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An Assessment of the Short Term Impact of the ECOWAS-CET and EU-EPA in Senegal

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EXECUTIVE SUMMARY

The 2013 approval of the ECOWAS Common External Tariff (CET) and the 2014 endorsement of the EU-Economic Partnership Agreement (EU-EPA) trigger questions about the consequences of these trade agreements for Senegal. The CET aims at the establishment of a customs union for ECOWAS through the adoption of a common external tariff vis-à-vis third countries. The EU-EPA give reciprocal access, i.e. Senegal will continue to access the EU market while liberalizing access to its own market for EU exports. The agreement gives immediate access to the EU market while West Africa will remove import tariffs over a 20-year transition period.

This paper estimates the short-term impact of these two agreements using a simple framework based on partial equilibrium simulations of the new tariff rates to be adopted under the CET and the EU-EPA. It focuses on calculated price changes to analyze the estimated direct impact on households and firms using recent survey data, with two key assumptions: full pass-through of price changes resulting from tariff changes to the domestic market, and no adjustment behavior by households and firms. Key results are:

- Nominal Protection. The CET should lead to a slight increase in the trade weighted average tariff from 6.0 to 6.3 percent, with sectors such as *Fabricated metal products*, *Agriculture* and *Machinery* receiving higher nominal protection. On the opposite, following CET introduction, the EU-EPA implies that tariff protection declines across all sectors. At the end of the EU-EPA transition period in 2035, the weighted average tariff will have dropped to 4.7 percent.
- Revenues. The CET should lead to a modest decline in imports, imports from ECOWAS partners increase slightly at the expense of trade with the EU and the rest of the world. Tariff revenue increase between 2 and 5 percent. On the opposite, following CET introduction and at the end of the EU-EPA implementation period, imports will have increased by 0.6 to 1.2 percent. Imports from the EU increase the most. The combined results on tariff revenue is negative in the order of 21 – 25 percent, or close to 3 percent of total government revenue, by the time the EPA is fully implemented in 2035.
- Household. The overall effect of the CET on households is an increase between 0.9 and 1.2 percent in the price of the average consumption bundle. The EU-EPA, on the other hand would lead to a lowering of prices of the average consumption bundle between 0.5 and 0.9 percent, with a clear progressive patterns of the strongest price declines for the lowest income quintile. The combined effect of CET and EU-EPA would therefore almost be neutral for consumers in the poorest income quintile, but slightly negative for all others.
- Firms. For the CET, the average firm would enjoy an increase in profits (equivalent to 3.6 percent of sales) reflecting a strong increase in output prices due to higher levels of protection, and a smaller negative influence from higher prices on (non-fuel) inputs and capital goods. However, these gains would be clustered on a few firms: 30 percent of firms at the top end of the distribution stand to gain profits equivalent to between 4 and 12.5 percent of their sales. These produce goods classified under the new 35 percent tariff band. Only 10 percent of workers are in these firms experiencing strong gains in profit while the firms losing out because of the reform, mainly through higher tariffs on inputs, account for

75 percent of employment. It is important to note that while it can drive short terms profits, protection on firms' outputs in the longer run is typically associated with lower productivity growth, in addition to imposing a burden on consumers through higher prices.

For the EU-EPA, 70 percent of firms accounting for 85 percent of jobs enjoy a positive change in profits. Under the EU-EPA, gains are mostly obtained through lower input and capital prices while the remaining firms with negative effects are primarily those whose outputs compete with EU imports. Gains are moderate in size but relatively well distributed with the majority of workers in all sectors working in firms that stand to gain. Losses occur mainly within the 'food and beverages' sector. It is important to note that gains through better access to imported inputs and capital goods, in the longer run, are associated with higher productivity growth at the firm level.

The analysis of the CET and EPA effects suggests a number of priority areas for accompanying reform measures that could significantly improve the outcomes of the CET and EPA implementation for Senegal:

- Competition policy. While markets are relatively competitive in Senegal, there are a few significant exceptions. To ensure that Senegal will benefit from the intended results of these trade agreements, there is a need to seriously reinforce competition policy in the country to ensure that competition levels are maintained and some protected sectors further liberalized. Although most of it is decided at the WAEMU level, country level investigation, market surveillance and other activities are done by national institutions. GoS policy statements from 2014 relative to an institutional reform must therefore be implemented. Hence, Senegal's competition commission i) should be seriously reinforced (in terms of equipment, capacity and budget), and ii) better coordination with sector regulators and WAEMU should be ensured.
- Access to imported inputs. Easy access to imported inputs and capital goods typically raises firm productivity. However, in the case of Senegal, firms on average do not make strong use of them. This may be explained by the fact that effective tariffs for inputs for industrial use remain relatively high. The EU-EPA would have the advantage of lowering protection for these and other inputs and capital goods. Besides the advantages of the scheme, ensuring that two key existing incentive schemes (the *Investment Code* and the *Free Exporter Status*) are properly designed, follow best practices, and are not misused is key in ensuring good access to inputs. As a complement, measures allowing for a reduction of import times at customs should be implemented. This is the only area of trade facilitation where Senegal does not fares well.
- Fostering integration with global value chains. GVCs are rightfully seen by GoS as an opportunity for deeper integration into world trade. However, unlike classical arm's length trade in finished goods, GVC trade is much more demanding in terms of the overall quality of the investment climate and its supporting institutions. Thus, the realization of GVC based trade implies to have in place supporting institutions and to have limited barriers to trade and investment. These are areas where Senegal can still make progress. At the institutional level, the three entities that could influence such a policy (APIX, ADPME and ASEPEX) should coordinate interventions and ASEPEX has to be strengthened (in terms of human capital, management, equipment and budget). At the policy level, PREAC-2 which is GoS plan to improve the business environment should be finalized as well as implemented

quickly and efficiently. Special attention should be paid to improving the resolution of commercial conflicts, which has acted as a deterrent to investors in the past. The recent implementation of a mediation system (2015-16) is a positive step forward. It must now be put to use. The Ministry of Justice is also considering creating dedicated ‘Commercial Chambers’. To focus the debate, a proper analysis of such a system has to be done, with a view of i) ensuring efficiency and better service and ii) sustainability.

- Improving key backbone services. In Senegal, two backbone services important to competitiveness are problematic: electricity and access to finance. Irregular and costly supply of electricity is a major constraint to firms. Current policies aimed at reducing costs and improving supply have to be pursued and amplified. Access to finance is also a major issue, acting as a brake to investment and trade. GoS has created in recent years a set of institutions (FONSIS, a sovereign fund, FONGIP, a guarantee fund, and BNDE, a development bank) aimed at fostering access to finance by complementing the private sector. It is critical these institutions remain fully active in the sector, as is the need for demand side improvement programs (SME training, provision of account certification services...) to continue and expand.

The reforms mentioned above are intended as priority suggestions to accompany the CET and EPA agenda. However, it should be noted they neither preclude nor replace the need for broader policies to enhance competitiveness, encourage entrepreneurship, and prepare workers for the challenges ahead.

ABBREVIATIONS AND ACRONYMS

APIX	Investment Promotion Agency
ARMP	Autorité de Régulation des Marchés Publics (Public Procurement Regulation Authority)
ARPT	Autorité de Régulation des Postes et Télécoms (Post and Telecom Regulation Authority)
CET	Common External Tariff
CRSE	Commission de Régulation du Secteur de l'Électricité (Electricity Sector Regulation Authority)
ECOWAS	Economic Community of West African States
ES	Enterprise Survey
ETLS	ECOWAS Trade Liberalization Scheme
EU	European Union
EU-EPA	EU-Economic Partnership Agreement
FES	Entreprise Franche d'Exportations (Free Exporter Status)
NCC	National Competition Commission
NTB	Non-Tariff Barriers
TRIST	Tariff Reform Impact Simulation Tool
WAEMU	West African Economic and Monetary Union

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INTRODUCTION.

1. In recent years, there have been major changes in the trade policy landscape in West Africa that will affect Senegal. The Common External Tariff (CET) for ECOWAS and European Union-Economic Partnership Agreement (EU-EPA) have generated an intense debate among policy makers, interest groups and the general population.

2. The CET aims at the establishment of a customs union for ECOWAS countries through “the adoption of a common external tariff and a common trade policy vis-à-vis third countries...”¹. It was adopted at a Heads of State Summit in October 2013 in Dakar and is to be implemented from 2015. When initially designed in the mid-2000s, the CET was organized in four tariff bands: 0 percent for essential social goods, 5 percent for goods of primary necessity, raw materials and specific inputs, 10 percent for intermediate goods and 20 percent for final consumption goods. Since then, Nigeria has obtained the introduction of a fifth band at 35 percent for “specific goods for economic development” (essentially agricultural goods and some consumer goods).

3. The EU-EPA was endorsed by Heads of State for signature in July 2014. The signature process is ongoing. The EU-EPA gives reciprocal access, i.e. African countries including Senegal will continue to access the EU market while liberalizing access to their own markets. Specifically, the agreement gives immediate access to the EU market while West Africa will remove import tariffs over a 20-years transition period. The market access offer of West Africa liberalizes 75 percent of tariff lines at the end of the transition period. Hence, products considered sensitive² are excluded. This includes many of the products currently under the fifth band of the ECOWAS CET, as well as roughly half of the products currently attracting 20 percent duty under the ECOWAS CET³. Tariffs will be progressively eliminated on goods such as equipment and other inputs. Finally, the EU-EPA includes a variety of safeguards that can be deployed if imports of liberalized products are increasing too quickly. Special protection is foreseen for infant industries, and the EU-EPA allows for taking protective measures in case food security is threatened (European Commission 2015).

4. These measures, once fully implemented, may significantly affect household’s welfare and the environment of the private sector in Senegal⁴. There is a concern at the level of policy makers that this may have a detrimental impact on the country’s small formal private sector. The Senegalese

¹ - See Article 3 of the ECOWAS Revised Treaty. The CET is part of a larger effort to establish a custom union among ECOWAS members. The ECOWAS Trade Liberalization Scheme aims at introducing the CET while eliminating customs duties and taxes, and non-tariff barriers among its members. These policies are intended to be applied to a selected group of goods including unprocessed goods, traditional handicraft products, and industrial products of community origin.

² - Such as meat (including poultry), yoghurt, eggs, processed meat, cocoa powder and chocolate, tomato paste and concentrate, soap and printed fabrics.

³ - Such as fish and fish preparations, milk, butter and cheese, vegetables, flour, spirits, cement, paints, perfumes and cosmetics, stationery, textiles and apparel and fully built cars.

⁴ - With a GDP of about USD 15.6 billion in 2015, Senegal is a major hub of economic activity in West Africa. The tertiary sector is the main contributor to GDP, accounting for 60.1 percent in 2015. The size of the sector is largely explained by the importance of activities such as trade, telecommunications and tourism. Although the primary sector only accounted for 16.2 percent of GDP in 2015, it remains the foundation of the economy employing around 75 percent of the workforce. Peanuts, sugarcane, and cotton are important cash crops, and a wide variety of fruits and vegetables are grown for local and export markets. Industry, which accounted for 23.6 percent of GDP in 2015, encompasses a variety of economic activities, but is heavily dependent on agro-industries and mining.

private sector is indeed of a small size, around 7,000 officially registered firms in the early 2010s, mostly composed of MSMEs with less than 20 employees (more than 80 percent of existing firms). About 45 percent of these firms operate in services, 33 percent in trade, 13 percent in industry and 9 percent in the construction industry. Around two-third of these firms operate in the Dakar area, the capital city.

5. Such concerns derive from the fact that the Senegalese private sector faced difficulties and setbacks in recent years. The largest groundnut oil processor has been in financial difficulties, as was the country's petroleum refinery and the national airline. Over the years, manufacturing value-added declined from about 16.6 to 13.1 percent of GDP between 1995 and 2014. Other key sectors such as Tourism had to deal with prolonged difficulties, including the fallout of the regional Ebola crisis. However, since 2014, things have started to change. Growth is increasing and, in 2015, for the first time since 2003, the growth rate of GDP was above 6 percent - higher than the SSA and LDC averages. At the sector level, services were the key driver of growth while industry (especially chemicals and construction) also performed well (World Bank 2016). This is encouraging, but the Senegalese private sector still faces key limitations in terms of global competitiveness, which if left unresolved, will hamper its ability to contribute to the country's future growth. These include infrastructure⁵, human capital⁶, innovation and technological readiness⁷, and institutions/investment climate⁸ (World Economic Forum 2017).

6. Against this background, this paper seeks to assess the **short-term impact** of the ECOWAS-CET and the EU-EPA schemes. It is based on a partial equilibrium simulation of the new tariff rates to be adopted under the CET (new CET rates against trading partners outside of ECOWAS and complete liberalization within ECOWAS) and the EU-EPA (removal of most tariffs against the EU over time based on the market access offer negotiated between the EU and ECOWAS) using the World Bank's Tariff Reform Impact Simulation Tool (TRIST). It focuses on price changes calculated in TRIST to analyze the estimated direct impact on households and firms using recent survey data (See Annex 1).

7. Tariff reform indeed affects consumer welfare through several channels. Cutting import tariffs can reduce the cost of consuming both imported products, through direct price effects, and domestically produced products, through stronger competition. Matching the price changes from TRIST with detailed information on consumer expenditure gives an indicative estimate of the pressures on household budgets resulting from the trade reform, and the main products driving these changes. The resulting metric is an expected change in the cost of the average consumption bundle

⁵ - This largely refers to the deficient electricity supply, which typically is a key issue for firms in Senegal.

⁶ - A lack of skilled labor force is among the main deterrents of economic competitiveness. Senegalese gross school enrollment rates are well below compared to those in its peers. About 84 percent for primary, 36 percent for secondary, and 8 percent for tertiary education, while they average around 106 percent, 50 percent and 9 percent in other SSA low-middle income countries. This accumulation of low human capital leads to an oversupply of unqualified workers.

⁷ - Although the country has assets in research (high number of researchers, important research institutions ...) this does not translate into innovations (new products, better production and delivery processes...), due to weak linkages between the research sphere and the business sector. R&D expenditure is small: 0.48 percent of GDP in 2008 - below the 1 percent target for African countries. Less than 1 percent of researchers work in business sector (Nepad 2014).

⁸ - Although IC reforms have recently gained a significant momentum with the country becoming "a top global reformer" (DB 2015 and 2016), Senegal's is still ranked 147th out of 190 countries on the *Ease of Doing Business Index* for DB 2017. De facto investment-climate constraints remain strong.

by household income levels, assuming full price pass through of trade policy changes on both imported and domestically produced consumer goods and no substitution behavior by households. As these are obviously strong assumptions, the results are actually indicative of the expected direction and possible upper bounds of the real effects, and give policy guidance for policy accompanying policy measures.

8. The firm level analysis operates at the micro level, applying the trade shock to each individual firm in the sample of the 2015 enterprise survey rather than sector aggregates, to take into account their individual characteristics (respective profitability, cost structure...). In this survey, business owners and top managers from 601 local and foreign firms were interviewed from May 2014 through February 2015. Sectors covered included manufacturing, retail, tourism and other services. About 70 percent of the firms from the sample had less than 20 employees, while 61.4 percent of the firms were located in Dakar. The information contained in the firm level data makes it possible to directly compare the impact of the trade shock with other factors, such as changes in productivity or policy measures to enhance competitiveness. The result is an approach that has the advantage of using a simple, intuitive analytical framework to derive results that are less dependent on assumptions than more sophisticated exercises (such a CGE models). The key metric of firm level results is the expected change in firms' profit levels when the trade reform is implemented, assuming a constant output level and combination of inputs. These are *short term, static effects* likely to trigger subsequent dynamic adjustment effects at the firm level, including adjustment in output level and production technology as well and entry and exit of firms. These are not covered formally by the model, but discussed when appropriate.

9. The first section of the paper presents an analysis of the impact of the CET and EU-EPA on protection levels, trade flows and state revenues, changes in the price of the consumption bundles for households and impact on firm's profits. The second section underlines some key elements of an accompanying policy agenda and a third section concludes.

I. ESTIMATED IMPACT OF TRADE REFORMS.

1.1. Nominal Protection.

10. Figure 1 shows the impact of implementing the CET and EU-EPA on nominal protection levels by sector, measured as the trade weighted average of import tariffs. These results were generated using the TRIST tool with base line elasticities, ie. assuming a relatively modest reaction of trade flows to changes in tariffs. However, results for the level of protection are relatively robust to elasticity assumptions, as will be discussed in the next section⁹.

11. Overall, the implementation of the CET leads to a slight increase in the trade weighted average tariff from 6.0 to 6.3 percent. However, there is substantial variation across sectors. For four sectors, the CET actually leads to a decline in protection (*Tobacco*: -1.5 percentage points of the trade weighted applied tariff; *Motor vehicles*: -1.3 %; *Coke and refined petroleum*: -0.5 % and *Paper products*: -0.04 %). The strongest increases in protection are for *Radio and television* (+4.0

⁹ - It should be noted that TRIST produces *static before-after* type of results with no adjustment assumptions. The time dimension in the following tables and figures results entirely from the over-time implementation schedule of the EPA liberalization in various steps, but does not reflect any modeling or assumptions regarding long term adjustment behavior to the trade shocks.

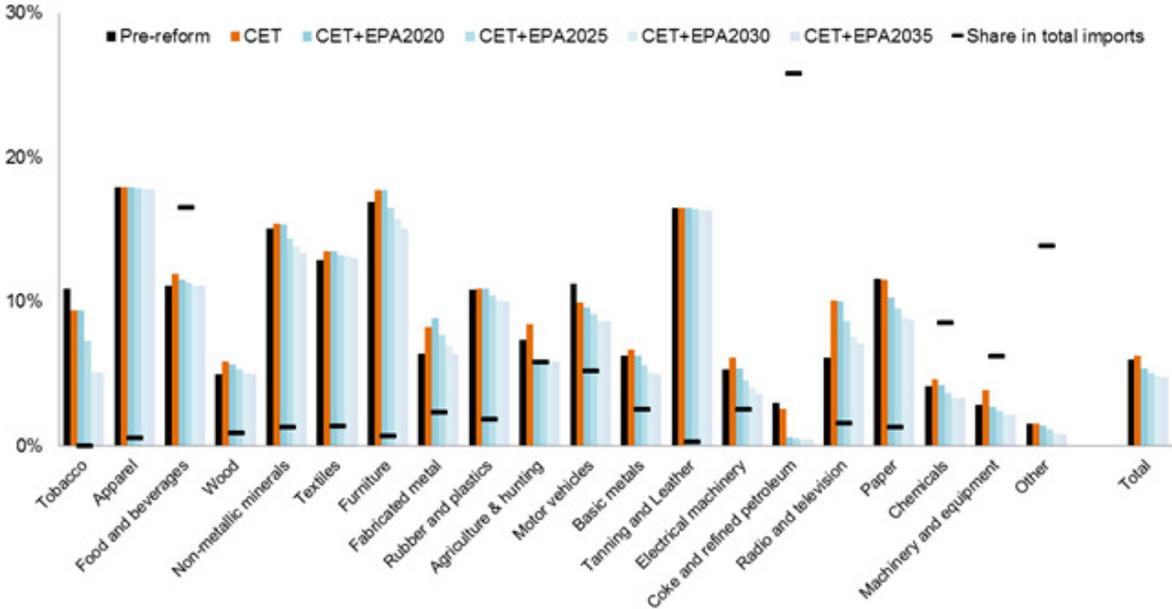
percentage points of trade weighted applied tariff); *Fabricated metal products* (+1.9%); *Agriculture* (+1.1%) and *Machinery* (+1.0%). The impact is also heterogeneous for the largest sectors in terms of import value: *Coke and refined petroleum* (-0.5 percentage points of trade weighted applied tariff), *Food and beverages* (+0.8%), *Others* (+0.05 %).

12. In some cases, these sector averages mask much more substantial variation at the product level. For instance, among the 420 tariff lines mapped to the Food and Beverages sector, 63 will fall under the fifth band of the CET at 35 percent, up from a current rate of 20 percent. However, these products account for only 3 percent of imports in the Food and Beverages sector and thus do not carry a heavy weight in sectoral averages.

13. The impact of the EU-EPA is more uniform in the sense that tariff protection declines across all sectors. However, the degree and sequencing varies, depending on the categories of EU-EPA liberalization that products pertains to (Figure 1) and the share of imports that originate from the EU.

14. Following the introduction of the CET and at the end of the EU-EPA transition period in 2035, the weighted average tariff will have dropped to 4.7 percent, a decline by 1.6 percentage points relative to the situation after implementing the CET only or 1.3 percentage points compared to the pre-CET situation. The strongest declines compared to the CET scenario can be expected for *Tobacco products* (-4.6 percentage points of the trade weighted applied tariff), *Radio and TV products* (-3.0 %), and *Paper products* (-2.8 %). In terms of large import sectors, substantial reductions in protection can be inspected for *Coke and petroleum products* (-2.1 percentage points of the trade weighted average tariff), and smaller ones for *Food and beverages* (-0.8 %) and *Other* (-0.8 %).

Figure 1. Import Weighted Average Tariff with CET and EU-EPA
(Across implementation stages¹⁰).



Source: Author’s computations using TRIST simulations based on data from Senegal customs.

¹⁰ - See Annex 2.

1.2. Trade and Revenue.

15. Table 1 shows TRIST results for the aggregate impact of the CET and EU-EPA reforms on imports and tax revenue. A high and low elasticity scenario are reported to illustrate the sensitivity of results to elasticity assumptions¹¹.

16. The CET is expected to lead to a modest decline in imports (-0.2 to -0.3 percent) due to higher levels of protection. Imports from ECOWAS partners increase slightly (0.8 to 4.1 percent) at the expense of trade with the EU (-0.1 to -0.3 percent) and rest of the world (-0.5 to -1.5 percent). Tariff revenue increases as a result of the higher overall tariffs (1.8 to 4.7 percent).

17. Phasing in of the EU-EPA reverses the increase in protection and revenue, leading to a net gain in imports since the first implementation stage in 2024 and loss in tariff revenue, and later stages increase the magnitude of the effect. At the end of the implementation period of the EPA in 2035, tariff revenue is expected to decline between 21 and 25 percent. According to IMF projections (IMF, 2016), revenue from international trade taxes accounts for approximately 11 percent of total government revenue. The predicted revenue loss from the EPA, starting in 2020, could therefore reach close to 3 percent of total fiscal revenue once it is fully implemented in 2035. It will be important for longer term fiscal planning in Senegal to anticipate these gradual losses in order to take advantage of the long implementation period of the EPA to mobilize alternative revenue sources and in particular protect social spending from the expected negative revenue effects. Further, at the end of the EU-EPA implementation period and with CET implementation, imports will have increased by 0.6 to 1.2 percent. Imports from the EU increase the most (3.2 to 8.9 percent). The increase of imports from ECOWAS due to the CET is partially offset by the EU-EPA, but the overall effect remains positive (0.7 to 3.7 percent). Imports from the rest of the world decline (-1.4 to -4.8 percent). The combined results on tariff revenue (-20.7 to -24.7 percent) and total tax revenue at the border (-5.5 to -5.9 percent) is negative.

18. The net effect of the EU-EPA, starting from a scenario in which the CET is already in place, is an increase in imports between 0.7 and 1.5 percent due to significantly higher EU imports (3.3 to 9.3 percent). Revenue losses are at -24.2 to -26.0 percent of tariff revenue or -6.4 to -6.7 of total revenue from tariffs and taxes collected at the border.

¹¹- The model is calibrated with different scenarios of standard elasticities for substitution between trading partners ('exporter substitution') and the overall effect on import demand ('demand elasticity'). Standard elasticities, shown in TRIST result tables as "low ϵ ", are set at 1.5 for exporter substitution and 0.5 for demand substitution, whereas "high ϵ " are set at 5 for exporter substitution and 1 for demand substitution. These are standard literature values.

Table 1. Projected Import and Revenue Changes.

	Baseline (in billion CFA)	Reforms	CET		CET+EPA2024		CET+EPA2029		CET+EPA2034		CET+EPA2035		Net EPA	
			Low ε	High ε	Low ε	High ε	Low ε	High ε	Low ε	High ε	Low ε	High ε	Low ε	High ε
Total imports	2,959	% change in total imports	-0.2%	-0.3%	0.3%	0.6%	0.4%	0.9%	0.5%	1.1%	0.6%	1.2%	0.7%	1.5%
EU	1,129	EU	-0.1%	-0.3%	1.9%	5.2%	2.6%	7.2%	3.0%	8.5%	3.2%	8.9%	3.3%	9.3%
ECOWAS	355	ECOWAS	0.8%	4.1%	0.8%	3.8%	0.7%	3.8%	0.7%	3.7%	0.7%	3.7%	-0.1%	-0.4%
Rest of the World	1,143	Rest of the World	-0.5%	-1.5%	-0.8%	-2.7%	-1.1%	-3.9%	-1.3%	-4.6%	-1.4%	-4.8%	-0.9%	-3.3%
Total tariff revenue	178	% Change in tariff revenue	4.7%	1.8%	-10.2%	-13.6%	-15.3%	-18.6%	-19.5%	-23.2%	-20.7%	-24.7%	-24.2%	-26.0%
Total revenue	681	Old collected tariff rate	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.3%	6.1%
		New collected tariff rate	6.3%	6.1%	5.4%	5.2%	5.1%	4.8%	4.8%	4.6%	4.7%	4.5%	4.7%	4.5%

Note: Total imports include about 332 billion CFA oil imports by SAR, which is not listed here. SAR is the only company in Senegal that can import oil products duty free.

Source: Author's computations.

19. It is noteworthy that while changes in imports and in particular the geographical distribution of imports exhibit a relatively strong sensitivity to the elasticity assumptions, revenue losses and in particular the changes in protection levels that are the basis of price change assumptions used in the following sections are rather robust to the underlying elasticity assumptions (Table 1).

20. We also estimate specific aggregates relevant for the overall welfare effect of trade policy changes, the calculation of which is explained in more detail in Brenton et al (2011):

- Trade creation, which refers to a net welfare enhancing increase in total trade due to more trade openness;
- Trade diversion, which refers to the welfare reducing diversion of trade from a more efficient exporter to a less efficient exporter as a result of a lower, preferential tariff rate;
- Trade correction, which refers to the welfare enhancing reversal of previous trade diversion by re-diverting trade back to a more efficient producer if tariffs become more balanced (i.e. the opposite of trade diversion).

Table 2. Trade Diversion, Correction and Creation as a result of CET and EPA implementation in percent of total imports.

	Trade Diversion:			Trade Correction			Trade creation		
	Win	Lose	Net	Win	Lose	Net	Win	Lose	Net
CET only, low elasticities									
Rest Of the World	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-	-	-
EU28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-
ECOWAS	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	-	-	-
TOTAL	0.1%	-0.1%		0.0%	0.0%		0.1%	-0.3%	-0.2%
CET only, high elasticities									
Rest Of the World	0.1%	-0.5%	-0.5%	0.1%	0.0%	0.0%	-	-	-
EU28	0.0%	-0.1%	-0.1%	0.0%	-0.1%	0.0%	-	-	-
ECOWAS	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	-	-	-
TOTAL	0.6%	-0.6%		0.1%	-0.1%		0.3%	-0.6%	-0.3%
CET and EPA 2035, low elasticities									
Rest Of the World	0.0%	-0.6%	-0.6%	0.0%	-0.1%	0.0%	-	-	-
EU28	0.5%	0.0%	0.5%	0.1%	0.0%	0.1%	-	-	-
ECOWAS	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	-	-	-
TOTAL	0.6%	-0.6%		0.1%	-0.1%		0.8%	-0.2%	0.6%
CET and EPA 2035, high elasticities									
Rest Of the World	0.0%	-1.9%	-1.9%	0.0%	-0.2%	-0.1%	-	-	-
EU28	1.5%	0.0%	1.4%	0.2%	0.0%	0.2%	-	-	-
ECOWAS	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	-	-	-
TOTAL	2.0%	-2.0%		0.2%	-0.2%		1.6%	-0.4%	1.2%

Source: Author's computations.

21. Table 2 shows the results for the previous aggregates. Results are quite sensitive to the underlying elasticities, and overall effects are quite small. The CET leads to negative trade creation between -0.2 and -0.3 percent of imports, and trade diversion in the magnitude of 0.1 – 0.6 percent mainly due to the removal of intra-ECOWAS tariffs and slight increase in average tariffs in this scenario leading to the redirection of imports from the Rest of the World to ECOWAS partners. The overall welfare effect is thus negative given the combination of negative trade creation and some trade diversion.

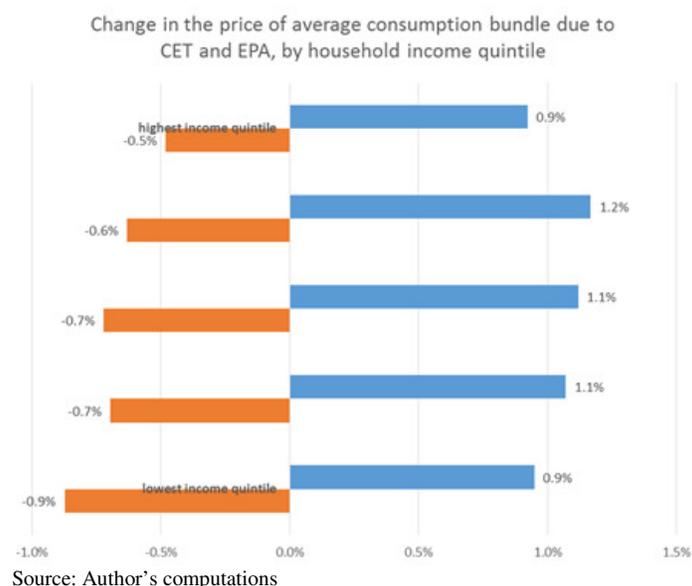
22. The combined CET and EPA scenario shows positive trade creation between 0.6 and 1.2 percent, but also more trade diversion in the magnitude of 0.6 – 2.0 percent, which is not surprising in the context of a preferential liberalization. There is limited trade correction in the magnitude of 0.1 – 0.2 percent of imports, resulting mainly from products where imports from other trading partners had benefitted from significant tariff exemptions and the EPA liberalization ‘balances’ the resulting lower applied tariffs. The overall welfare effect is ambiguous, but very small.

1.3. Household effect.

23. The overall effect of the CET on households - if a perfect pass through of prices and no substitution behavior is assumed as discussed earlier - is an increase between 0.9 and 1.2 percent in the price of the average consumption bundle (Figure 2). The effect is the strongest for households in the 2nd highest income quintile (1.2 percent) and smallest for households in the lowest and the highest income quintile (0.9 percent), showing no clear distributional pattern.

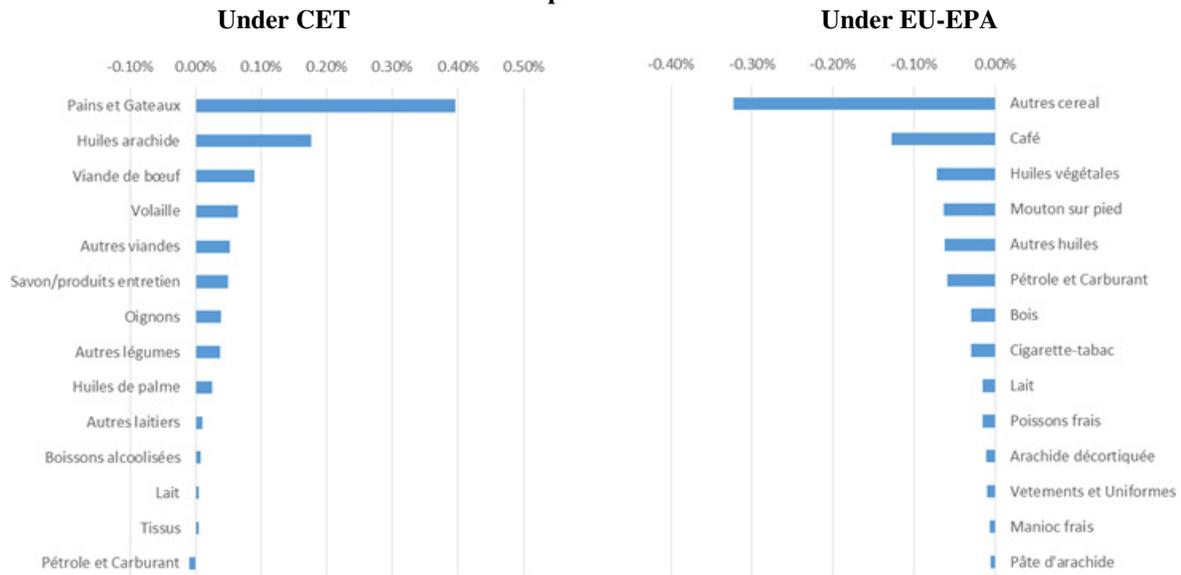
24. The EU-EPA, on the other hand, under the same assumptions, would lead to a lowering of prices of the average consumption bundle between 0.5 and 0.9 percent, with a clear progressive patterns of the strongest price declines for the lowest income quintile. The combined effect of CET and EU-EPA would therefore almost be neutral for consumers in the poorest income quintile, but slightly negative for all others.

Figure 2. Change in the price of average consumption bundle due to CET and EU-EPA, by income quintile.



25. Figure 3 breaks down the effect for the lowest income quintile by products, showing the change in expenditure on each product divided by total pre-reform expenditure. This metric, which is determined by both the price change and the weight of a product in the consumption basket, can be interpreted as any given product's contribution to the overall price change of the consumer basket.

Figure 3. Contribution to total price change in the average consumption bundle for poorest income quintile by product:



Source: Author's computations

26. Under the CET, prices for a number of basic consumer products and in particular different types of baked goods are driving the increase in prices. These effects may or may not materialize depending on the extent of competition in domestic and regional consumer markets for these products, and the importance of imported goods from outside the region. Careful monitoring of the prices of these basic consumer items in the context of the CET implementation is recommendable, and horizontal policies to promote competition and facilitate regional trade are particularly likely to have a positive impact on consumer welfare (see later). The decrease in protection on fuel could lead to a reduction in consumer expenditure, but the impact is overall small in the consumer basket of poor households. Under the EU-EPA, price reductions could manifest for a number of consumer products that are being imported from the EU and would receive tariff free treatment. The impact could be the strongest through the import of grains, coffee and different types of oils, as well as fuel products.

1.4. Firm level effects.

27. The firm level model calculates the effects of price changes on outputs, fuel products, other inputs, and capital goods induced by the trade policy change on each firms' profitability. It is important to bear in mind two important limitations of this approach when interpreting the results:

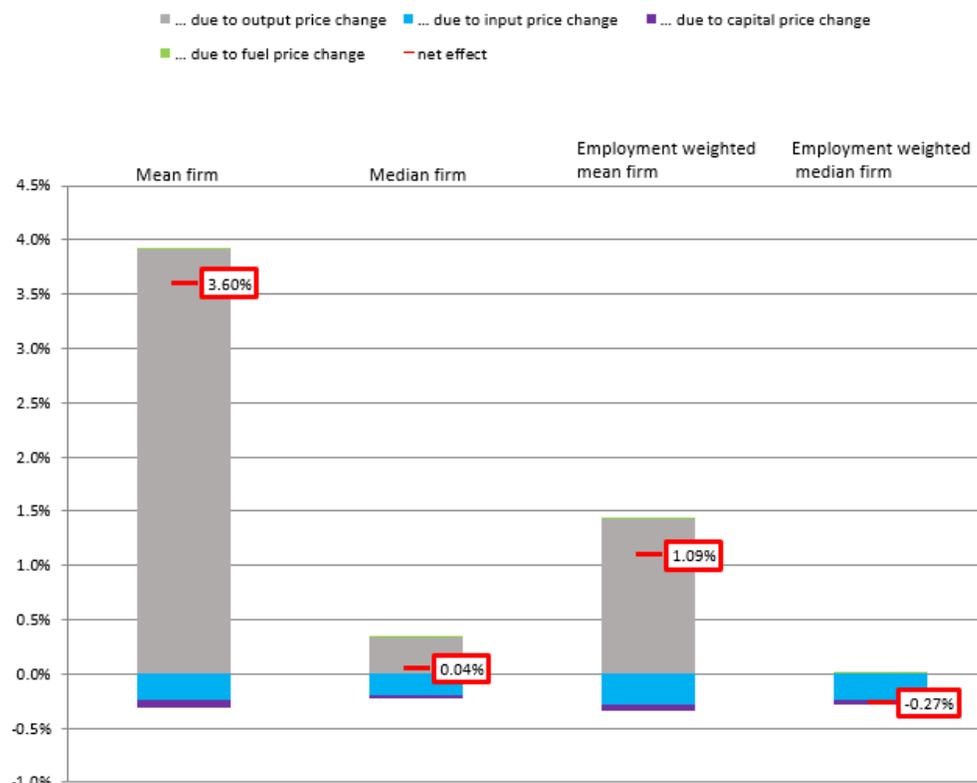
- No dynamic adjustment behavior by firms is modeled, which would increase the positive effects and mitigate the negative ones as firms adjust their production technology to new price realities. In this sense, results presented are a 'worst case' boundary of the true effects.

- Full pass through of trade goods prices is assumed. In reality, it is likely that depending on the degree of competition on markets, trade costs, and consumer preferences, changes in tariffs will only be partially passed through as domestic price changes. The increase in prices due to higher tariffs is a special case in this context in the sense that higher tariffs will only lead to higher domestic prices up to the point where imported goods become uncompetitive *Vis a vis* domestic production. Past this point, imports would be zero and further tariff increases would have no more effect on domestic prices. The full price pass through assumption will exacerbate results of the trade shock both in the positive and negative directions, meaning that the results present a maximum boundary of what the true impact might be.

CET

28. For the CET, results reported in Figure 4 (first column) show that under the assumption of full price pass through, the average firm would enjoy substantial increases in profits equivalent to +3.6 percent of sales, reflecting a strong increase in output prices due to higher levels of protection, and much smaller negative influence resulting from higher prices on (non-fuel) inputs and capital goods. However, it is important to further analyze the distribution of these effects across the universe of firms. The second column of Figure 4 shows that the effect is close to zero (+0.04 percent) at the median of the firm distribution. This suggests that strong positive effects are clustered on a few firms at the top of the distribution, a pattern that is illustrated in Figure 5 showing the combined effect of the price changes across the entire distribution of firms.

Figure 4. CET scenario – change in firm’s profits.



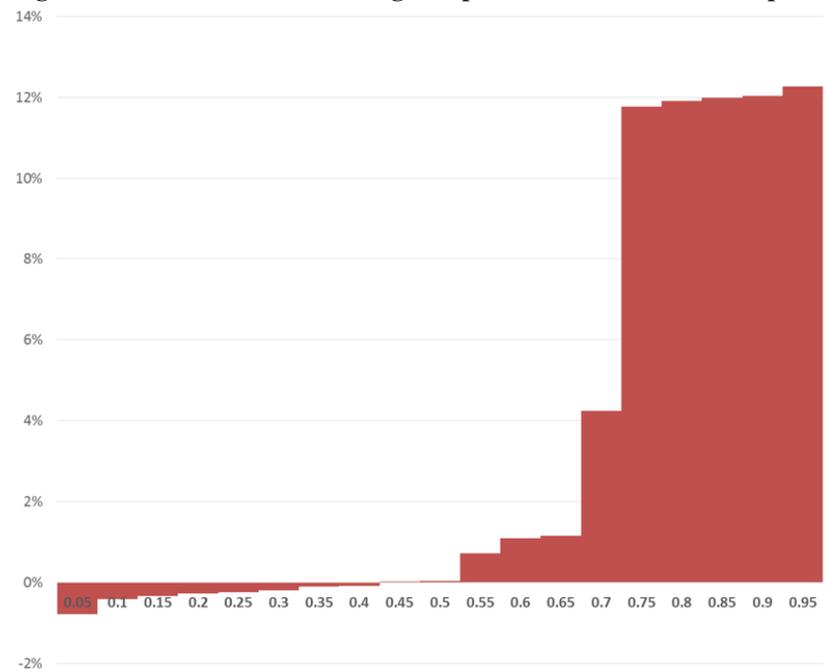
Source: Author's computations

29. According to this graph, roughly 30 percent of firms at the top end of the distribution stand to gain profits equivalent to between 4 and 12.5 percent of their sales. These are to a large extent firms that produce products that would be classified under the new 35 percent fifth tariff band that is introduced with the CET. For the rest of the firm distribution, effects are much smaller, whether in the positive or in the negative.

30. From a policy perspective, the impact of the reform on employment is critical. The third and fourth column of Figure 4 therefore show the impact of the CET weighting each firm by its number of employees. This changes the picture in the sense that while the average effect is still positive but a lot smaller (+1.09 percent), the worker in a median firm will be in a firm that actually loses profitability as a result of the reform (-0.27 percent) due to a combination of no change in protection for its outputs, but higher input prices. This is further illustrated in Figure 6 showing the distribution of workers by impact of the CET on the firm they work in. Only 10 percent of workers are in the firms experiencing strong gains in profit (> 10 percent) while the firms losing out as a result of the reform account for 75 percent of employment in the Enterprise Survey.

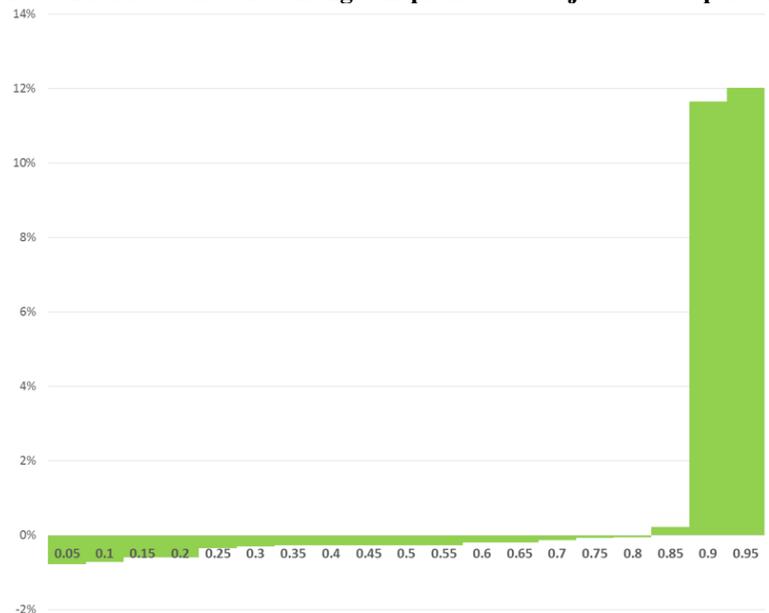
31. Figure 7 breaks this information down further by classifying each firm in terms of the direction and strength (moderate decrease: <3 percent, strong increase > 3 percent) of impact, again weighting each firm by its number of employees. Most jobs in the sample are in the sectors of *Food products and beverages*, *Chemicals and chemical products* and *Other manufacturing*. The results clearly show that the strong profitability gains due to the additional tariff protection under the CET

Figure 5. Distribution of net changes in profits across firms: 5-95th percentile.



Source: Author's computations

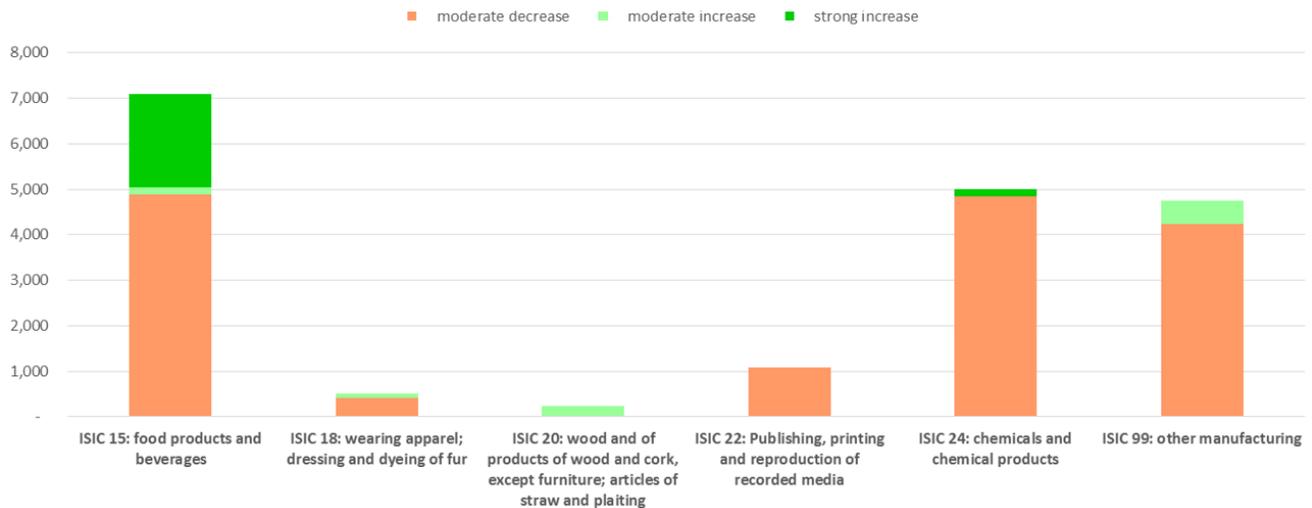
Figure 6. Distribution of net changes in profits across jobs: 5-95th percentile.



Source: Author's computations

are heavily concentrated on a few jobs in the Food and beverages sector. Even within that same sector, and in all other sectors with significant employment, the majority of workers are in firms that stand to experience negative effects due to higher input and capital goods prices, though these losses are in all cases relatively small.

Figure 7. Classification of Jobs by impact type.



Source: Author's computations

32. It should also be noted that the impact of the CET is disproportionate between exporters and purely domestic firms. Exporters are affected negatively by the higher prices on inputs and capital goods, but do not benefit from domestic price increases that result from higher protection. As a result, the effect of import tariff changes under the CET for exporters, which account for 20 percent of firms in the sample, but due to their larger size 71 percent of jobs¹², is unambiguously negative, though small. On the other hand, exporters to the ECOWAS region may benefit from the removal of regional trade barriers and higher preferential margins over non-ECOWAS competitors which are not accounted for by the model. For domestic firms, the effect is ambiguous, depending on the relative strengths of the three price channels.

33. It is important to bear in mind that while the short term effects of profit gains from higher protection on a firm's output might be identical to those from lower protection on inputs and capital equipment, the dynamic effects in the medium to long term shall differ substantially. An increase in a firm's output price will, in the short term, increase income and thus generate a windfall profit. However, such profits come at the expense of higher consumer prices and less competitive price pressure in the domestic market, and thus may have a negative effect on productivity, innovation, and ultimately growth of domestic firms in the longer term. On the other hand, where firms' profitability increases due to reductions in the domestic price of inputs and capital equipment used by the firm, positive longer term effects on growth may materialize through increased productivity and innovation. This has important implications for the findings of the firm level model on the CET. In the longer term, potential windfall gains for firms enjoying higher protection under the CET might trigger adverse effects while if such gains originate in reductions in the domestic price of inputs and capital equipment the impact may be more positive. The real impact will depend on the

¹² - We use a broad definition of exporters as all firms who export a non-zero share of their output, whether directly or indirectly.

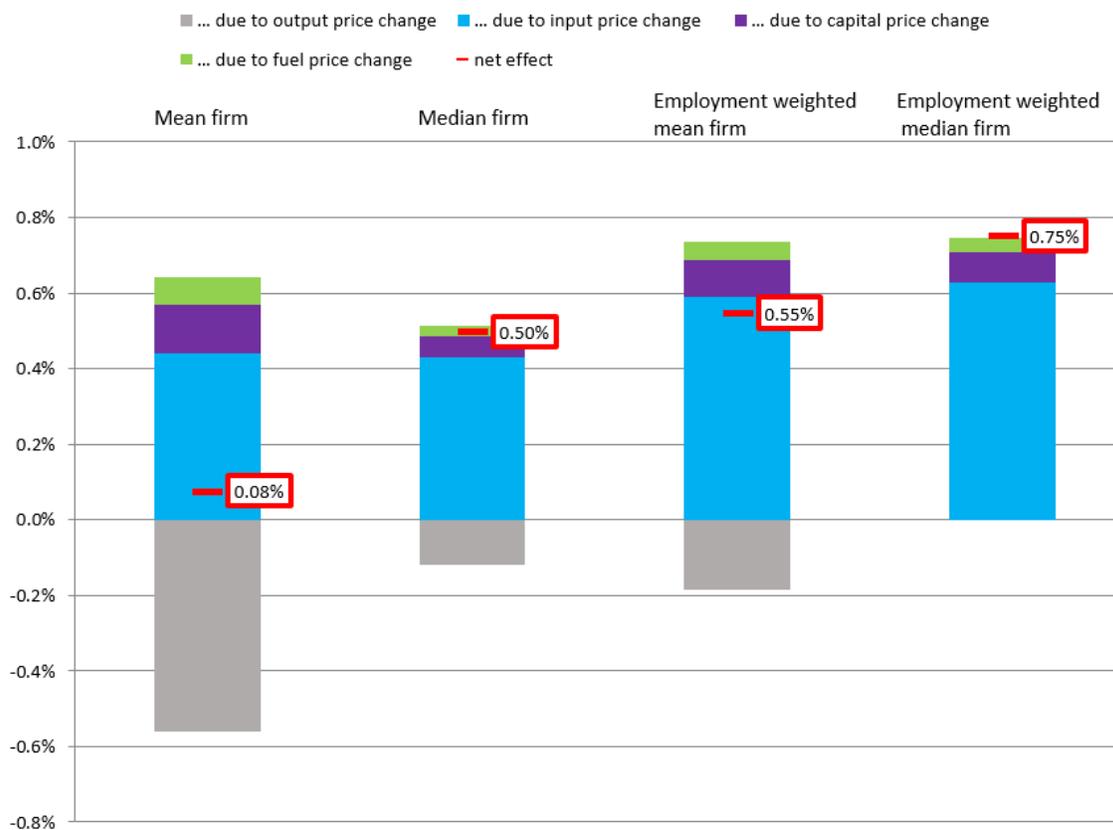
degree of price pass through from the tariff increases, which in turn will be affected by both domestic competition in these sectors and competition from other ECOWAS producers that will not be subject to the new higher CET rates.

34. These findings and their potential long term effects also raise concerns over losses for Senegalese firms from higher prices on inputs and capital equipment that could result from increased protection under the CET. Beyond the CET agenda, making it easier for firms to access imported inputs and capital equipment could be an important factor so stimulate competitiveness and technological innovation.

EU-EPA

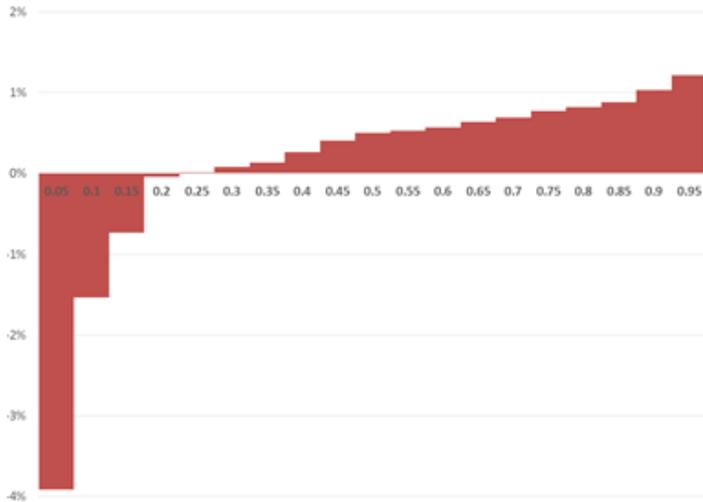
35. Figure 8 reports the same indicators for the net effect of the EPA scenario than Figure 4 sfor the CET. Two observations stand out: first, effects are positive at the mean and median of both workers and firms. Compared to the CET scenario, the distribution of gains is more even across the sample with mean and median points lying closer together. As shown in Figures 9 and 10, 70 percent of firms representing 85 percent of jobs enjoy a positive change in profits. However, the losses experienced by the remaining firms that lose significant output protection are relatively large.

Figure 8. EU-EPA scenario – change in firm’s profits.



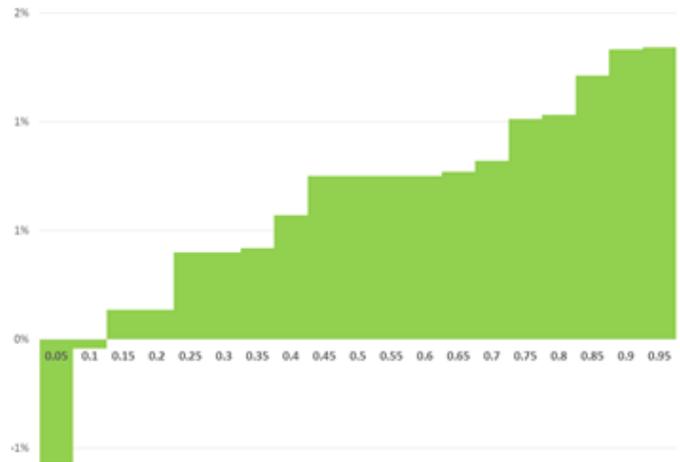
Source: Author's computations

Figure 9. Distribution of net changes in profits across firms: 5-95th percentile.



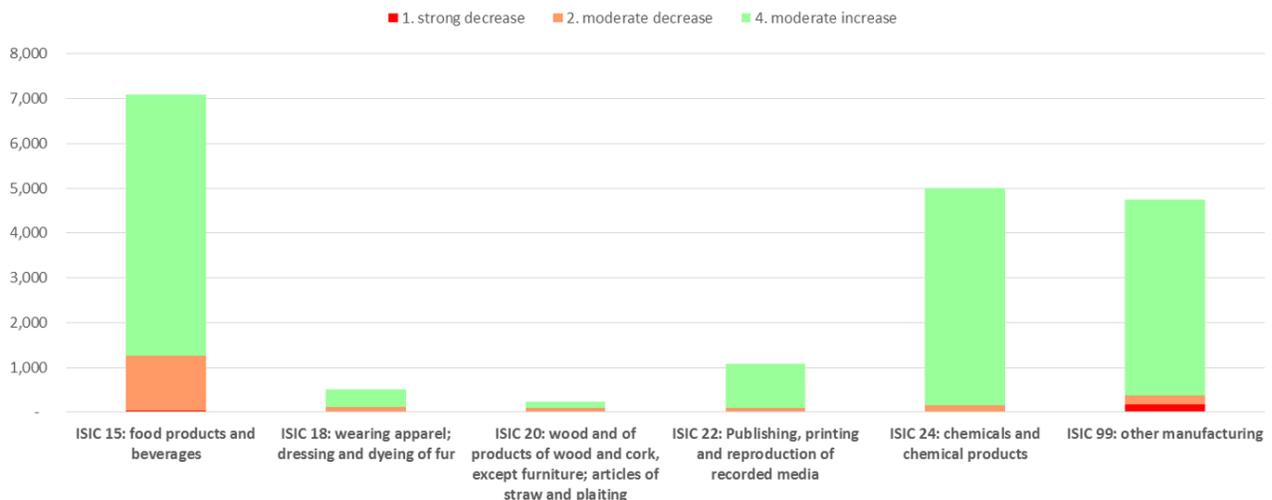
Source: Author's computations.

Figure 10. Distribution of net changes in profits across jobs: 5-95th percentile.



36. Second, unlike in the case of the CET, under the EPA gains are mostly obtained through lower input and capital prices, while losses in some firms occur due to lower protection resulting in declining output prices. This reverses the negative assessment of potential medium to long term effects from the CET in the sense that lower protection on outputs is more likely to have positive effects through enhanced competition while lower tariffs on inputs and capital goods can also improve competitiveness and technological innovation as discussed earlier in this section.

Figure 11. Classification of Jobs by impact type.



Source: Author's computations

37. Figure 11 shows that gains under the EPA scenario are moderate in size but relatively well distributed across sectors with the majority of workers in all sectors working in firms that stand to gain. Losses occur mainly within the 'food and beverages' sector and, to a lesser number of jobs but larger losses, in the 'other manufacturing' sector.

38. In terms of the distribution of gains between exporters and domestic firms, the results for the EPA reverse the effects of the CET in the sense that exporters unambiguously benefit from lower input and capital goods prices while they are not affected by the loss in protection in the domestic market. For domestic firms, the effect remains ambiguous depending on the relative strengths of the different price effects.

II. KEY ELEMENTS OF AN ACCOMPANYING STRATEGIC POLICY AGENDA.

39. The previous analysis has given some indicative results on the magnitude of the short-term effects of trade policy changes induced by CET and EU-EPA implementation, as well as the potential implications for dynamic effects in the medium to longer term.

40. However, these changes need to be placed in the context of the overall framework for trade and competitiveness in Senegal. The real effects of higher protection will critically depend on the degree and nature of competition that the affected firms operate under- an economic environment that fosters competition could help mitigate some of the negative effects typically associated with protection by ensuring that companies have an incentive to compete through innovation and rising productivity. It can also help mitigate some of the potentially negative effects of higher trade protection on consumers by ensuring that domestic producers do not raise their prices in response to higher tariffs on competing imports (Section 2.1).

41. The analysis has also shown that there could be substantial gains for Senegalese firms from better access to imported inputs and capital equipment. However, in reality such gains will only materialize to a full extent if the overall trade and investment environment is conducive to accessing and using such products. This goes well beyond trade policy and tariff rates on imported inputs and capital equipment, and section 2.2. reviews the available data and evidence on potential bottlenecks in these areas to suggest priorities for reform.

42. The prospects of benefiting from a regionally harmonized trade regime, and more generally from an open trade policy, also depend critically upon firms' ability to integrate with regional and global value chains (GVCs). Global production is increasingly driven by such highly sophisticated international production networks, and while an open trade policy regime is one of the important prerequisites for GVC integration, a number of other factors also play a role. These are reviewed in section 2.3.

43. Finally, the ability of both domestic and exporting firms to compete in a more open market critically depends on their access to critical backbone services. Firms in countries where such services are only available at a high cost, or at inferior quality, face a significant disadvantage. This issue is discussed further in section 2.4.

44. While the policy areas mentioned above are directly linked to the results of the analysis of the CET and EPA and their effects on Senegal, they are, of course, not the only elements that matter for an overall trade and competitiveness strategy. They are intended as priority suggestions for reforms to accompany the CET and EPA agenda, but neither preclude nor replace the need for broader policies to enhance competitiveness, encourage entrepreneurship, and prepare workers for the challenges of the 21st century.

2.1. Competition.

45. Economic literature suggests that maintaining a healthy level of competition is an important impulse for productivity growth and ultimately firms' ability to export and compete in global markets (Annex 3). At the same time, having an open and non-discriminatory trade policy regime is one of the best policy options countries have to promote competition. Therefore, competition issues and competition policy are critical for the trade agenda. Competition policy encompasses competition law enforcement against anticompetitive business practices, together with market policies, regulations, and other government interventions that enable firms to compete on a level playing field. These aspects are key when assessing the potential impact the CET and EU-EPA. The competitive structure of markets is an important determinant of how a trade policy change will affect firms and consumers. If markets are uncompetitive and dominated by a single or few producers/traders, reductions in import tariffs may not be passed on to consumers, but absorbed as windfall profits by importing firms. Similarly, in the case of increasing tariffs, as is the case for some products under the CET, the competitive structure of markets will decide whether price increases in imports from outside ECOWAS are fully passed on to consumers, or whether domestic and regional producers have an incentive to keep their prices at lower levels.

Competition Policy setting

46. Competition policy in Senegal involves a two-layer process. At a global level, Senegal is a member of WAEMU that has adopted a centralized approach to its competition policy. It has the exclusive competence to legislate on anticompetitive practices (agreements, abuse of dominant position and state aids) and the Commission enjoys exclusive decision-making power in dealing with anticompetitive practices¹³. At the member states' level, competences for Senegal are thus limited to restrictive practices and unfair competition (Bakhoun and Molestina, 2011). In short, the WAEMU Commission rules on all matters related to anti-competitive practices; and the National Competition Commission (NCC), whose mandate is restricted to the investigation phase¹⁴, should assist it. Further, besides NCC, there are also a few sectoral regulators (ARPT, ARMP, CRSE...) whose attributions are restricted to a specific sector.

47. However, it appears that the institutions responsible for the implementation of antitrust laws are still relatively ineffective (DTIS 2013). Despite some earlier reforms, as part of the past liberalization of the economy, much remains to be done in Senegal to ensure effective implementation of competition laws and promoting a competition culture. The powers of the WAEMU Commission at the national level preclude NCC to handle cases and provide little incentive for the Senegalese government to strengthen this institution. Further, the WAEMU Commission also lacks resources for the implementation of its own mandates. Finally, there is still

¹³ - The Community competition regime includes the regulations on anti-competitive business practices and public (State) aid liable to distort competition within WAEMU. The anti-competitive practices prohibited within WAEMU are any intercompany agreement, association decision or concerted practice with the purpose or effect of restricting or distorting free competition within the Union and abuse of a dominant position (Regulation No. 2/2002/CM/WAEMU related to anti-competitive practices within WAEMU, and Regulation No. 3/2002/CM/WAEMU laying down relevant procedures). The latter prohibition also covers collusion between enterprises (for example, the merger of two or more previously independent enterprises) that creates or strengthens a dominant position. It must be noted that the WAEMU Competition Commission may declare these provisions inapplicable provided the anti-competitive practice helps improve the production/distribution of products or promote technical/economic progress. These provisions also apply to public enterprises and those to which the WAEMU member States grant special and exclusive rights. To enforce these, WAEMU can initiate proceedings ex officio or at the request of an interested party under the supervision of the WAEMU Court of Justice.

¹⁴ - Regulation No. 4/2002/CM/WAEMU.

a lack of efficient cooperation between the National Competition Commission, sector regulators and the WAEMU Commission. The latter considers it has the exclusive competence of implementing community competition laws, while the national competition bodies should only focus on effective market surveillance at the national level. Finally, more than 20 years after its creation and as a result of the above, this national commission on competition is still partially operational and capacitated, and its relationship with the regional commission is yet to be fully clarified.

Status of competition.

48. In the case of Senegal, the 2015 Enterprise Survey collected some information on competition by asking firms how many direct competitors they face, whether they compete with informal firms, and whether they serve mainly local, national, or international markets. The first three rows of Table 3 summarize the results on the number of competitors that firms face, a question only asked in the manufacturing module of the survey. A large majority of manufacturing firms (86 percent) reports having 10 or more direct competitors, and only 7.5 percent have less than three direct competitors. The degree of perceived competition appears to be particularly high in the provinces and among non-exporters, i.e. where there is often a large number of informal firms.

Table 3. Competition indicators.

	All	Location				Sector			Status	
		Dakar	Kaolack	St-Louis	Thies	Manufacturing	Retail	Other services	Non-Exporter	Exporter
Number of direct competitors										
3 or fewer	na	10.0	0.0	0.0	3.0	7.5	na	na	6.0	19.0
4 to 9	na	8.0	0.0	3.0	3.0	6.5	na	na	5.0	17.0
10 or more	na	82.0	100.0	100.0	97.0	86.0	na	na	89.0	64.0
Pct of firms facing informal competition	76.0	74.0	87.0	87.0	89.0	77.0	72.0	78.0	78.0	71.0
Pct of firms rating inf. competition as "major/very severe" obstacle	55.0	53.0	77.0	44.0	72.0	54.0	53.0	57.0	59.0	36.0
Main market										
Local (same district/municipality)	na	53.0	97.0	84.0	85.0	59.0	na	na	70.0	23.0
National	na	45.0	3.0	13.0	15.0	39.0	na	na	30.0	70.0
International	na	2.0	0.0	3.0	0.0	2.0	na	na	0.0	7.0

Source: Author's computations

49. Indeed, competition from the informal sector is an important constraint: 76 percent of firms indicate that they face informal competition, much more in the countryside. A further 55 percent of firms quote informal competition as a major or very severe obstacle. Finally, results on the main product markets, illustrate that most manufacturers (59 percent) sell primarily in local markets within their municipality. This share rises to 85-97 percent for firms located outside the capital city of Dakar.

Table 4. Select factors affecting competition in Senegal 2016/17.

	Rank	Score		Rank	Score
Factors affecting domestic competition.			Factors affecting foreign competition.		
Intensity of local competition	*	54.0	5.2	Prevalence of non-tariff barriers	* 120 3.7
Extent of market dominance	*	45.0	3.9	Trade tariffs, % duty	106 9.9
Effectiveness of anti-monopoly policy	*	81.0	3.5	Prevalence of foreign ownership	* 63 4.6
Effect of taxation on incentives to invest	*	91.0	3.4	Business impact of rules on FDI	* 89 4.3
No. procedures to start a business		22.0	4.0	Burden of customs procedures	* 50 4.4
No. days to start a business		34.0	6.0		

Nb. * Perception questions - Score (1= min.; 7=max.)
See Annex 4 for a definition of indicators.

Source: World Economic Forum, Global Competitiveness Report 2016/17.

50. To add further information, Table 4 presents a ranking of indicators affecting the intensity of domestic and foreign competition from the latest World Economic Forum's Global Competitiveness Report as well as related scores. Senegal sub-indicators provide some nuanced information. Local competition appears relatively strong and market dominance by a few business groups is relatively limited. However, anti-monopoly policies are seen as moderately effective and the impact of taxation on incentives to invest is seen as detrimental. This is broadly consistent with the results of the ES data on domestic competition and confirms to some extent limitations in the competition framework as discussed earlier. With respect to indicators of international competition, Senegal achieves scores in the top half of the distribution, with the notable exception of prevalence of non-tariff barriers (120th) and the amount of trade tariffs collected (106th). This suggests that a more open trade regime may contribute to a more competition oriented business environment in Senegal.

51. Although the previous data suggest that – overall – markets are somehow competitive in Senegal in the sectors surveyed by the ES, there are some notable exceptions if one takes a broader view. Indeed, some sectors (not surveyed) still face high levels of protection that grant de facto monopolistic positions to selected companies.

52. For example, such is the case for oil and sugar, for which domestic prices are two to three times higher than international prices. As highlighted by Golub and Mbaye (2014), these sectors are granted restricted competition at local level, coupled with high levels of protection that prevent competition from imports despite the fact that they can hardly be characterized as nascent or sensitive sectors for health and safety reasons. For example, the single sugar producer of the country is also granted the status of privileged importer of sugar, under the rationale of its government granted mission to cover the country's needs in sugar. Because of this - even if there have been improvements since 2010 - consumers end up paying a high price for subsidies in disguise to local producers¹⁵. With the entry into force of the ECOWAS CET, which confers higher levels of protection to goods such as vegetable oil and flour under the fifth band, it becomes even more important to remove the other barriers to competition in imports and take measures to promote greater productivity.

¹⁵ - Further, the high spreads between prices at the local level and those charged internationally have long given rise to smuggling to Senegal from neighboring countries, including Gambia and Mauritania.

53. The ICT sector is another example. The quality of broadband internet is low despite the fact that submarine cables run through Dakar. High prices put Senegal at a disadvantage while existing infrastructure could make Senegal one of the best-connected nations in West Africa¹⁶. Improving the conditions of connectivity and reducing costs to the network of Sonatel, the dominant operator, is required. While Senegal fares relatively well in terms of its legal framework, sectoral regulations can be further strengthened to guarantee fair competition and facilitate the entry of new firms in the provision of internet. The World Bank is currently discussing an operation with Senegalese authorities that could provide support in this area.

Impact on trade

54. The previous discussion casts some light on another relevant issue in the context of a regional trade reform like the CET: i.e. to what extent imports from trading partners that will in the future be subject to higher tariffs might be substituted for with imports from the region. As ECOWAS partners are to enjoy duty free access to the market in Senegal, regional imports could become a source of import competition that would mitigate the price effects from higher CET tariff rates.

55. To illustrate the potential competition effects from regional trade, Table 5 provides data on the source of Senegal's imports. It also provides data for overall regional trade, in products whose tariffs are bound to increase under the CET.¹⁷ Hence, markets for products already significantly imported by Senegal from the region - or at least traded among other countries within the region - are likely to remain competitive despite higher CET rates as regional imports are duty free. This is, for instance, the case for the cocoa, chocolate and sugar confectionary industry (ISIC 1543). It will experience a strong increase in protection with a simple average tariff increase of 13.7 percentage points, 75 percent of tariff lines in this industry will increase and 50 percent will be raised to the 35 percent of the fifth band. However, 19 percent of imports in this industry already come from other ECOWAS producers and will thus not be subject to the higher CET rates, making it likely that price increases will be not fully passed on to consumers.

56. However, this table also reveals that for the majority of products whose protection levels are set to increase, Senegal and most other countries in the region have very low imports from within the region (ranging from zero to five percent). This is, for instance, the case for products in the category games and toys (ISIC 3694), for which the average tariff is bound to increase by 13.4 percentage points. In such case, unless the domestic market is very competitive, price increases are more likely to be passed onto consumers and rents from higher protection might be absorbed by domestic producers. The same applies to bakery products (ISIC 1541). Overall, regional imports

¹⁶ - The average price for a prepaid 500 MB monthly data plan is expensive in Senegal: it is equivalent to 11.6 % of the country's per capita GNI, which places Senegal at the 20th rank out of 43 countries in Sub-Saharan Africa.

¹⁷ - Table 3 includes all ISIC 4 digit product categories whose unweighted average tariff rate is to increase by two percentage points or more under the CET.

Table 5. Origin of Imports, level of intraregional trade and expected change in tariffs by product category.

ISIC Description	ISIC	Senegal Imports				ECOWAS Imports			Current average rate		CET average rate			CET tariff line changes			
		Total (mln. CFA)	of which from ECOWAS	of which from EU	of which from ROW	from ECOWAS	from EU	from ROW	Weighted	Simple Avg.	Weighted	Simple Avg.	change in simple avg tariff rate	No. of tariff lines	Share of increasing lines	Share of increasing lines to 5th band	Share of decreasing lines
Cocoa, chocolate and sugar confectionery	1543	7,472	19%	35%	46%	11%	33%	56%	16.2	15.7	34.8	29.3	13.7	16	75%	50%	0%
Games and toys	3694	981	0%	27%	73%	1%	19%	80%	17.1	6.3	19.8	19.8	13.4	14	79%	0%	0%
Bakery products	1541	3,589	0%	69%	31%	7%	34%	58%	20.0	17.5	35.0	30.6	13.1	8	75%	63%	0%
Production, processing and preserving of meat	1511	6,017	0%	25%	75%	0%	55%	45%	19.7	17.9	34.2	28.9	11.0	50	74%	66%	0%
Cofdrinks; mineral waters	1554	8,115	1%	35%	64%	12%	46%	42%	19.9	19.8	21.5	30.0	10.2	6	67%	50%	0%
Manufacture of television and radio transmitters and a	3220	33,204	1%	19%	81%	2%	26%	73%	2.0	0.8	7.9	10.4	9.6	23	91%	0%	0%
Othertransport equipment n.e.c.	3599	255	12%	56%	32%	5%	18%	77%	10.5	7.5	14.7	14.3	6.8	4	75%	0%	0%
Tanks, reservoirs and containers of metal	2812	3,189	0%	32%	68%	2%	32%	66%	3.3	3.5	13.9	10.0	6.5	6	83%	0%	0%
Soap and detergents etc.	2424	18,878	27%	33%	40%	18%	23%	59%	13.4	15.8	27.5	21.6	5.8	46	48%	9%	0%
Veneer sheets, plywood, etc.	2021	6,023	56%	8%	36%	31%	18%	51%	4.1	6.3	18.1	11.5	5.2	23	52%	0%	0%
Publishing of recorded media	2213	4,263	0%	39%	61%	2%	46%	52%	18.2	13.9	18.3	18.9	5.0	4	25%	0%	0%
Pesticides and other agro-chemical products	2421	4,915	1%	22%	77%	3%	23%	74%	6.7	5.6	8.8	10.1	4.5	27	63%	0%	15%
Manufacture of television and radio receivers, sound o	3230	11,086	0%	34%	66%	1%	17%	82%	16.5	13.0	16.6	17.2	4.2	68	41%	0%	6%
Manufacture of insulated wire and cable	3130	12,842	0%	46%	54%	2%	33%	66%	8.0	5.7	9.2	9.5	3.8	12	75%	0%	8%
Articles of concrete, cement and plaster	2695	986	0%	39%	61%	2%	38%	60%	13.2	10.9	15.0	14.3	3.4	15	60%	0%	0%
Prepared animal feeds	1533	2,719	0%	72%	28%	2%	65%	33%	6.3	8.3	7.6	11.7	3.3	3	33%	0%	0%
Sawmilling and planing of wood	2010	17,751	54%	14%	32%	40%	14%	46%	3.5	4.1	8.6	7.3	3.1	11	55%	0%	9%
Manufacture of builders' carpentry and joinery	2022	2,579	3%	34%	63%	2%	31%	67%	15.7	12.6	17.7	15.6	2.9	10	40%	0%	0%
Manufacture of optical instruments and photographic e	3320	1,242	0%	69%	31%	1%	36%	64%	7.6	7.6	8.5	10.5	2.9	58	26%	0%	0%
Growing of fruit, nuts, beverage and spice crops	0113	15,124	34%	13%	52%	49%	11%	40%	10.9	15.7	17.7	18.6	2.9	75	24%	0%	7%
Vegetable and animal oils and fats	1514	88,312	25%	17%	58%	27%	12%	61%	11.3	12.0	23.2	14.7	2.7	52	27%	8%	2%
Manufacture of other articles of paper and paperboard	2109	8,744	5%	30%	65%	2%	26%	72%	16.5	13.2	17.5	15.9	2.6	31	23%	0%	0%
Otherspecial purpose machinery	2929	12,563	0%	51%	48%	1%	37%	62%	1.3	2.7	4.2	5.3	2.6	62	65%	0%	0%
Fishing, operation of fish hatcheries and fish farms; se	0500	46	62%	20%	18%	7%	32%	61%	4.1	7.3	10.3	9.9	2.6	17	24%	0%	6%
Structural metal products	2811	29,955	0%	43%	56%	1%	35%	63%	4.8	5.4	7.2	8.0	2.6	13	69%	0%	0%
Otherfabricated metal products n.e.c.	2899	24,415	1%	59%	41%	3%	33%	64%	8.1	11.4	8.7	13.8	2.4	149	47%	0%	3%
Made-up textile articles, except apparel	1721	14,918	4%	14%	82%	11%	7%	82%	10.9	13.8	11.7	16.2	2.4	61	44%	0%	2%
Manufacture of domestic appliances n.e.c.	2930	8,156	0%	29%	71%	1%	16%	83%	17.3	13.3	18.0	15.7	2.4	61	49%	0%	7%
Manufacture of other non-metallic mineral products n	2699	2,421	0%	77%	23%	4%	49%	47%	10.8	7.1	11.7	9.5	2.3	28	36%	0%	0%
Otherproducts of wood etc.	2029	480	8%	52%	40%	32%	28%	41%	10.8	14.4	12.7	16.7	2.3	26	27%	0%	0%
Wines	1552	2,378	0%	81%	19%	2%	75%	24%	13.8	17.6	19.8	19.8	2.2	9	22%	0%	0%
Extraction of salt	1422	503	0%	18%	82%	40%	8%	52%	4.9	4.7	9.4	6.9	2.2	4	50%	0%	0%
Furniture	3610	12,657	0%	39%	61%	2%	30%	68%	17.2	15.6	18.4	17.8	2.2	31	68%	0%	0%
Manufacture of glass and glass products	2610	8,497	0%	36%	64%	2%	16%	82%	13.7	12.4	14.3	14.5	2.1	82	33%	0%	0%
Dairy products	1520	34,286	7%	64%	29%	3%	60%	37%	10.6	13.7	12.9	15.8	2.1	32	22%	6%	9%
Machinery for food, beverage and tobacco processing	2925	11,642	0%	70%	30%	1%	52%	47%	1.0	2.0	3.8	4.0	2.0	21	86%	0%	0%
Otherfood products n.e.c.	1549	84,860	10%	56%	35%	9%	41%	50%	6.8	12.5	6.3	14.5	2.0	51	27%	2%	12%

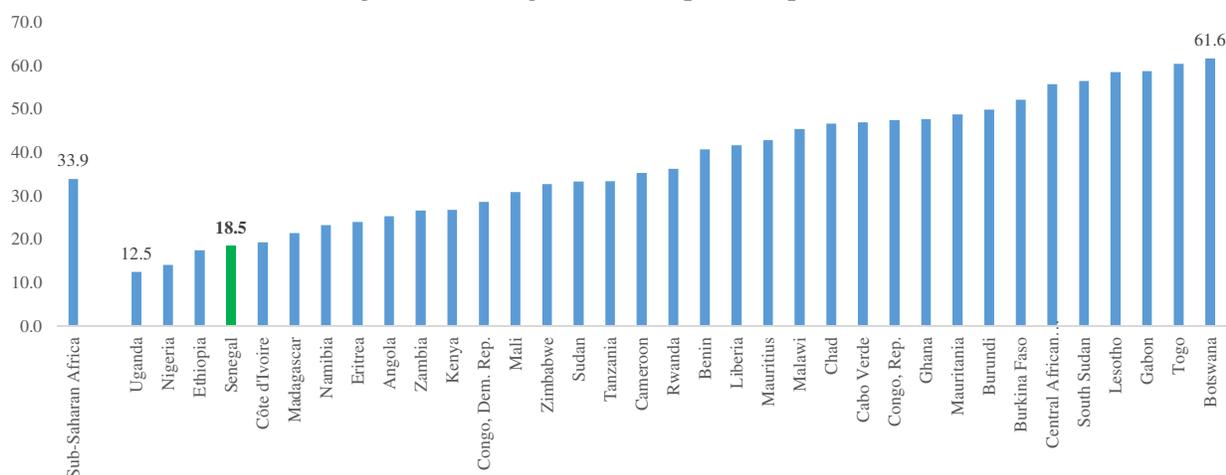
Source: Authors' calculation based on data from Senegal customs and COMTRADE database.

account for less than 5 percent of Senegal’s imports for 25 out of 36 product categories with significant increases in protection under the CET, and most of these products do not appear to be traded in large quantities by other countries in the region either. These are therefore products for which it would be particularly important to i) monitor prices, and ii) consider measures to prevent uncompetitive behavior and possibly reductions of the CET rates in the future in order to protect consumers and promote the productivity and innovation benefits that arise from competition.

2.2. Access to imported inputs and capital goods.

57. Economic literature shows that improved access to imported inputs typically raises firm productivity (Amiti and Konings, 2007, Amin and al, 2014), expands firms’ product scope (Goldberg et al., 2008) and ultimately leads to higher economic growth (Estevadeordal and Taylor, 2008). Similarly, Eaton and Kortum (2001) find that 25 percent of cross-country differences in productivity can be attributed to price differences for capital goods, and that about half of these price differences are caused by trade barriers. Improved access to imported capital equipment is also usually associated with higher economic growth (Estevadeordal and Taylor, 2008). Any change in trade policy which may affect such an access is therefore of critical importance for Senegal.

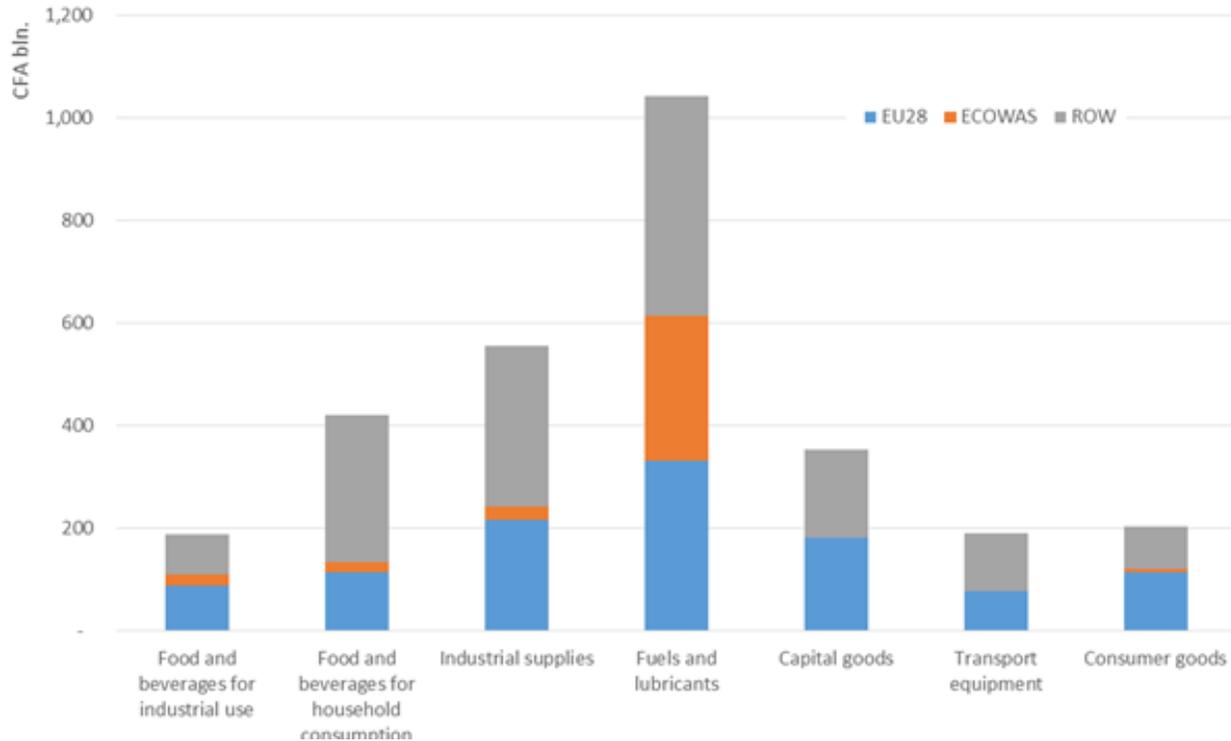
Figure 12. Average share of imported inputs (Pct.).



Source: World Bank Enterprise Surveys, 2009-2015.

58. Senegalese firms use a relatively low share of imported inputs compared to other countries (Figure 12). This may partly result from barriers that prevent firms from accessing inputs from abroad that, for one reason or another, they have reason to favor over domestically produced alternatives when they exist. Customs tariffs are the most obvious potential obstacle to importing inputs or capital equipment.

Figure 13. Imports by broad economic categories and origin (avg. 2013-2014)



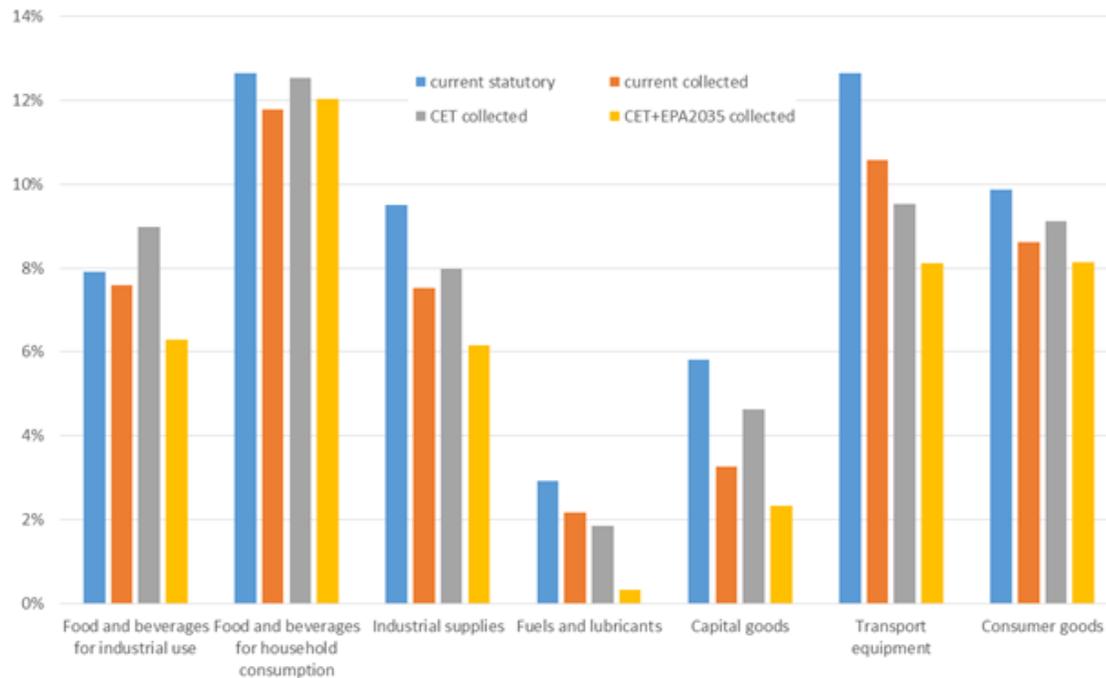
Source: Authors' calculation based on data from Senegal customs.

59. Figure 13 and 14 show the origin and level of protection of Senegal's imports broken down by Broad Economic Categories (BEC). While a classification of products by its observable characteristics does not allow for a perfect approximation of its end use, it is nonetheless convenient¹⁸. Data show that - with the exception of fuels and lubricants (27 percent) and to a lesser extent Food items for industrial use (12 percent) - the share of imports originating from within the ECOWAS region is quite low for most product categories, and close to zero for Capital goods and Transport equipment. On the opposite, the EU is an important trading partner for all product categories, with a market share ranging from 27 percent for Food for household consumption to 56 percent for other Consumer goods.

60. Figure 14 shows that while they are on average lower than tariffs on consumer goods, substantial tariffs remain in place for inputs and capital goods with the exception of fuel products (blue bar). However, exemptions on tariffs in particular on products in the categories *Capital goods* and, to a lesser extent, *Industrial supplies* are relatively common, leading to significantly lower effectively collected tariff rates. Nevertheless, effective tariffs in particular on inputs for industrial use remain relatively high at almost 8 percent on average. Assuming a constant rate of tariff exemptions, the CET would slightly increase protection on Food items for industrial use, Industrial supplies and Capital equipment while lowering tariffs on Fuel and lubricants and Transport equipment. The EPA would lower protection visibly in all these categories.

¹⁸ - For example, while products in *Food and beverages for industrial use* and *Industrial supplies* can reasonably be assumed to contain mainly goods that will serve as inputs, *Fuels and lubricants* are used by both firms and private consumers. Similarly, products in the category *Capital goods* will mainly be equipment used by firms, while the category *Transport equipment* contains both private and commercial vehicles and other transport equipment.

Figure 14. Tariff protection by broad economic categories (avg. 2013-2014).



Source: Authors' calculation based on data from Senegal customs.

61. As a member of the ECOWAS CET, Senegal has limited authority over its tariff rate. However, it implements a country specific incentive system aimed – inter alia - at making access to imported inputs and capital goods easier. This may help mitigate the impact of the CET. Senegal has two special regimes for companies established in Senegal: the Investment Code¹⁹ (IC) and the Free Exporter Status (FES)²⁰. Both are managed by the Investment promotion Agency (APIX). They provide duty free access to imported capital goods, among other incentives.

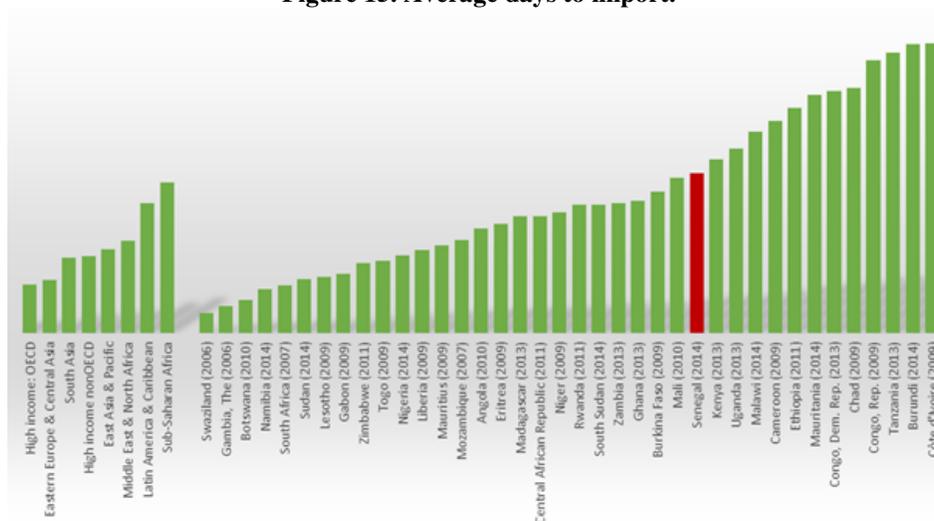
62. The IC provides various investment incentives to i) projects worth a minimum of 15 million Cfa.F (roughly USD 26,000) covering the primary sector, social sectors, services and ii) projects worth a minimum of 100 million Cfa.F (roughly USD 173,000) in manufacturing, mining, tourism and transport infrastructure. For eligible firms, benefits are granted to investors during the project realization phase. These cover a period of three years and include among others, the exemption of customs duties for the importation of equipment and materials that are neither produced nor manufactured in Senegal and which are specifically used in the production process. The FES, designed for firms that generate at least 80 percent of their turnover from exports, also eases imports of capital goods. The scheme targets industries in agriculture (including livestock and fisheries), industry and teleservices. It grants eligible firms, among other benefits, duty free importation of capital equipment, materials, raw materials, finished and semi-finished products, as well as duty free acquisition of business premises and unlimited dwell time in the port for the imported goods. While such incentives can effectively reduce the burden on investors from tariffs on capital equipment and inputs, the combination of high tariffs and exemptions is ultimately inferior to a practice where such products are generally under a very low or even zero import tariff which

¹⁹ - Law No. 2004-06 from 02/06/2004.

²⁰ - Law No. 95-34 of December 25, 1995, as amended by Act No. 2004-11 dated from February 6, 2004. Implementation decree No. 96-869 of October 15, 1996, as amended by Decree No. 2004-1314 of 28 September 2004

renders exemptions unnecessary. Such a system is more transparent and less distortive in the sense, administratively easier for both firms and the customs authorities, and more predictable for investors. In the longer term, it would therefore be in Senegal’s interest to promote lower tariff rates on inputs and capital goods under the CET.

Figure 15. Average days to import.



Source: World Bank Enterprise Surveys, 2009-2015.

63. Apart from tariffs, which directly raise the costs of imported inputs and capital equipment, other trade barriers such as NTBs and high trading costs can also effectively limit firms’ ability to benefit from imported inputs or capital goods. Reliability of supply for important inputs is a key factor that allows firms to plan ahead and operate at optimal capacity, and any delays occurring along the supply chain for inputs can severely deter firms from using imported inputs and undermine their productivity. It can also prevent them for integration with Global Value Chains that are very demanding in terms of just in time production, as discussed further in the next section.

64. Hence, NTBs on imports remain in use in Senegal (ITC 2014). The two most important categories applied by Senegal are i) Inspections before shipment, other entry formalities and ii) royalties, taxes and other para-tariff measures. Other lesser used NTBs includes quantitative controls, mandatory compliance measures and technical requirements. These are mostly implemented by control and surveillance agencies (customs administration, the Cotecna, the port Administration...). Overall, these contribute to a lengthening of procedures and clearance of imports. Firms in the 2015 Enterprise Survey report that it takes them, on average, 17.9 days to clear and retrieve imported goods from the day they reach the port (Figure 15). This value is slightly above the average for Sub-Saharan Africa, which stands at 16.9 days. Anecdotal evidence suggests that while recent improvements in customs handling have reduced delays, importers still spend a lot of time dealing with in-port service providers before they are able to remove their goods, which may explain what is observed.

2.3. Integration with Global Value Chains²¹.

65. A recent phenomenon, which is rapidly changing the structure of the global economy, is referred to as *trade in tasks* (Grossmann & Rossi-Hansberg, 2006). The process of production is being unbundled across geographic places into individual tasks, each of which can be located where production efficiency is the highest. The results are increasingly complex global factories or production networks known as Global Value Chains (GVCs) that can involve several border crossings during the course of production of a single product and consist of firms that are often engaged in importing inputs, transforming them, and then exporting again. As ‘trade in tasks’ often requires firms to exchange more intangible assets such as production technology, financial flows, ideas, and so on, GVCs also tend to be characterized by much more comprehensive relationships between buyers and suppliers, either through long term contractual arrangements or through joint ventures or full ownership. This is giving rise to increasing levels of trade that takes place within a given firm or between affiliated partner instead of the classical ‘arm’s length’ trade relationships between buyers and sellers. The rise of GVC production is increasing the complementarity between trade and investment, with barriers to foreign investment increasingly also becoming barriers to trade and vice versa.

66. Integration with GVCs can have considerable benefits for developing countries as it allows them to absorb parts of global production processes in which they might have comparative advantage without having to acquire the entire production process at once. It can also contribute to technology transfer and other learning effects. However, there are also risks in particular for developing countries through so-called insider-outsider effects, where trade is no longer determined by classical comparative advantage, but increasingly also by the ability to integrate with GVCs. In the context of GVCs, any constraints or delays at the border have an even stronger effect on firms’ competitiveness than under a classical trade paradigm because they hamper both the importing of intermediate goods and the exporting of the processed product.

67. In Senegal, GVCs are seen by the authorities as an opportunity for deeper integration into world trade. Opportunities are perceived in the IT sector, in particular call centers (word processing, accounting for foreign companies, web design...), horticultural products and leather products. There are two elements in the GoS strategic vision. The first is to better position the country as a regional competitive hub in logistics and international subcontracting. The second seeks to improve local and regional circuits in the supply of tropical fruits and vegetables, with a view to re-export to the markets in Europe, West Africa and the Gulf States (AfDB, 2014). However, the realization of this vision implies to have in place supporting institutions and to have limited barriers to trade and investment. These are areas where Senegal can still make progress.

68. At the institutional level, public agencies can help domestic firms identify suitable foreign partners and/or encourage the entry of foreign investors. In Senegal, institutions that can play such a role include the investment promotions agency (APIX), an export promotion agency (ASEPEX) as well as a separate agency for the development and training of SMEs (ADEPME). However, they do not play yet such a role as ASEPEX is in need of serious strengthening and there is a need for improved coordination among the three of them. In terms of the investment policy and promotion framework, Senegal offers a stable political environment, some infrastructure, strong institutions and growing opportunities for foreign investment. GoS usually welcomes foreign investment and has prioritized efforts to improve its business climate (as

²¹ - The literature review in this section is from von Uexkull (2012).

shown by recent improvements in the Doing Business ranking). Senegal has maintained a stable macroeconomic environment and an easy repatriation of capital and income. However, according to investors, some barriers to investment still persist. Indeed, high factor costs, bureaucratic hurdles, limited access to financing and a rigid labor market are still obstacles to investment. Further, while Senegal has a well-developed legal framework for protecting property rights, settlement of commercial disputes can be cumbersome and slow.

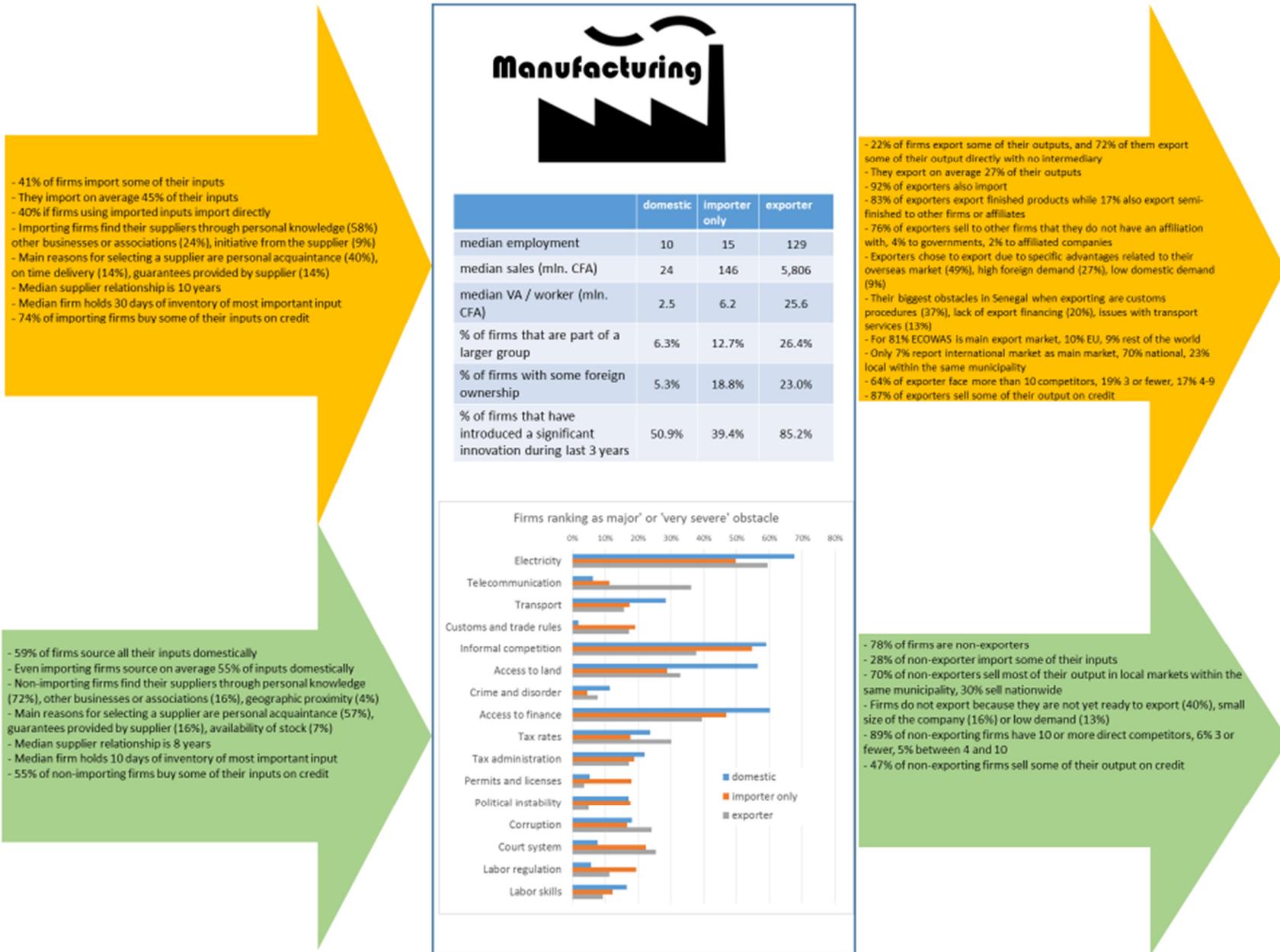
69. To get a view of the current status of GVCs in Senegal, Figure 16 compiles the available information from the Enterprise Survey with respect to GVC integration into a logical framework where information with regard to inputs from foreign (top arrow) and domestic (bottom arrow) sources is summarized on the left hand side. Firm characteristics and perceptions regarding investment climate constraints are shown in the middle and are broken down between entirely domestic firms, firms that import but do not export, and exporters in order to illustrate the specificities of firms of each type. Finally, the right hand column summarizes information on how firms sell their outputs to the international (top arrow) and domestic (bottom arrow) markets.

70. The data confirms a common finding in economic literature that firms engaged in exporting tend to be larger and more productive than non-exporters, with importing firms falling in between exporters and purely domestic firms. Exporters are also more likely to be affiliated to a larger company or have foreign ownership, though overall foreign ownership levels are relatively low. Exporters are also more likely to innovate. Another common finding is that almost all exporters also import, highlighting the importance of access to imports for export competitiveness.

71. Access, cost, and reliability of electricity supply is a major problem for all types of firms. Exporters, however, are less likely to see informal competition, access to land, and access to finance as major constraints, which may simply reflect the fact that they tend to be larger and less dependent on the domestic market. On the other hand, exporting and importing firms are more concerned about telecommunication and customs and trade regulation, factors that are key for them to connect to international markets. Improvements in these areas could certainly enhance their ability to connect to GVCs. They are also disproportionately concerned with the functioning of the court system, something that is particularly important for foreign investors or affiliates who otherwise would be at a natural disadvantage to defend their rights.

72. Importing firms hold substantially larger inventories than non-importers, suggesting reliability issues with supply of imports, and exporters rank customs procedures as the principal obstacles to exporting. Both findings suggest that reforms to speed up and improve transactions at the border remain a priority for GVC integration (see also section 2.2.). Data also reveals that most firms find their suppliers through rather informal channels, based on personal knowledge and selected based on acquaintance. On the export side, most exporting firms still sell the majority of their products in the domestic market and seem to only export small shares of their production, mainly to the regional market, when an opportunity presents itself. They mostly export final products and sell to firms they have no permanent affiliation with, probably in most cases retailers. All this indicates that very few Senegalese firms are engaged in formal GVCs, and that their import and export patterns are mainly opportunistic and based on informal channels and personal knowledge. This is where the above mentioned investment and export promotion institutions could come in to disseminate knowledge on overseas opportunities, requirements in terms of standards and practices, and contacts with lead firms in relevant GVCs.

Figure 16: Integration with Global Value Chains.

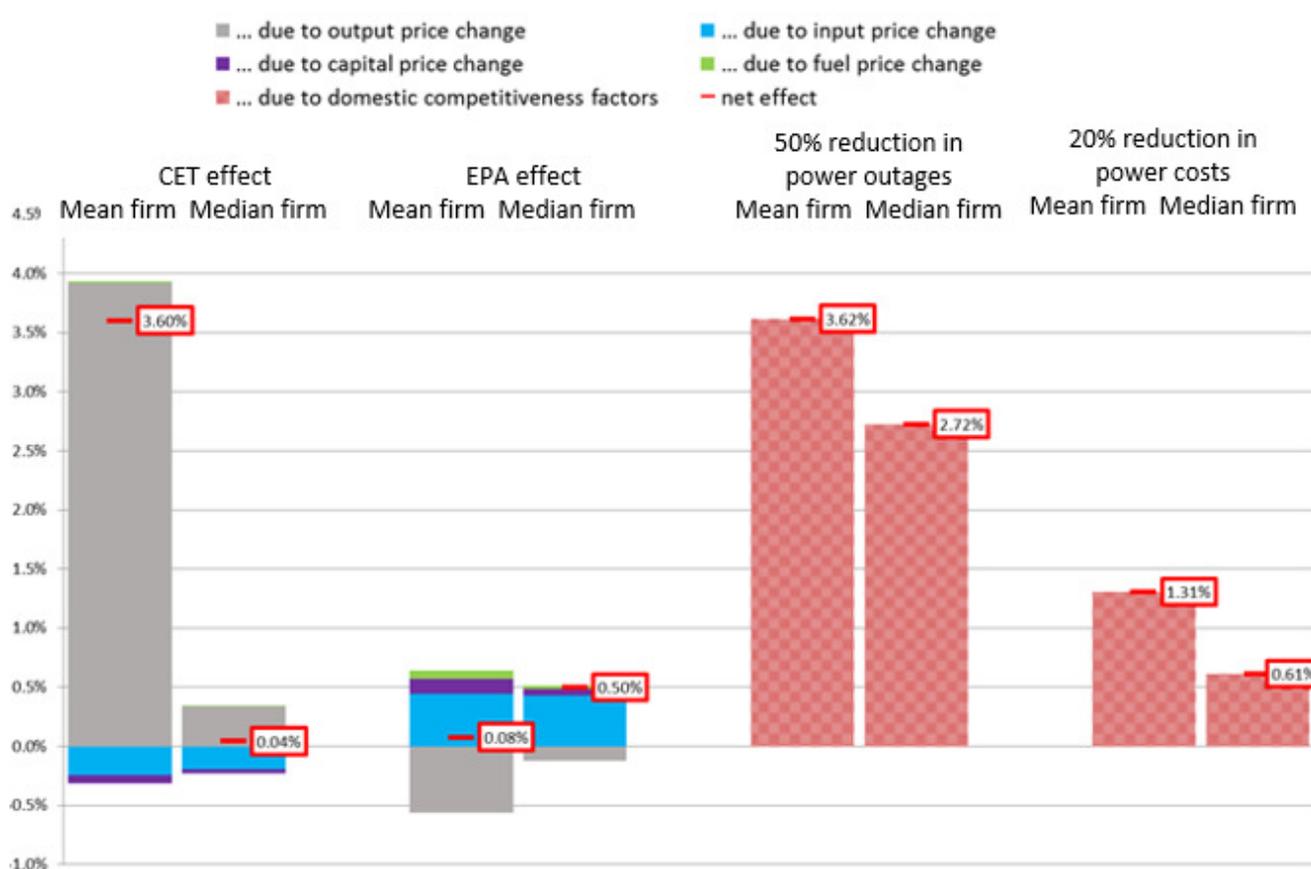


Source: Authors' calculations based on World Bank Enterprise Survey Data for Senegal (2014)

2.4. Backbone services.

73. Services are now a key determinant of a country’s success in trading and competing in the global economy. Accessible and affordable backbone services such as electricity, telecommunication, finance, and logistics are important sources of competitive advantage (Francois & Hoekman, 2010). Some services, such as logistics and trade finance, are directly linked to the process of importing and exporting. Other services such as access to reliable and affordable electricity and longer term investment loans have an important impact on firms’ ability to adopt new technologies and finance innovation.

Figure 17. Change in firm profits.



Source: Authors’ simulation results

74. The firm level model previously used in this report allows to directly compare the impact of the CET and EPA reforms to changes in the availability and improvement of electricity which is one of the key constraint reported by firms in Senegal (Table 6). Indeed, due to insufficient or delayed investment in generation capacity during the last decade, there is a gap between supply and demand which has resulted in major service disruptions in recent years. Electricity tariffs in Senegal are also among the highest in Africa and the World. The sale price of electricity per kWh is of \$ 0.24 in Senegal, against \$ 0.16 per kWh for Cameroon, \$ 0.15 per kWh for Ghana and \$ 0.13 per kWh for Cote d’Ivoire. Although there have been improvements in provision since late 2014, there is still a long way to go before this ceases to be a constraint for firms. Figure 17 shows *simulation results* for a 50 percent reduction in output losses resulting from power outages in columns 5 and 6

and for a 20 percent reduction in electricity costs in columns 7-8 compared to the CET (columns 1-2) and EPA (columns 3-4) results that were discussed previously.

75. A reduction in electricity outages has a very large (+3.6 percent) average positive effect on firm profits, comparable in size to the increases under the CET, but distributed much more evenly across the population of firms as indicated by the proximity between mean and median value. Reducing electricity costs by 20 percent would increase profits on average by 1.3 percent, and 0.6 percent for the median firm. Continuous improvements in this areas could therefore have similar short term benefits as the additional protection afforded to some firms under the CET, but these benefits would be more evenly distributed across the universe of firms and, unlike windfall profits from tariffs protection, could promote productivity and further growth in the medium and longer term.

76. Results from Table 6 show that the share of firms ranking access to finance as major constraints is high (52 percent) and above the average for Sub-Saharan Africa. Indeed, high collateral requirement (on average 271 percent of the loan amount) make obtaining loans difficult in Senegal, especially for smaller firms. Immovable assets (such as land & equipment) constitute the main type of collateral that bank request to secure a loan. The inability of some firms to produce the required guarantees is compounded by the fact that relatively few firms subject their accounts to an independent auditing process, which could help banks in determining the bankability of applicants. Transport services, on the other hand, are seen as major constraints by much fewer firms (22 percent), putting Senegal close to the regional average for this indicator.

Table 6. Backbone services constraints.

	Senegal	SSA
Percent of firms identifying electricity as a major constraint	48.2	38.3
Percent of firms identifying access to finance as a major constraint	51.6	36.8
Percent of firms identifying transportation as a major constraint	21.9	22.8

Source: World Bank Enterprise Surveys, 2009-2015.

III. CONCLUDING REMARKS.

77. This paper has provided estimates of the short-term impact of the CET and EU-EPA using a simple framework based on partial equilibrium simulations of the new tariff rates to be adopted under the CET and the EU-EPA. It underlines that both agreements have fairly differentiated effect, the EU-EPA in some ways compensating for some consequences of the CET.

78. In short, the CET scheme would likely help - as intended - to increase imports from ECOWAS members through increased protection versus nonmembers and increase revenues collected at the border. This would be done at the cost of a price increase of households consumption bundle and would yield a significant increase in profits only for a small number of firms accounting for about one tenth of the work force. These short-term gains would primarily be realized through higher output protection, which in the longer term could actually diminish productivity growth. The EU-EPA scheme should have a fairly different impact. Indeed, it would yield a decline in nominal protection and an increase in EU imports to Senegal. This would have a negative impact on revenues

at the border but largely benefit households that would enjoy a decline in the price of their average consumption bundle. At the firm level, more than two-third of firms would enjoy a positive change in profits while most of firms across the employment distribution will have a positive change in this indicator. Under the EU-EPA, gains are mostly obtained through lower input and capital prices, which can help foster productivity and technological innovation in the longer run.

79. However, for Senegal to benefit more from trade and foreign investment, including some of the likely positive effects of the EU-EPA, there is a need for complementary strategic measures in several key areas of Senegal's trade and investment policy.

- Competition policy. While generally markets are relatively competitive in Senegal, there are a few significant exceptions. To ensure that Senegal will benefit from the intended results of these trade agreements, there is a need to seriously reinforce competition policy in the country to ensure that competition levels are maintained and some protected sectors further liberalized. Although most of it is decided at the WAEMU level, country level investigation, market surveillance and other activities are done by national institutions. GoS policy statements from 2014 relative to an institutional reform must therefore be implemented. Hence, Senegal's competition commission i) must be seriously reinforced (in terms of equipment, capacity and budget), and ii) better coordination with sector regulators and WAEMU ensured.
- Access to imported inputs. Easy access to imported inputs and equipment typically raises firm productivity. However, in the case of Senegal, firms on average do not make a strong use of these. This may be explained by the fact that effective tariffs for inputs for industrial use remain relatively high. The EU-EPA would have the advantage of lowering protection for these and other inputs and capital goods. Besides the advantages of the scheme, ensuring that two key existing incentive schemes (the IC and FES) are properly designed, follow best practices and are not misused is key in ensuring good access to inputs. As a complement, measures allowing for a reduction of import times at customs should be implemented. This is the only area of trade facilitation where Senegal does not fare well.
- Fostering integration with global value chains. GVCs are rightfully seen by GoS as an opportunity for deeper integration into world trade. However, the realization of this vision implies to have in place supporting institutions and to have limited barriers to trade and investment. These are areas where Senegal can still make progress. At the institutional level, the three institutions that could influence such a policy (APIX, ADPME and ASEPEX) must coordinate interventions and ASEPEX has to be strengthened (in terms of human capital, management, equipment and budget). At the policy level, PREAC-2 which is GoS plan to improve the business environment must be finalized quickly and implemented as quickly and efficiently as PREAC-1 (which allowed Senegal to improve significantly its Doing Business ranking). Special attention must be paid to improving the resolution of commercial conflicts that has acted as a deterrent to investors in the past. The recent implementation of a mediation system (2015-16) is a positive step forward. It must now be put to use. The Ministry of Justice is also considering creating dedicated 'Commercial Chambers'. To focus the debate, a proper analysis of such a system has to be done, with a view of i) ensuring efficiency and better service and ii) sustainability.

- Improving key backbone services. In Senegal, two backbone services important to competitiveness are problematic: electricity and access to finance. Irregular and costly supply of electricity is a major constraint to firms. Current policies aimed at reducing costs and improving supply have to be pursued and amplified. Access to finance is also a major issue, acting as a brake to investment and trade. GoS has created in recent years a set of institutions (FONSIS a sovereign fund, FONGIP a guarantee fund and BNDE a development bank) aimed at fostering access to finance by complementing the private sector. It is critical these institutions remain fully active in the sector, as is the need for demand side improvement programs (SME training, provision of account certification services...) to continue and expand.

ANNEX 1: METHODOLOGY.

The Tariff Reform Impact Simulation Tool (TRIST)

The impact of the CET and EPA scenario on imports, protection levels, and percentage changes in revenue were calculated using the World Bank's Tariff Reform Impact Simulation Tool (TRIST). TRIST was also used to generate the price changes that underlie calculations of the impact on household consumption prices and domestic firms and jobs.

TRIST was designed with the specific task of providing policy makers with detailed insights by product and tax instrument into the short-term effects of trade reform. By its comparative static nature, TRIST allows the comparison of two states - one in which the base values of policy instruments (such as tariffs) are unchanged and another in which these base values are exogenously changed.

An integral part of TRIST is the trade model that underlies the quantification of the effects of trade reform. It is based on five core assumptions:

- First, the model is derived from standard consumer demand theory and utilizes elasticities to determine the magnitude of the demand response to the price changes that result from a tariff reform.
- Second, the calculations are based on the standard Armington (1969) assumption of imperfect substitution between imports from different trading partners since consumers distinguish products by the place of production. This intuitive assumption is standard in empirical international trade work and implies that a fall in the price of imports from country A relative to country B will only lead to a partial and not complete substitution of imports from country B with imports from country A.
- Third, the model does not allow for direct substitution between different products. In other words, each product is modeled as a separate market and in isolation from other markets. This is perhaps the strongest assumption used in the model. However, a relaxation would not only complicate computations but would also generate a need for a range of additional ad-hoc assumptions regarding the precise design of the additional substitution effect and its parameterization.
- Fourth, it is assumed that all changes in tariffs are fully passed on and that the world price remains unchanged. That is to say an infinite supply elasticity is assumed of imports so that changes in demand in the importing country are small enough relative to the world so that they have no effect on the world price of the product.
- Fifth, the trade model in TRIST is a partial equilibrium model that treats demand for each product in isolation from the rest of the economy. Hence, it does not take into account inter and intra-sectoral linkages or the economy wide impacts of tariff changes. But this is not the primary objective of TRIST, which is designed so as to avoid the degree of aggregation of the data that would be necessary in order to implement economy wide computable equilibrium models and to remain simple and transparent in its assumptions, with the flexibility to adjust the key parameters.

As most partial and general equilibrium trade models, TRIST uses elasticities as the parameters of the model that determine how trade flows react to a given change in prices. Elasticities are notoriously difficult to estimate and so detailed and robust estimates of the required elasticities for import demand and substitutions between imports from different trading partners are not readily available in the literature.

TRIST includes sensible default values for each of these three parameters that are common across products and import suppliers. The sensitivity of the results can be easily assessed by changing the values of the elasticities. Generally, elasticities will have a significant effect on the magnitude of the import response

calculated in TRIST, but will only marginally affect the results on changes in revenue, protection, and prices which the key results in this study are based upon. These are primarily determined by the structure of the trade data and the reform scenario chosen, and only depend on the elasticities to the extent that a strong trade response will affect the import weights given to individual products and trading partners.

In the absence of empirically estimated elasticities, the model is calibrated with different scenarios of standard elasticities for substitution between trading partners ('exporter substitution') and the overall effect on import demand ('demand elasticity'). Standard elasticities, shown in TRIST result tables as "low ϵ ", are set at 1.5 for exporter substitution and 0.5 for demand substitution, whereas "high ϵ " are set at 5 for exporter substitution and 1 for demand substitution.

In order to build a TRIST for Senegal, detailed and complete data on import transactions for the most recent years (2013-14) was collected. For each import transaction, the data identifies the type of product (tariff line level), the country of origin of the trade flow, the customs procedure code (CPC) defining the customs regime under which the good enters the country, the import value of the transaction, the statutory tariff, the tariff actually applied (to calculate tariff exemptions) as well as the value of VAT, excise and other import taxes. This data is cleaned and then uploaded to TRIST along with information on the new tariff rates that are to be adopted under the CET (new CET rates against trading partners outside of ECOWAS and complete liberalization within ECOWAS) and EPA (removal of most tariffs against the EU based on the market access offer negotiated between the EU and ECOWAS). When a new tariff rate is applied, it is assumed that the ratio of tariff exemptions is maintained as before the tariff reform. In other words, if there is a tariff of 20 percent before the reform, but only half of it – or 10 percent – is effectively collected, a tariff reform that reduces the statutory tariff rate from 20 to 15 percent would lead to a new applied tariff of $15 / 2 = 7.5$ percent.

Household price results

Results for the change in consumption prices for average households are calculated by matching price changes from TRIST with the expenditure items listed in the Senegal household survey of 2013. Aggregation is done by taking import weighted average prices at the HS tariff code level of all product categories that match a given expenditure item. Only products purchased in the market are subjected to the price shock while consumption from own production remains unaffected. The change in the cost of consumption is calculated at the item level and then aggregated to assess the price change of the entire consumption basket. A full list of the household consumption items considered tradable for this analysis as well as the corresponding price changes under the various CET and EPA scenarios is shown in the next table. The analysis focuses only on the expenditure side, so potential effects on household income – eg. through price effect of items produced by a household or through labor income – are not taken into account.

Tradeable household consumption items and corresponding price changes under the CET and EPA scenarios

HHS_description	I	II	III	IV	V	VI
	CET	CET*	EPA2020	EPA2025	EPA2030	EPA2035
Autres	0.4%	0.4%	-0.3%	-0.7%	-1.1%	-1.2%
Arachide décortiquée	0.0%	0.0%	0.0%	-0.6%	-0.9%	-1.3%
Autres huiles	0.1%	0.1%	0.1%	-1.5%	-3.0%	-3.0%
Autres légumes	7.9%	7.9%	7.7%	7.7%	7.7%	7.7%
Autres s/p arachide	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Autres viandes	11.9%	11.9%	11.9%	11.8%	11.7%	11.6%
Bijoux	0.0%	-0.1%	-0.1%	-0.8%	-1.2%	-1.6%
Bois	0.0%	-0.2%	-3.6%	-3.6%	-3.6%	-3.6%
Boissons alcoolisées	2.2%	2.2%	2.2%	1.4%	1.0%	0.6%
Boissons non alcoolisées	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Bougie	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bouillon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Charbon de bois	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Chaussures	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Choux	0.0%	0.0%	0.0%	-0.8%	-1.2%	-1.6%
Cigarette-tabac	-0.2%	-0.2%	-3.7%	-3.9%	-4.2%	-4.2%
Concentré de tomates	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Confection	0.0%	0.0%	0.0%	-0.9%	-1.6%	-1.9%
Fruits	0.0%	0.0%	0.0%	-0.2%	-0.3%	-0.4%
Gaz	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Huiles arachide	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Huiles de palme	5.3%	5.2%	5.2%	5.2%	5.2%	5.2%
Huiles végétales	0.0%	-2.6%	-3.1%	-3.5%	-4.0%	-4.0%
Hygiène/soin corporel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Jus fruits locaux	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Lunettes/proth. mén.	0.0%	0.0%	0.0%	-4.0%	-8.0%	-8.0%
Manioc frais	0.0%	0.0%	0.0%	-1.2%	-2.4%	-2.4%
Mais	0.0%	0.0%	0.0%	-0.3%	-0.3%	-0.3%
Mouton sur pied	0.0%	0.0%	-4.6%	-4.6%	-4.6%	-4.6%
Niébé sec	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Oignons	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%
Petites tomates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poissons frais	0.0%	0.0%	-0.1%	-0.6%	-1.2%	-1.2%
Produits cosmétiques	0.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Pâte d'arachide	0.0%	0.0%	0.0%	-0.6%	-0.9%	-1.2%
Savon/produits entretien	7.5%	7.3%	7.3%	7.3%	7.3%	7.3%
Sorgho	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tissus	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%
bicyclette	-4.5%	-4.5%	-4.7%	-5.9%	-6.5%	-7.2%
chauffe-eau	0.9%	0.9%	0.4%	-0.1%	-0.6%	-0.7%
climatiseur	1.1%	1.1%	1.1%	1.0%	0.9%	0.9%
cuisinière moderne	0.2%	0.2%	-0.9%	-0.9%	-0.9%	-0.9%
fer électrique	2.5%	2.5%	2.5%	-0.8%	-2.6%	-4.2%
groupe électro.	0.5%	0.5%	-1.1%	-1.1%	-1.1%	-1.1%
lecteur multimédia	0.1%	0.1%	0.1%	-2.9%	-4.5%	-6.1%
machine à coudre	3.3%	3.3%	-1.1%	-1.1%	-1.1%	-1.1%
machine à laver	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
malle	0.1%	0.1%	0.1%	-0.2%	-0.3%	-0.4%
montre/réveil	0.0%	0.0%	0.0%	-3.2%	-4.8%	-6.5%
motocyclette	0.1%	0.1%	0.1%	-1.3%	-2.1%	-2.9%
onduleur	0.8%	0.8%	-0.2%	-0.2%	-0.2%	-0.2%
ordinateur	0.1%	0.1%	-1.9%	-2.2%	-2.3%	-2.4%
panneau solaire	0.7%	0.7%	-0.4%	-0.4%	-0.4%	-0.4%
parabole	0.1%	0.1%	0.1%	-3.1%	-4.9%	-6.4%
robot multi-usage	1.1%	1.1%	1.1%	-1.2%	-2.4%	-3.6%
réfrigérateur/Congél	2.3%	2.3%	1.8%	1.8%	1.8%	1.8%
ventilateur	1.4%	1.3%	1.3%	-0.3%	-1.5%	-1.9%
voiture	-3.3%	-3.3%	-3.5%	-3.5%	-3.5%	-3.5%
Viande de bœuf	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Volaille	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Sucre en morceaux/Sucre granulé	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Uniformes 09/10, Uniformes 10/11, Vêtements	0.0%	0.0%	0.0%	-0.6%	-1.0%	-1.3%
Autres thés/quinquéliba, The vert	0.0%	0.0%	0.0%	-0.3%	-0.6%	-0.6%
armoire, bibliothèque salon, chaise, fauteuil/canape, salon, table	1.0%	1.0%	1.0%	0.2%	-0.2%	-0.5%
bouteille gaz 12kg, bouteille gaz 2,7kg, bouteille gaz 6kg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
fourneau amélioré, fourneau malgache	0.1%	0.1%	-2.5%	-2.5%	-2.5%	-2.5%
lampe torche, Petit équip. de maison	0.1%	0.1%	-0.5%	-0.6%	-0.6%	-0.6%
matelas ressort, matelas éponge, lit	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
téléphone fixe, téléphone portable	3.4%	3.4%	3.3%	1.8%	0.2%	0.2%
télévision, Radio	0.3%	0.3%	-1.8%	-1.8%	-1.8%	-1.8%
Café en grains, Café moulu	-0.5%	-0.5%	-0.5%	-6.7%	-9.8%	-12.9%
Carburant, Petrol	-0.4%	-0.5%	-2.5%	-2.5%	-2.6%	-2.6%
Fonio, Mil, S/prod. mil/mais/sorgho	0.0%	0.0%	0.0%	-4.8%	-7.3%	-9.7%
Lait (concentre ou frais), Lait caillé en vrac	0.6%	0.6%	-1.1%	-1.1%	-1.1%	-1.1%
Lait poudre en vrac, Autres prod. Laitiers	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Livres 09/10, Livres 10/11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Matériel trait. ind., Matériel trait. mén.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Médicaments/Pharm. Mén, Médicaments ind., Pharmacoepie ind.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pain de blé, Autres Pain, Gateaux/biscuits	12.5%	12.3%	12.3%	12.3%	12.3%	12.3%
Poissons seches, Poissons fumes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Riz brisé importé, Riz entier importé, Riz local (paddy)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moquette/Tapis	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%

Firm level results

In the short run, firms are affected by a trade policy reform primarily through three price channels: changes in the domestic price of the output they produce, the inputs they use, and the capital goods they purchase. In the case of the Senegal Enterprise Survey, inputs can be further broken down between fuel and no-fuel inputs. Typically, a lower tariff on a given good would reduce its domestic price, and thus diminish the profitability of firms producing this product. On the other hand, lower tariffs on their inputs and capital goods would increase the profitability of firms.

In order to account for all these factors, the results from TRIST on changes in prices are matched with World Bank Enterprise Survey data on Senegalese firms. The sample comprises 147 manufacturing firms across the entire country. For the output prices, HS level price changes are aggregated to the 4 digit ISIC level through imported weighted averages at which firms in the Enterprise Survey report their main output. The ES data only asks for firms' total expenditure on non-fuel inputs, as well as on fuel. For fuel inputs, the import price changes for all fuel products are aggregated using import weights. For non-fuel inputs, an input price index is calculated by aggregating the HS tariff level data to the GTAP classification (again, weighing by imports). The firms and price changes are then matched to the GTAP Social Accounting Matrix (SAM) for Senegal, with a total of 26 activities / commodities. Each firm is mapped to an activity sector based on the reported ISIC code of its principal output, and an input price index is calculated as the weighted average of the price changes for all the non-fuel commodities consumed by firms in this particular sector. The spreadsheet model that carries out these calculations is available upon request from the authors.

The change in firm profits is calculated as follows for each firm:

$$\Delta\pi_i = Y_i^0 * (p(Y)^1 - p(Y)^0) + II_i^0 * (p(II)^0 - p(II)^1) + F_i^0 * (p(F)^0 - p(F)^1) + K_i^0 * (p(K)^0 - p(K)^1) + OC_i^0 * (p(OC)^0 - p(OC)^1)$$

Where:

Y is the firms output

II are the non-fuel intermediate inputs used by the firm

F is the fuel used by the firm

K is the depreciation of capital used by the firm in a given year

OC are other business costs incurred by the firm

p(X) is the price of any item X

Subscript i refers to firm specific variables

Superscripts 0 and 1 refer to the before (0) and after (1) reform price levels

For the employment weighted graphs, each firm is weighed by its survey weight, which corrects for regional, size and industry sampling bias in the Enterprise Survey, as well as its number of full time employees before results are aggregated.

ANNEX 2: DATA.**Table A.2. 1. EPA implementation stages.**

	2020-2024	2025-2029	2030-2034	2035
Group A	All tariffs to 0	0	0	0
Group B	No change	All tariffs cut 50%	All tariffs to 0	0
Group C	No change	All tariffs cut 50%	All tariffs cut another 50%	All tariffs to 0
Group D	No change	No change	No change	No change

Source: ECOWAS secretariat

ANNEX 3: COMPETITION POLICY AND MARKETS EFFICIENCY.

Competition policy reforms typically allow markets to work more efficiently for the benefit of consumers and drive sustainable economic growth. Competitive pressure matters for achieving greater innovation, productivity, and economic growth. In addition, policies that help open markets and remove anticompetitive regulations often result in lower prices and better deals for consumers and firms. Finally, an effective enforcement of competition rules across sectors—rather than the pure existence of competition laws—makes a positive difference in the impact of competition policies.

Competition drives productivity growth through two key mechanisms: it shifts market share toward more efficient producers and induces firms to become more efficient in order to survive. Theoretical and empirical studies provide evidence that product market competition boosts innovation, productivity, and economic growth. Firms facing vigorous competition have strong incentives to reduce their costs, to innovate, and to become more efficient and productive than their rivals. This process motivates firms to offer competitive prices, higher quality, and new and more varied goods and services. Conversely, the lack of competition adversely affects productivity.

Nickell (1996) found that a 10 percent increase in price markups resulted on average in a 1.3 to 1.6 percent loss in total factor productivity growth. Carlin, Schaffer, and Seabright (2003), focusing on 24 transition economies, showed that firms facing between one and three competitors saw real sales grow by almost 11 percent on average over three years while monopolists saw real sales decline by 1 percent. Sekkat (2009) suggests that higher markups have had a significant negative effect on productivity growth in Jordan and Morocco. Competition also leads to savings and greater access to markets for consumers. Analyzing data for more than 40 African countries, Gebreab (2002) found that the entry of an additional operator increased mobile subscriptions by an average 57 percent.

The literature finds a consistent stylized fact that the most productive firms of an economy are engaged in export activity (Tybout (2003) and Keller (2003)). Causality could run both ways. First, firms enter the export market because they already have higher productivity levels— and often higher growth rates of productivity— before they start exporting (the *self-selectivity hypothesis*). Second, firms become more productive as a result of exporting to other markets because of knowledge spillovers and foreign competition (*learning-by-doing hypothesis*). Both explanations are also not mutually exclusive and empirical evidence has been found for both theories. However, literature reviews now conclude that the first effect — the “self-selection” effect — dominates the second “learning-by-doing” effect (Wagner 2011). Greenaway and Kneller (2007) and Wagner (2007) find that firms are more productive before they start exporting compared to those that will not export. Furthermore, once firms start exporting, they typically continue exporting.

Seminal models by Melitz (2003) and Bernard and others (2003) have also introduced effective competition in domestic markets as the mechanism through which more productive firms enter the markets, and through which the most productive competitors win additional market share. This contributes to an increase in aggregate productivity levels and higher exports. Finally, the empirical literature shows that domestic competition is also an important driver of firm-level productivity— even before firms start exporting and importing (Syverson (2011), Kitzzmuller and Licetti (2013), Goodwin and Pierola (2015)).

ANNEX 4: COMPETITION INDICATORS DEFINITION (FROM WORLD ECONOMIC FORUM GCI 2016).

Factors affecting domestic competition.

- **Intensity of local competition.** *In your country, how intense is competition in the local markets?* [1 = not intense at all; 7 = extremely intense]. Source: World Economic Forum, Executive Opinion Survey.
- **Extent of market dominance.** *In your country, how do you characterize corporate activity?* [1 = dominated by a few business groups; 7 = spread among many firms], Source: World Economic Forum, Executive Opinion Survey.
- **Effectiveness of anti-monopoly policy.** *In your country, how effective are anti-monopoly policies at ensuring fair competition?* [1 = not effective at all; 7 = extremely effective], Source: World Economic Forum, Executive Opinion Survey.
- **Effect of taxation on incentives to invest.** *In your country, to what extent do taxes reduce the incentive to invest?* [1 = to a great extent; 7 = not at all], Source: World Economic Forum, Executive Opinion Survey.
- **Number of procedures required to start a business.** *Number of procedures required to start a business.* Source: World Bank/International Finance Corporation, Doing Business.
- **Time required to start a business.** *Number of days required to start a business.* Source: World Bank/International Finance Corporation, Doing Business.

Factors affecting foreign competition.

- **Prevalence of non-tariff barriers.** *In your country, to what extent do non-tariff barriers (e.g. health and product standards, technical and labeling requirements, etc.) limit the ability of imported goods to compete in the domestic market?* [1 = strongly limit; 7 = do not limit at all]. Source: World Economic Forum, Executive Opinion Survey.
- **Trade tariffs.** *Trade-weighted average tariff rate - 2014 or most recent year available.* An applied tariff is a customs duty that is levied on imports of merchandise goods. This indicator is calculated as a weighted average of all the applied tariff rates, including preferential rates that a country applies to the rest of the world. The weights are the trade patterns of the importing country's reference group. Source: International Trade Centre
- **Prevalence of foreign ownership.** *In your country, how prevalent is foreign ownership of companies?* [1 = extremely rare; 7 = extremely prevalent]. 2014–15 weighted average. Source: World Economic Forum, Executive Opinion Survey.
- **Business impact of rules on FDI.** *In your country, how restrictive are rules and regulations on foreign direct investment (FDI)?* [1 = extremely restrictive; 7 = not restrictive at all]. 2014–15 weighted average. Source: World Economic Forum, Executive Opinion Survey.
- **Burden of customs procedures.** *In your country, how efficient are customs procedures (related to the entry and exit of merchandise)?* [1 = extremely inefficient; 7 = extremely efficient]. Source: World Economic Forum, Executive Opinion Survey.

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