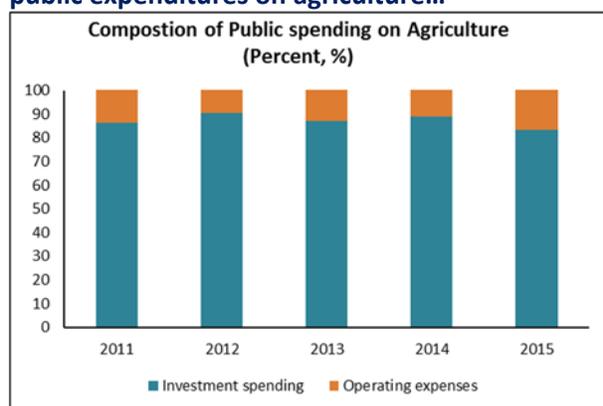
65. **In terms of product allocation, public spending remains heavily concentrated on groundnut.** Between 2010 and 2015, spending on groundnut averaged FCFA 12.6 billion per year which accounted for around 50% of total public expenditures on agriculture (Figure 48). These large expenditures on groundnut, which were respectively twofold and sixfold higher than expenditures on rice and fish products, were mostly spent on subsidies: 46% on seed subsidies, 30% on price subsidies directed to oil industries (SONACOS and others), 13% on subsidies for fertilizers and only 1% on agriculture machinery. While important efforts are being made to focus on quality certified seeds, agricultural mechanization is lagging.

66. **Meanwhile, public expenditures on agricultural R&D have increased in the past few years.** R&D spending which tend to yield high returns on investment and boost agriculture productivity (Goyal and Nash, 2017) was previously underfunded in Senegal as it averaged 0.8% of agriculture GDP in the 2005-2011 period, compared to 0.93% in SSA and 1.18% in Latin America and the Caribbean. Recently, however, public spending on R&D agriculture has picked-up from 0.63% of agriculture GDP in 2012 to 1.15% 2014, reflecting the government’s intention to improve agricultural research. It is worth mentioning this recent increase in R&D expenditures may not materialize instantaneously into productivity gains as previous empirical evidence suggests that there exists a substantial lag between the time spending on R&D occurs and the time it positively affect agriculture productivity (Block, 2014).

67. **Public expenditure in agriculture is increasingly being financed by foreign funds, which may expose the agriculture sector to financing risks.** Figure 49 illustrates that the percentage of foreign financed public expenditures has been increasing continuously since 2012. While this percentage is still manageable, the government is encouraged to closely monitor this ratio that could expose the agriculture sector to unexpected external risks if the recent uprising trend is maintained³⁸. There is room for increasing public spending in the sector, but the government should strive to match more than proportionally donor funding while improving alignment to strategic priorities for greater impact.

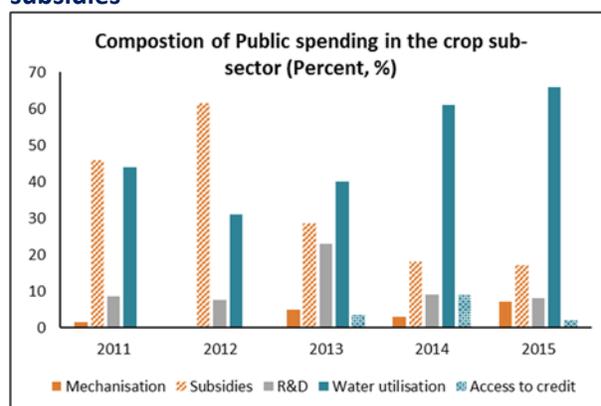
³⁸ This is particularly so given the growing level of public debt, which may force the government to slowdown external indebtedness

Figure 46: Investment spending dominates public expenditures on agriculture...



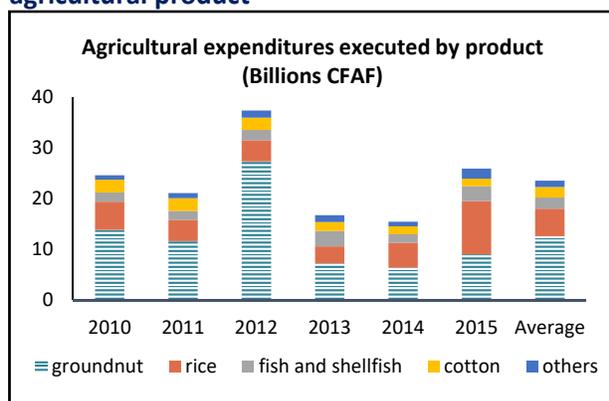
Sources: RCSA (2016)

Figure 47: ... However, it is concentrated on subsidies



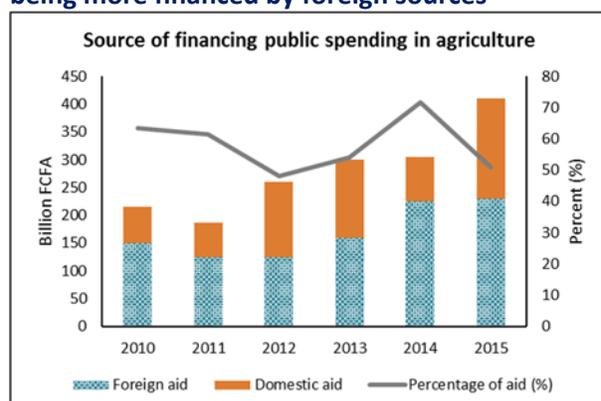
Sources: RCSA (2016)

Figure 48: Groundnut is the main subsidized agricultural product



Sources: FAO (2016b)

Figure 49: Public spending on agriculture is being more financed by foreign sources



Sources: FAO (2016b)

2.2.2 Recent public policies in the agriculture sector

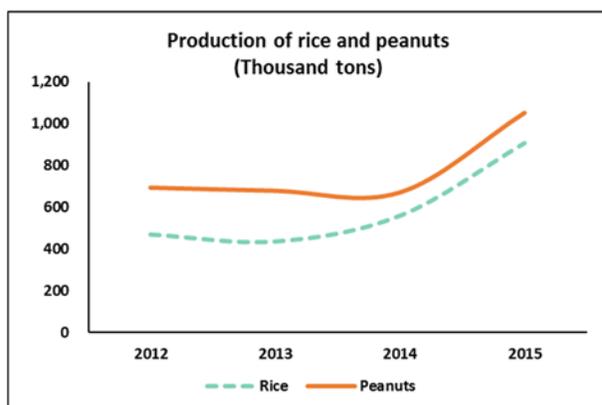
68. In 2014, the government launched the *Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise (PRACAS)* to modernize the agriculture sector. The PRACAS is essentially the agriculture derivative of the PSE, and includes several policies aimed at developing the agriculture sector: the construction and/or rehabilitation of infrastructure; the development of skills and financial capabilities of farmers such as subsidizing access to high quality seeds of rice, maize and cowpeas; and improving agricultural mechanization (MAER, 2015).

69. PRACAS implementation has been followed by the expansion of the agriculture frontier and higher demand for inputs, but there are also concerns about subsidies misallocation. Lower, subsidized prices facilitated access to high quality seeds and fertilizers. For instance, in the 2015 cropping season, all small, poorer farmers were able to access subsidized rice seeds. As a result, the overall cultivated area expanded from 1,125,622 ha in 2014 to 1,563,994 ha in 2015. Demand for agricultural inputs and machinery also increased, as reflected by their higher cost that increased by more than fivefold between 2012-2013 and 2014-2015. However, anecdotal

evidence suggests the existence of targeting issues linked to the lack of a strong tracking mechanism of actual beneficiaries of subsidies. The government has developed an e-platform to register and track beneficiaries (small, poor farmers), but this platform is still not used as of today.

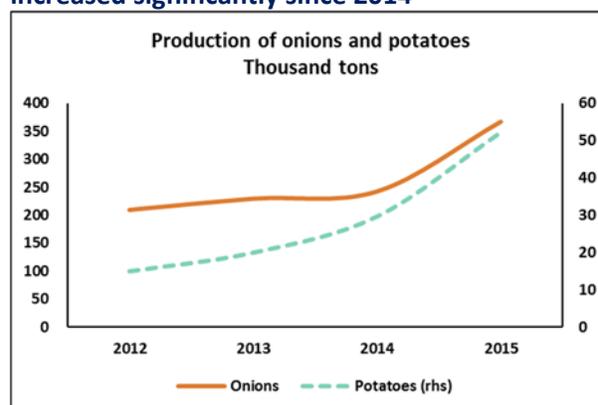
70. **These recent focused policies, in addition to good climatic conditions, may help explain the production increase of several agricultural products, particularly in rice.** Figure 50 and Figure 51 show a significant increase in the production of several crops since 2014, including: rice, peanuts, potatoes and onions. While in 2014-2015 Senegal enjoyed favorable climatic conditions (particularly a good distribution of rainfall) that have helped boost agricultural output, the sharp jumps observed during this period suggest that these production increases were at least partially influenced by the recently adopted policies.

Figure 50: The production of rice and peanuts...



Source: RCSA (2016)

Figure 51: ... and that of onions and potatoes increased significantly since 2014



Source: RCSA (2016)

71. **Continuing longer-term public support, PRACAS contributed significantly to the recent acceleration in rice production.** Steady increases in rice production and improvements in yields per hectare (described above) are the result of longer-term government support for developing the rice value chain, particularly since the New Agriculture Policy (NPA-1987). For instance, reforms in irrigation management in the Senegal River Valley provided support to Water User Associations (WUAs) which successfully managed government-funded, large scale irrigation schemes (see the Boundoum WUA example in Box 3), and attracted private sector investment in rice milling. As a result, paddy yields have increased from 4.5t/ha on average per cropping season in the early 1990s to around 6 tons/hectares in recent years, with peaks nearing 10 t/ha in some years. Further improvements in water infrastructure management and services are attracting agribusiness investment in production and rice milling.³⁹ More recently, PRACAS has set an ambitious objective of reaching self-sufficiency by 2017, with a production of 1.6 million tons of rice paddy. This resulted in a steady increase of rice production with significant extension of low and rained-cropping rice cultivation acreage in central, eastern and southern Senegal. With free

³⁹ Example of Compagnie Agricole de St-Louis which is operating since 2016 a 1,700 rice farm in the #-3PRD project areas dedicated to SME and agribusiness in rice value chain.

distribution of seeds and heavily subsidized mechanization, these areas contributed 49% to the total production of paddy rice in 2016, from 37% in 2010. Much more progress and transformational change could be achieved across the rice value chain with increased investments in (i) maintaining and developing irrigation schemes in up and low-land valley, (ii) building sustainable feeder roads, (iii) strengthening mechanization particularly in Casamance and groundnut basin, and (iv) improving financial markets.

Box 3: Boundoum

Boundoum irrigation scheme was first developed by the Government in 1964, across 1,800 hectares in the Senegal River Delta. The initiative was then extended to 3,200 hectares between 1991 and 2001, with the support of KFW and the World Bank. The scheme is the main source of income for 7 villages with more than 15,500 inhabitants at that time.

In 1991, 2,557 participant farmers were organized into 69 water user associations managing 69 irrigation units, with an Apex association (*Union des GIE*) led by elected representatives from grassroots associations. The association is responsible for the operation and maintenance of the scheme, performing the function of water supply agency to WUAs, under a management contract signed with the government's irrigation development agency (SAED).

UGIE-Boundoum along with other water users in the areas cover 100% of the operation and maintenance costs, while contributing partially (10%) to the overall O&M costs resulting from the infrastructure and waterways in the areas and under responsibility of SAED. SAED has also provided technical assistance to the Apex WUAs, while the Management Center (*Centre de Gestion et d' Economie Rurale*) and joint SAED-POs venture provided fee-based accounting and management advisory services.

By 2013, paddy yields rivals with international benchmarks reaching more than 7.3 tons/hectares in some seasons, with 140% crop intensity. The WUA keeps also a balance of more than one hundred million FCFA per year on average and has become one of the leading rice seed enterprise, selling certified seed beyond its members, including exports.

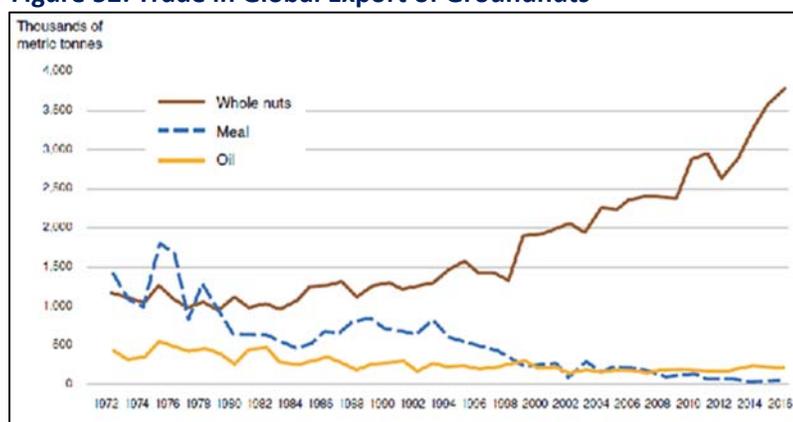
57 Apex WUAs are currently managing irrigation schemes along the Senegal River Valley, covering about 30,000 ha, with a total amount of FCFA 1.32 Billion (or USD 2.4 million equivalent) in savings account, as of march 2017.

72. **The government has already undertaken major policy actions to revamp the groundnut value chains as part of the PRACAS.** In particular, significant efforts have been deployed in rebuilding the seeds production system and facilitate farmers' access to fertilizers and improved seeds. The government has also taken significant steps to (i) improve the competition for the collection and marketing of groundnuts, (ii) encourage entry of new operators and (iii) process and export groundnut oils and seeds. In addition, the government has started the re-privatization process of the state own processing company (SONACOS) by end of 2018 and has launched initiatives to encourage the diversification of cropping systems in the groundnut basin, with expansion of rain-fed and low-land rice cropping systems, sesame and horticulture as well as livestock. These actions resulted in a consistent and significant increase in production of certified seeds over the last 3 years which reached a record level of 1.4MMT in 2017.⁴⁰

⁴⁰ According to GoS stats (declaration de Politique Generale, Decembre 2017) ; 1.1 MMT according to USDA revised projections (World Agricultural production, November 2017).

73. **Although reforms undertaken by the government are starting to yield positive results, groundnuts production face difficulties in adapting to structural shifts in demand.** The global groundnut trade has gradually shifted from oil and meal to whole nuts since the 1980s. Decreasing shipping costs and changes in consumer preferences have led to a decline in global trade in groundnut products (oil and meal fell annually by 1% and 2.5% over 1980-2015 respectively) and significant increases in the export of whole nuts which grew by 2.2% annually in the same period (Figure 52).⁴¹ While Senegal has a proven comparative advantage in producing groundnuts, regardless of the cropping systems considered,⁴² distortive policies to keep alive a less profitable processing of crude oils segment prevented farmers from getting the full value of expanding to global whole nuts markets. Reforms undertaken by the government since 2014 to liberalize the market started yielding results, with stronger exports of nuts and new investments in the value chain (storage, deshelling facilities, with significant potential in term of off-farm employments). However, the implementation of an export tax and delays in the re-privatization of the government run groundnut processing company (SONACOS) are eroding the private sector confidence in the value chain which could otherwise be a powerful weapon against extreme poverty in rural areas (Box 4).

Figure 52: Trade in Global Export of Groundnuts



Source: Master et al. (2017) using USDA data

Box 4: Groundnuts and the global markets

World production of crude vegetable oil is largely dominated by four major oils, which dominate 86% of globally traded edible oils: palm oil (34%); soybean oil (27%); Canola oil (16%) and sunflower oil (9%). With an average of 5.34 million metric tons over the period 2009-2014, crude peanut oil represents only 3% of world production of crude oils.

⁴¹ W. Masters et al Senegal groundnut Competitiveness and Prospects for Development – The World Bank, Agriculture Global Practice, June 2017.

⁴² The systems are: rain-fed by cooperatives of small farmers, seeds production, irrigated groundnut for seeds or production

In 2014, only 4% of the world production of crude peanut oil (206,000 tons) was exported, representing 0.3% of the export market share. With few exceptions (Argentina, Senegal), the main producing countries are also the main consumer of crude groundnut oil (China, India and the US).⁴³

While trading of groundnut oil across the oceans has declined, exports of whole nuts have recorded a 2.2% increase per annum since 1980, and even more rapidly in recent years. In the decade following the end of the groundnut export quotas in the United States (2002), US exports of whole groundnuts were in the range of 20,000 to 40,000 tons per month. In 2015/16, the US exported on average between 60,000 to 80,000 tons of peanuts per month, with China imports reaching 3.21 mt over the same period, up from 2.1 mt in 2014/15.⁴⁴

Senegal would be able to gain between USD 250 million and USD 325 million per year from nuts exports by reforming its groundnut trade policies. Combined with further reforms such as fixing the edible oil processing industry, accelerating the dissemination of climate smart technologies – including drought resistant, short cycle and confectionery oriented seeds – the sector may generate thousands of jobs, mostly for rural women, along the value chain (storage, sorting, deshelling, bagging, haulage and local processing into various products for domestic and regional markets), while lifting around 50,000 people out of poverty with reduced domestic consumer price of oil.⁴⁵

74. The government is also making efforts to ease financing constraints in partnership with the private sector. The Warehouse Receipt System (WRS) bill, which aims to support increased access to finance along the agricultural value chain, has been enacted in July 2017. Global experience shows that private sector drive is the main success factor in establishing a functioning WRS. Beyond easing access to credit, the WRS project can also boost agricultural competitiveness and offer better commercial opportunities to farmers, as witnessed in South Africa, India and the US. This is especially crucial for Senegal, where a good number of agricultural commodities are imported, such as rice.

75. While the new policies have been coherently designed in the context of the broader PSE, it is important to learn from previous failures and avoid ad-hoc, unsustainable policies. Following the advent of the 2007-2008 food price crisis, in April 2008, the government launched the Great Offensive for Food and Abundance (GOANA), and committed 345 billion FCFA with the objective of producing 2 million MMT of maize, 3 million MT of cassava, 500,000 MT of paddy rice, and 2 million MT of all other crops combined (CGERV 2015). The outlay for the program was used to finance fertilizer acquisition for 193 billion FCFA, seeds for 52 billion FCFA, pesticides for 13 billion FCFA and farm equipment, irrigation and extension work for 83 billion FCFA. Although this led to an increase in aggregate cereals production from 772,239 MT in 2007-2008 to 1,756,705 MT in 2008-2009, such an increase was fiscally unsustainable and did not last beyond two agricultural seasons (CGERV 2015, citing ANSD).

43 A. Niane et al: Etude Diagnostic de la chaine de valeur arachide: propositions de reformes. Banaque mondiale 2015.

⁴⁴ Source: <http://www.commodafrica.com/25-10-2016-la-chine-mene-le-jeu-sur-la-scene-mondiale-de-larachide>

⁴⁵ Forthcoming : SENEGAL – Markets and Competition Policy Assessment. The World Bank group, Trade & Competitiveness Global Practice. Draft, September 2017.

2.3 Policy recommendations

76. **Agriculture will not drive the transformation agenda until its protracted productivity and growth issues are addressed.** Whilst agriculture has played a key role in Africa not only on its own account, but also as a driver of growth-increasing structural change (i.e. the reallocation of labor from low-to-high productivity sectors), there is doubt to how far this process can carry the economy. Because of the low-income elasticity of demand for agricultural products, a movement of labor out of agriculture is argued to be an inevitable outcome during the development process. However, the contribution of the structural-change component would be self-limiting if the other economic sectors do not experience rapid productivity growth on their own.⁴⁶ In the absence of alternative labor-intensive sectors, as in Asia where industrialization drove the growth acceleration process, what would be the options for a country like Senegal to sustain a growth-increasing change while getting most of its rural population out of farms to increase agricultural productivity?

77. **First, stabilize agricultural productivity growth by reducing its volatility should be paramount.** This requires reducing the exposure of the agriculture sector to production related risks through mass adoption of climate smart technologies (heat, drought, flood tolerant varieties, productive fodder crops, tree crops and agroforestry, adapted small scale irrigation and soil and water management practices, etc.) and more diversification in the rain-fed dominated crop and livestock production systems, such as the “Bassin Arachidier”. Important steps have already been made in that direction with (i) the diversification of crops production, and (ii) the recent release of promising climate smart, high nutrient-content of new crops varieties (groundnut, pearl millet, sorghum, cowpeas, etc.) which will further improve food and nutritional security. Those should be expanded at scale with clear targeting in terms of value chains, geographic areas of focus and beneficiaries, and sustainable financing mechanism, including for accompanying services (research, extension and advisory services as well as financing for access to the technologies themselves).

78. **Second, foster connections with the rest of the economy to develop value chains and off-farm employment, and to accelerate agriculture productivity growth.** Agriculture could play a growth engine role through multiplier effects, enlarging the growth pie to sustain long-term productivity in the agricultural sector. This will certainly not happen unless a conducive environment to foster private investment in agricultural value chains is developed. Likewise, micro and small business around smallholder farming and agribusiness, will require affordable access to infrastructure (water, energy, roads), financing and business services. Promoting

⁴⁶ Xinshen Diao Margaret McMillan Dani Rodrik. The recent growth boom in developing economies: a structural change perspective. NBER Working Paper Series, Cambridge, MA, 2017

private investment in the sector does not need to be exclusive or biased toward a category of stakeholder. Instead, unlocking barriers to competitiveness and structuring and empowering farmers' cooperative societies in the groundnut value chains towards real business entities with dedicated support services as in the Senegal River Valley, could provide opportunities for small farmers to grow. This should not preclude the government from striving to accelerate agribusiness investments to sustain horticultural export growth, or expanding the already active poultry and animal feed industry and thus create off-farm opportunities for rural households.

79. **Third, take advantage of the rapid urbanization, growing regional and global food markets to boost production and exports.** With a thin domestic market, it is likely that food demand elasticity will be a serious limitation to the growth-increasing structural changes alluded to early. This constraint could be relieved by implementing policies that would boost agriculture and food exports, digging deeper into those value chains where the country has a proven comparative advantage (groundnuts, fish and poultry, and horticultural exports) and taking advantage of a growing global and regional food markets (horticultural exports from African countries have increased over the period 1995-2014 by an average annual growth rates 7.5% - Van Den Broecke & Maertens, 2016).

80. **Fourth, improve the targeting and efficiency of government spending.** Looking forward, the government should make more efforts to re-orient the agricultural spending from less productive fertilizer subsidies, which were found to play little or no role in substantially boosting productivity across several Asian countries (Goyal and Nash, 2017), to productivity-enhancing input factors such as agricultural R&D, climate change resilient technologies and advanced irrigation techniques. On a related note and despite apparent successes in a number of crops with high potential, it seems that the government budget can get more efficient by improving the targeting of needy smallholders. In this sense, the e-voucher platform allowing to enhance targeting is yet to be implemented.

81. **Fifth, realign agriculture sector related policies.** Agriculture policies should be boldly risk sensitive and the government should mainstream risk management mechanisms into its sector strategies and programs to shield agricultural production and productivity against volatile – and worsening – climatic and market conditions. Moreover, local authorities need to develop sufficient livestock related infrastructure, improve access to weather forecasts, and accelerate its efforts to gradually move away from rain-fed agriculture toward more productive, drought tolerant and short season crops. The overall decreasing trend in rainfall observed over the past decades and the increased frequency of droughts combined with population growth has negatively affected agro-pastoral production systems and the livelihood of rural communities more specifically. Policies should pursue better farming connection to upstream segment of the

value chain, which underlie the objective of extracting labor force from farming to off-farm activities including through more agribusiness employment for overall agriculture productivity.

82. Sixth, the government should deepen its efforts to complete the longstanding reforms in the groundnut value chain, with stable and credible policy framework for wholenut exports.

Unleashing the economic potential of the groundnut value chain, in which Senegal has a proven comparative advantage, would likely help reduce extreme poverty, particularly in underdeveloped regions. This entails removing distortions and disincentives in the upper segment by (i) creating a level playing field for private investment in groundnut collection and post harvest operations; (ii) providing opportunities to develop a more diverse processing model; and (iii) bringing processing and marketing innovation for various groundnuts products. The new value chain centered on producing high quality groundnuts for processing and exports can drive productivity and realign Senegal to global trends. In fact, producers should have the opportunity to tap local and global markets through full liberalization of the domestic price. Free contractual arrangements between informed individuals and organized producers and off-takers will help move farm gate prices closer to the international price of whole nuts. To achieve these reforms, a strong inter-professional coordination body could be tasked to accompany the development of the new value chain, as the Government steps back from production (through SONACOS) and focuses on providing key public goods. To be successful, such reforms should address the issue of volatility of production and revenues, more diversified groundnut-based production systems, and specific protection for price swings, including safety net mechanisms when both international prices and domestic production are low.

83. Seventh, it is critical to support and encourage the private sector to play a greater role in the development of agriculture. The private sector is stepping in several commercial value chains – including horticulture, rice and groundnut – particularly in downstream industries, with improved processing units that allow for higher quality of milled rice. The private sector may also help in upstream industries if the government facilitates its involvement through adopting clear and private sector friendly policies (removing barriers to competitions notably in inputs and groundnut value chains), building the necessary infrastructure such as irrigation and storage facilities and easing access to credit that will ultimately boost competitiveness. On that front, the recently enacted WRS bill is a step in the right direction, expanding the array of available financing instruments to producers and off-takers alike.

84. Eighth, integrating agriculture related statistics is critical for a better understanding of agricultural performance and its connection to the rest of the economy. Improvements in agricultural data collection and processing, using ICT, GPS and drones along with adequate estimation methodologies could help address this challenge. Integrating agricultural statistics with data on agro-processing and agroservices, including trade related data, will further help measure the distance to full economic integration and assess with more accuracy the

distributional effects on the sector. Better organized and up-to-date data, integrated into a well disaggregated social accounting matrix (SAM) could be a powerful tool to better assess the multiplier effects of the sector, while identifying value chains and sub-sectors that could further strengthen the role of agriculture as an engine to accelerated growth.

Appendix 1: Data

Table A.1: Selected Fiscal Indicators, 2013-2016

	2014	2015	2016	2017
				Est
	(Percent of GDP, unless otherwise indicated)			
Revenue	24.8	25.1	26.8	25.4
Taxes	19.6	19.8	20.5	20.8
Grants	3.3	2.9	2.8	2.6
Other revenue	1.9	2.4	3.5	2.0
Expenditure	29.8	29.9	31.0	29.0
Current expenditure	18.5	18.6	18.5	16.4
Compensation of employees	6.5	6.5	6.6	6.2
Use of goods and services	4.8	4.8	3.7	3.6
Interest	1.7	2.0	2.2	2.3
Foreign	0.8	1.6	1.6	1.8
Domestic	0.9	0.4	0.5	0.6
Subsidies	0.8	0.6	0.6	0.5
Grants (current excl. FSE)	2.3	2.7	3.3	2.6
Social benefits	0.4	0.7	0.1	0.1
Other expense	2.0	1.3	2.2	1.2
Capital expenditure	11.3	11.2	12.5	12.6
Memorandum items:				
Nominal GDP	7,583	8,082	8,722	9,528
Sources : Senegal authorities; and IMF staff estimates.				

Sources: Senegal authorities; and IMF staff estimates

Table A.2: Selected Macroeconomic Indicators and Outlook

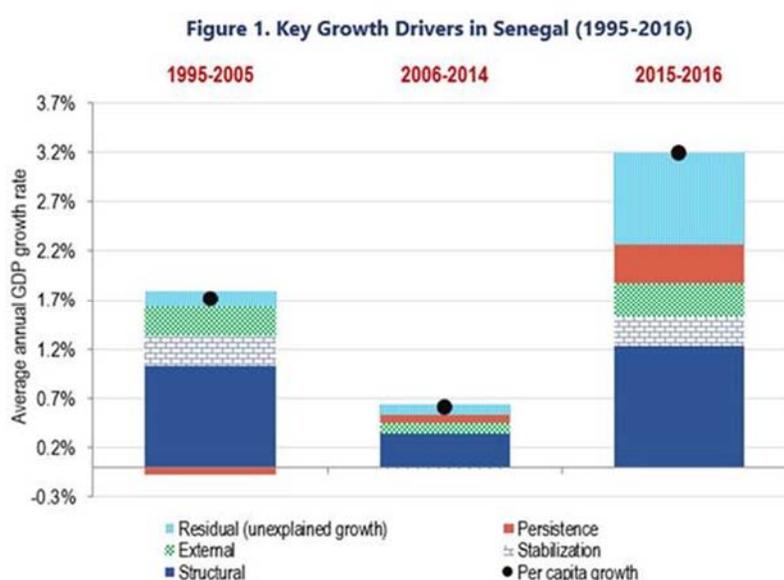
	2015	2016e	2017f	2018f	2019f
Global GDP Growth (%)	2.7	2.3	2.7	2.9	2.9
WAEMU GDP Growth	6.5	6.2	6.4	6.5	6.4
Real GDP Growth (%)	6.5	6.7	6.8	6.9	7.0
GDP components growth (%)					
Private Consumption	5.0	5.3	5.1	5.2	5.3
Government Consumption	4.6	5.9	3.0	3.0	2.5
Gross Fixed Capital Investment	6.3	8.8	10.4	10.1	10.3
Exports, Goods and Services	12.7	8.3	8.4	8.6	8.7
Imports, Goods and Services	12.0	7.8	7.6	7.5	7.7
Sectors Growth (%)					
Agriculture	18.2	10.1	7.2	7.3	7.2
Industry	7.1	6.8	8.2	8.7	8.9
Services	3.9	5.8	6.1	6.1	6.2
Inflation (CPI, %)					
	0.1	0.8	2.2	2.2	2.2
Overall fiscal deficit (% of GDP)	4.8	4.2	3.7	3.0	3.0
Current account deficit (% of GDP)	7.6	5.4	5.6	5.8	6.1
Public debt (% of GDP)	56.8	60.6	62.1	60.6	58.7

Sources: World Bank, GEP 2017, MFMod 2017, IMF 2017. Notes: e = estimate, f = forecast

Appendix 2: Structural change and productivity in Senegal⁴⁷

Structural reforms are a major driver of past growth in Senegal.⁴⁸ Structural improvements,⁴⁹ among which is investment in public infrastructure, contributed the most to per capita growth during the 1995-2005 period. A considerable fraction of per capita growth can also be attributed to stabilization policies, suggesting that the macroeconomic framework improved during that period and provided a stable environment for structural policies to spur growth later. Finally, external factors contributed to growth, mainly due to the demand-driven upsurge in commodity prices that started in the early 2000s.

After running out of steam since the second half of the first decade of the 2000s, structural policies have boosted growth in 2015-2016. Despite the larger contribution of the financial sector, per capita growth fell in the second half of the 2000s as structural policies played only a minor role due to lower public infrastructure investment. Recently, however, structural factors strengthened as public infrastructure investment accelerated, suggesting that per capita growth would accelerate in the following years. Noteworthy is the positive contribution of the external factor during the 2015-2016 period, which corroborates our earlier findings that exports played a key role in the recent growth pick-up.⁵⁰



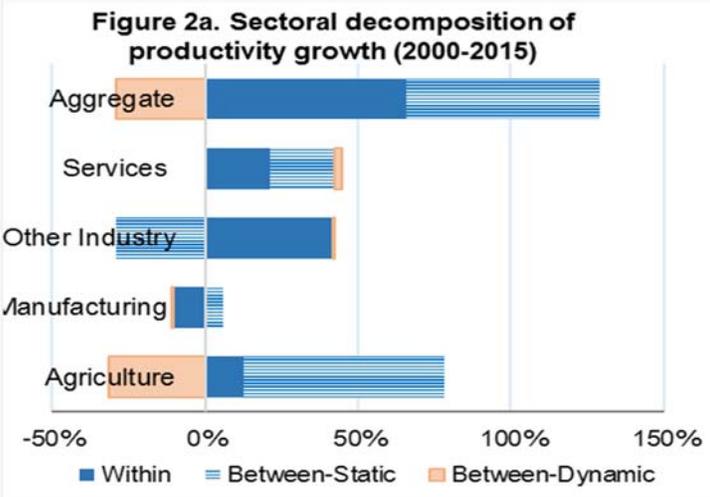
⁴⁷ This Box is based in a short note prepared by Fiseha Haile Gebregziabher.

⁴⁸ This section is based on a short note on Fundamental Determinants of Economic Growth in Senegal, prepared by Fiseha Haile Gebregziabher.

⁴⁹ Structural factors include infrastructure (power generation, roads and communication), financial intermediation, trade, education, government size and institutions.

⁵⁰ The large contribution of the residual components comes as no big surprise given that we are trying to explain short-term growth (2015-2016) using mostly medium to long-term growth determinants.

Meanwhile, productivity growth over the period 2000-15 has been mostly driven by within-sector productivity growth and static structural change. Of the modest 1.7 percent average annual per capita growth over 2000-15, within productivity gains accounted for 1 percentage points (ppts), static structural change⁵¹ yielded 0.9 ppts, whereas dynamic productivity loss reduced per capita growth by about 0.4 ppts, suggesting that labor reallocation to lower productivity growth sectors (reverse structural transformation) constituted an important drag on growth. In fact, productivity-enhancing structural change that shifts workers from low-productivity agriculture and informal services to dynamic high-productivity growth activities is yet to be unleashed in Senegal as most of the labor force moving out of agriculture has been absorbed by low-productivity, informal trade and distribution services rather than formal manufacturing or modern services.

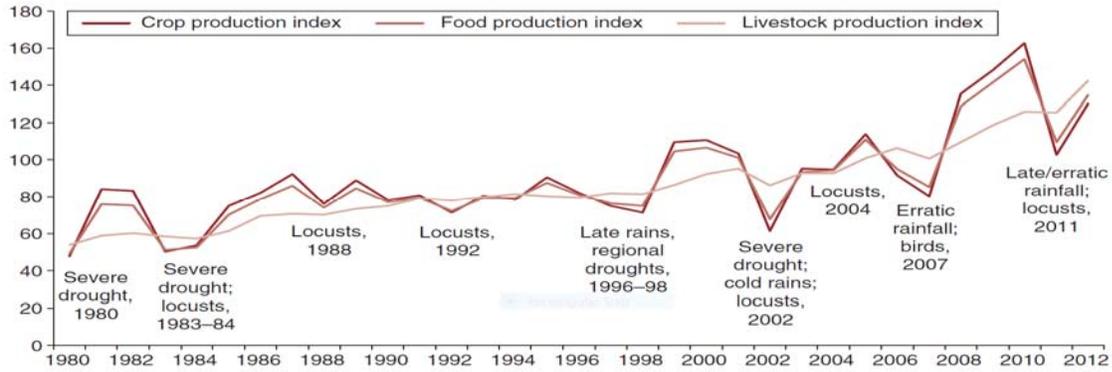


The pattern of structural change observed in Senegal differs from the Asian experience. Within sector productivity gains and dynamic structural change have been the main drivers of productivity growth in Asia. At its peak, structural change accounted for about 60% of per capita growth in Thailand, 35% in Korea, 28% in China, and 31% in Indonesia.

⁵¹ Static effects refer to productivity changes due to reallocation of workers from below-average to above-average productivity level sectors, while dynamic effects refer to productivity growth arising from labor shift from below-average to above-average productivity growth sectors.

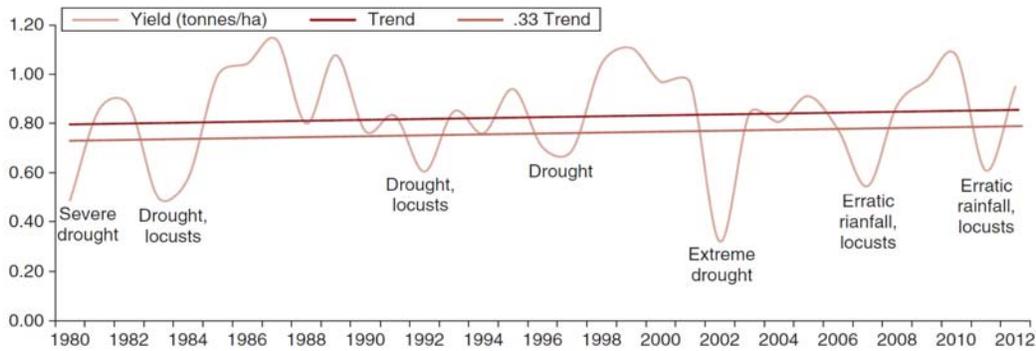
Appendix 3: Key Facts from Senegal's Agriculture Risk Assessment (2015)

Figure A.1: Timeline of major shocks to agriculture production in Senegal



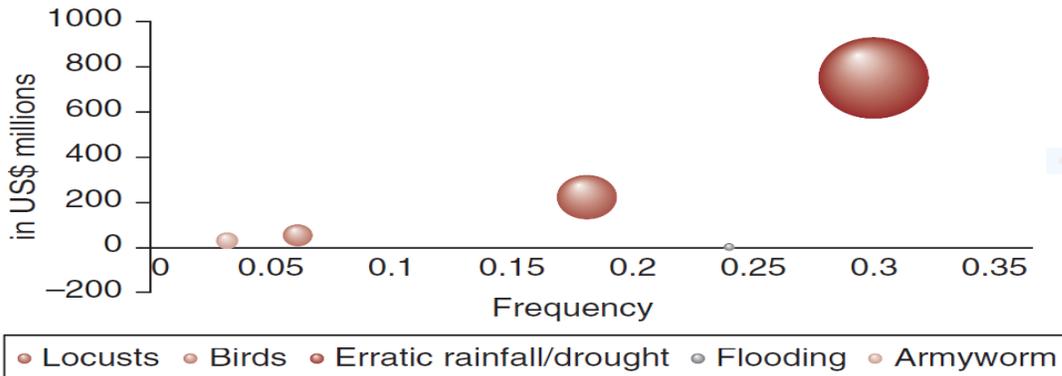
Source: World Development Indicators; Authors' notes.

Figure A.2: Indicative losses from risk events to groundnut



Source: FAOSTAT.

Figure A.3: Impact and frequency of major agricultural risks in Senegal, 1980-2012



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