



Ghana's absurd ratification of its interim EPA¹

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Outline

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- II – The huge losses of duties on imports from the EU28-UK and on exports to ECOWAS Member States
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On 13 October 2016 the INTA committee of the European Parliament approved the ratification of Ghana's interim EPA (iEPA) initialled in 2007 and ratified on 3 August 2016² by the Ghanaian Parliament before ratification in plenary of the European Parliament in January or February 2017. In so doing the Ghanaian Parliament did not realize that it was shooting itself in the foot, following the Government which preferred to give in to the powerful pressures of international agribusinesses rather than to hear the warnings of the whole range of Ghanaian civil society, from the Association of Ghanaian Industry to the Christian Council, the Trade Union movement, CSOs³ (civil society organizations) and farmers organisations. We should underscore that the ratified iEPA is different from the West Africa (WA) regional EPA, particularly on the schedule of tariff liberalization which is not written in terms of years T to T20 but in actual civil years so that it would be much more harmful to Ghana than the regional EPA as it would have begun immediately in 2009 to be completed in 2022. However it is likely that, despite the infringement of the legal iEPA provisions, an arrangement would be found between Ghana and the EU so that not only the liberalization schedule but also the provisions of the iEPA would be aligned on those of the regional EPA. The present assessment assumes this would happen.

I – The GSP duties to pay on Ghanaian exports to the EU are hugely exaggerated

The Ghanaian Ministry of Trade and Industry is justifying the EPA by saying that €400 million (M) of import duties of the GSP (Generalized System of Preferences) would have to be paid annually to continue to export to the EU but this figure is a pure fantasy not to say a huge lie. It suffices to read the Appendix 1 showing the GSP duties that Ghana would have had to pay on its exports of 2015 either to the EU28 or to the EU28 minus UK, which are the actual figures to take into account for the future after the Brexit. We see that total GSP duties would have been of €66.9 M in 2015 on exports to the EU28 – 16.7% of the alleged €400 M – and of only

¹ This is a revised version of December 31, 2016 of the previous one of October 8, 2016, having better considered the impact of trade diversion which does not play without EPA.

² <http://citifmonline.com/2016/08/03/ghanas-parliament-ratifies-epa-with-eu/>

³ Yao Graham, *EPA not beneficial to Ghana*, Third World Network Africa, <http://citifmonline.com/2016/07/26/epa-not-beneficial-to-ghana-yao-graham/>

€44.9 M or 11.2% of the alleged €400 M to the EU28-UK, implying that the Brexit will reduce these duties by a third (-33.3%).

Appendix 1 shows that, if agricultural and fish imports of the Harmonised System (HS) of trade chapters 01 to 24 have accounted for 60.4% the EU28 imports and 58.2% of the EU28-UK imports, they have accounted for 97.9% and 96.9% respectively of all GSP duties to pay to the EU28 and EU28-UK. Agricultural imports from Ghana outside chapters 01 to 24 are almost inexistent: €3,410 of essential oils (code 33011) which are imported duty free.

To save time we did not recalculate chapter by chapter for EU28-UK imports from Ghana the rate of GSP duties already identified for EU28 imports⁴, except for the most important products: processed cocoa, processed tuna, bananas and pineapples (CTBP), assuming that the average rate of duties was the same, i.e. that the composition of UK imports for each chapter was the same as that of the EU28. Later we could make the calculations for all chapters but there are these four products which matter for the GSP duties to pay on Ghanaian exports.

Table 1 shows the share of UK in EU28 and EU28-UK imports from Ghana in 2015 for all products and for the 4 most important CTBP exports which would have to pay the bulk of GSP duties.

Table 1 – EU28 and EU28-UK main imports from Ghana in 2015: cocoa, tuna, bananas, pineapples

1000 €	Total	CTBP	Total processed cocoa					Tuna processed	Bananas	Pineapples
			total	paste	butter	powder	chocolate			
EU28	2394209	574793	340824	208046	101304	58	58	170626	39098	24245
EU28-UK	2117204	436170	309396	200177	77795	41	41	91257	18261	17256
UK	277005	138623	31429	7869	23509	17	17	79369	20837	6989
UK/EU28	11,6%	24,1%	9,2%	3,8%	23,2%	29,1%	29,1%	46,5%	53,3%	28,8%
UK/EU28-UK	13,1%	31,8%	10,2%	3,9%	30,2%	41,1%	41,1%	87%	114,1%	40,5%
In tonnes										
EU28		204371	99186	67490	18100	13562	34	33970	51261	19954
EU28-UK		142343	86882	65474	12999	13545	22	15737	22671	17053
UK		62028	7146	2016	5101	17	12	18175	28590	2901
UK/EU28		30,4%	7,2%	3%	28,2%	0,1%	36,6%	53,5%	55,8%	14,5%
UK/EU28-UK		43,6%	7,8%	3,1%	39,2%	0,1%	57,7%	115,5%	126,1%	17%

Source: Eurostat; CTBP: cocoa, tuna, bananas, pineapples

We have omitted the quantity of total imports as it is meaningless. We see that the Brexit does matter for Ghana as UK imports from Ghana have accounted for 24.1% of EU28 imports in value and 31.8% of EU28-UK for all CTBP, and for respectively 27.8% and 40% in volume. In particular the UK accounts for 55.8% of all EU28 bananas imports from Ghana and for 53.5% of processed tuna against 28.8% for pineapples and 9.2% for processed cocoa. This is the reason why total GSP duties to pay to the EU would be a third lower to the EU28-UK than to the EU28.

Table 2 shows the GSP duties that Ghana would have paid to the EU28 and EU28-UK in 2015 on the CTBP products and the share of these GSP duties on all duties to agricultural products and total products. Their share was of 91.5% of agricultural products and 89.6% of all products for the EU28 imports from Ghana and of respectively 88.9% and 86.1% for the EU28-UK imports from Ghana.

Admittedly Ghanaian exports to the EU would also have to pay, beyond the GSP duties, the VAT on all products and excise taxes on mineral oils but we should not count them because,

⁴ The folly to implement the EU-West Africa Economic Partnership Agreement (EPA), based on 2015 trade data, SOL, 19 April 2016, <http://www.sol-asso.fr/analyses-politiques-agricoles-jacques-b/>

even with the EPA, the EU duty free imports do not incorporate the VAT and excise taxes which have to be paid in any case.

Table 2 –GSP duties that Ghana would have paid to the EU in 2015 on the CTBP products

Product		EU28 imports from Ghana				EU28-UK imports from Ghana			
Code	Label	Euros	100 kg	GSP rate	GSP duty	Euros	100 kg	GSP rate	GSP duty
080310	Plantains	311716	2706	12,50%	38965	204638	2188	12,50%	25580
08039010	Bananas fresh	39094915	509901	127 €/t	6475743	18261054	224518	127 €/t	2851379
08039090	Bananas dried	3011	2	12,50%	376	32	0	12,50%	4
080430	Pineapples	24244897	199537	2,30%	557633	17256298	170527	2,30%	396895
Sub-total 08		63654539	712146	11,11%	7072717	35722022	397233	9,16%	3273857
160414	Prepared tuna	168997408	336789	20,50%	34644469	89881282	155040	20,50%	18425663
16042070	Prepared tuna	1628783	2908	20,50%	333901	1375398	2325	20,50%	281956,6
Sub-total 16		170626191	339697	20,50%	34978370	91256680	157365	20,50%	18707620
1803	Cocoa paste	208046044	674903	6,10%	12690809	200177309	654743	6,10%	12210816
1804	Cocoa butter	101303581	180999	4,20%	4254750	77794943	129990	4,20%	3267388
1805	Cocoa powder	31416551	135619	2,80%	879663	31382209	135452	2,80%	878702
1806	Chocolate	57949	339	*	10212	41072	215	*	9739
Sub-total 18		340824125	991860	5,23%	17835434	309395533	920400	5,29%	16366645
Tot. 08+16+18		575104855	2043703	10,41%	59886521	436374235	1474998	8,79%	38348122
% chap.01-24		39,7%			91,5%	35,4%			88,9%
% all chapters		24%			89,6%	20,6%			86,1%

Source: Eurostat and TARIC

However it is likely that without ratification and implementation of the EPA (iEPA or regional EPA) the Commission would issue a regulation to exclude from the GSP the EU28-UK imports of cocoa from Ghana (let alone IC) under Annex VI of Regulation 978/2012 of 25 October 2012 on GSP stating in Article 8 that, when EU imports under a HS section exceed 17.5% of its total imports from all GSP countries for three years, then it is the MFN (Most Favoured Nation) duty and not the GSP duty that applies. The Commission had already issued a regulation (EU) 2016/330 of 8 March 2016 applying the MFN on imports of HS chapter 06 (plants and cut flowers) from Kenya if the EAC EPA would not be ratified⁵. This would clearly be the case for cocoa products as the EU28-UK imports from Ghana represented 19.8% of imports of Chapter 18 (cocoa products) in 2013, 20.1% in 2014 and 17.66% in 2015. Table 3 shows that the ID payable on Ghanaian exports of HS chapter 18 exports to the EU28-UK would increase from €16.4 M in 2015 under the GSP to €27.7 M under the MFN, which would increase the total ID by €11.3 M, raising them from €44.6 M to €55.9 M.

Tableau 3 – GSP or MFN duties on Ghanaian exports of processed cocoa to the EU28-UK in 2015

1000 euros	Paste	Butter	Powder	Chocolate	Total
Imports	200177	77795	31382	41	309395
GSP rate	6,10%	4,20%	2,80%	4,80%+9,35%	
MFN rate	9,60%	7,70%	8%	8,30%+9,35%	
GSP value	12211	3267	879	6	16363
MFN value	19217	5990	2511	7	27725

Source: Eurostat and TARIC

Even with the EPA we cannot expect that Ghanaian exports to the EU28-UK could rise in the future for two reasons:

- The stagnation and ageing of the EU28-UK population which is even expected to decline after 2030 by the UN revised population estimate of 2015.

- West African exports to the EU, of which from Ghana, will face a significant competitiveness erosion vis-à-vis the Andean and Central American countries having recently concluded FTAs with the EU as they will also enjoy duty free-quota free exports to the EU

⁵ http://trade.ec.europa.eu/doclib/docs/2016/march/tradoc_154349.pdf

except for bananas – where they will pay a declining duty, limited to €75 per tonne from 2020 on when the non LDCs ACPs will have to pay the full MFN duty of €127 per tonne without EPAs – and for chocolate for which they will have to pay the specific duty only but not the ad valorem duty. With the same duty paid by the Latin American countries' exports of bananas at 75 €/t from 2020 instead of the MFN duty of 127 €/t Ghana would pay in 2020 €1.684 M instead of €2.851 M, saving €1.167 M, on its 22,452 tonnes exported in 2015 to the EU28-UK (even if it has exported 28,590 tonnes to the UK).

II – The huge losses of duties on imports from the EU28-UK and on exports to ECOWAS Member States

The huge overestimate of the GSP duties that Ghana would have paid to the EU in 2015 and would have to pay in the future after the Brexit is far from telling the whole story about the ratification and likely implementation of the interim EPA. Indeed Ghana will have to suffer two large losses of duties: those on imports from the EU and those to be paid on its exports to other WA states.

2.1 – The huge losses of duties linked to the progressive liberalization of 75.1% of Ghanaian imports from the EU28-UK

We have completely recalculated, tariff line by tariff line, the data presented in the quoted document of April 2016 and used again for the previous paper "*Ghana's thoughtless ratification of the interim EPA, based on false data*" of 9 August 2016 to better stick to the timetable for the 4 groups of products excluded from liberalization (D) or liberalized (A, B and C) and to the rates of ID provided in the EPA Agreement (0%, 5%, 10%, 20% and 35%)⁶. Appendix 2 shows the detailed data. Let us underscore that the losses of custom revenues (import duties + VAT on imports) are the gap between the revenues without the EPA and their level with the EPA.

Table 4 summarizes the appendix 2 and shows that liberalized imports in the EPA would reach 75.1% of total imports from the EU28-UK on the basis of data for 2015 (instead of 80.4% previously estimated). Annual import duties on liberalized imports would fall with the EPA from €151 M in T – before addition of their increase due to the gap between EU FOB⁷ and Ghana CI, to population increase and to trade diversion – to 0 in T20.

Table 4 – EU28-UK exports to Ghana in 2015 and reduction of import duties with the EPA

€ 1000		EU exports/Ghana	Levels of import duties on EU FOB exports to Ghana				
Group	Duty rate	in EU FOB	T (2015)	T5 (2020)	T10 (2025)	T15 (2030)	T20 (2035)
D	0%,10%,20%, 35%	606644	117696	117696	117696	117696	117696
A	0 & 5%	783736	36001	0	0	0	0
B	0%, 5%, 10%	921459	90710	90710	45355	0	0
C	5% & 20%	128076	24179	23700	118509	5925	0
A+B+C	8.23% on average	1833271	150890	114410	57205	5925	0
A+B+C+D	11.05% on average	2429915	268587	232106	174901	123621	117696
ABC/ABCD		75,14%	56,18%	49,29%	32,71%	4,79%	0

Table 5 shows the addition to imports at EU28-UK FOB value of several components, with some change in relation to the previous assessment of 9 August 2016:

⁶ http://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153869.pdf

http://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153870.pdf

Group A covers essential social goods, basic necessities, basic commodities, capital goods and specific inputs; group B includes mainly inputs and intermediate goods and group C covers mainly final consumption goods.

⁷ FOB (free on board): price of a product ready to be exported (port, airport, station). CIF (cost, insurance, freight): price of a product once arrived in the country of importation, before import duties.

- Addition of 30% to the FOB value to get the CIF value in Ghana.
- Addition of imports and ID due to the growth of Ghanaian population, assuming that imports would rise at 2/3 of the rate of population growth.
- Addition of 25% to the CIF values to reflect the diversion of Ghanaian imports in favour of the EU28-UK, to the detriment of imports from the other WA States and from third countries. Clearly this addition is made only in the case of EPA but does not work without the EPA. And it is likely that the real trade diversion will be lower because the loss of competitiveness of Ghanaian companies and the losses of customs revenues would also limit the increase in imports from the EU.
- Addition of losses in the value added tax (VAT) on imports since it is levied on the CIF value plus import duties. We have used the 16% standard rate of ECOWAS although it is now of 17.5% in Ghana but with many exemptions⁸.

Table 5 – Ghana's losses of duties on the liberalized imports from EU28-UK from 2020 to 2050

Euros million	EU exports and ID in T (2015)		Import duties (ID) on EU28-UK FOB exports to Ghana			
	EU FOB value	ID on EU FOB	T5 (2020)	T10 (2025)	T15 (2030)	T20 (2035)
Imports and duties in West Africa CIF value for liberalized products (+30% on EU28-UK FOB values)						
	2382,3	196,2	148,7	74,4	7,7	0
Imports and duties in West Africa CIF value for liberalized products taking into account population's increase						
		T à T5	T5 à T10	T10 à T15	T15 à T20	T20 à T35
Population growth rate: %/year		2,18%	1,98%	1,82%	1,71%	1,49%
Imports growth rate "		1,45%	1,32%	1,21%	1,14%	0,99%
	T	T5	T10	T15	T20	T35
Total liberalized imports	2382,3	2560	2733,6	2903	3072,3	3561,6
Imports duties with EPA	196,2	159,8	79,4	8,2	0	0
Imports and duties with trade diversion of liberalized products (+25% on WA CIF value)						
Total liberalized imports	2382,3	3200	3417	3628,8	3840,4	4452
Imports duties with EPA	196,2	199,8	99,3	10,3	0	0
Total annual losses of customs duties including on VAT on imports						
ID rate without EPA	8,23%	8,23%	8,23%	8,23%	8,23%	8,23%
ID without EPA	196,3	210,7	225	238,9	252,9	293,1
Imports + ID without EPA	2578,5	2770,7	2958,6	3141,9	3325,2	3854,7
VAT at 16% without EPA*	412,6	443,3	473,4	502,7	532	616,8
ID + VAT without EPA	608,9	654	698,4	741,6	784,9	909,9
Imports + ID with EPA	2578,5	3399,8	3516,3	3639,1	3840,4	4452
VAT with EPA	412,6	544	562,6	582,3	614,5	712,3
VAT gains with EPA	0	100,7	89,2	79,6	82,5	95,5
ID losses with EPA	0	50,9	125,7	228,6	252,9	293,1
Net VAT+ID losses with EPA	0	-49,8	36,5	149	170,4	497,6
Cumulative losses of customs revenues (ID + VAT) on liberalized imports with EPA from T5 to T20 (2020) and T35 (2050)						
Cumulative losses	0	-49,8	-155,9	348,9	1162,3	3931,3

Table 6 presents the annual and cumulative losses of customs duties on liberalized products (ID + VAT) from T5 (2020) to T35 (2050): the EPA would first generate cumulative net gains from T5 to T12 (2027) because additional VAT due to trade diversion are larger than the losses of ID, after which the losses would rise fast, from €73.2 M in T13 (2028) to €1.162 billion in T20 (2035), exploding at €3.931 billion in T35 (2050).

Table 6 – Ghana's annual & cumulative losses of ID and VAT on imports from EU28-UK with EPA

€ million	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Annual						-49,8	-37,3	-22,8	-6	13,5	36,5	55,1
Cumulative						-49,8	-87,1	-109,9	-205,9	-192,4	-155,9	-100,8
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Annual	75,6	98,4	123,7	151,7	155,3	158,9	162,7	166,4	170,4	172,1	173,8	175,6
Cumulative	-25,2	73,2	196,9	348,6	503,9	662,8	825,5	991,9	1162,3	1334,4	1508,2	1683,8
	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Annual	177,3	179,1	180,8	182,7	184,4	186,2	188,1	190	191,9	193,8	195,7	197,6
Cumulative	1861,1	2040,2	2221	2403,7	2588,1	2774,3	2962,4	3152,4	3344,3	3538,1	3733,8	3931,4

⁸ <https://www.pwc.com/gh/en/assets/pdf/ghana-tax-facts-and-figures-2015.pdf>

But let us underscore that the loss of customs revenues (ID + VAT) would be twice as high in the absence of trade diversion since it has the effect of increasing significantly VAT receipts in the case of EPA. Thus table 7 shows that the losses of ID + VAT would immediately appear in 2020, with accumulated losses rising to €638.5 M in 2025, € 1.761 billion in 2030, €3.175 billion in 2035 (T20) and €7.941 billion in 2050 (T35).

Table 7 – Ghana's annual & cumulative losses without trade diversion with EPA

€ million	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Annual						59	72,9	89,9	110,9	136,9	168,9	185,2
Cumulative						59	131,9	221,8	332,7	496,6	638,5	823,7
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Annual	203	222,6	244,1	267,6	272,6	277,6	282,7	288	293,4	296,3	299,2	302,2
Cumulative	1026,7	1249,3	1493,4	1761	2033,6	2311,2	2593,9	2881,9	3175,3	3471,6	3770,8	4073
	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Annual	305,2	308,2	311,2	314,3	317,4	320,6	323,7	326,9	330,2	333,5	336,8	340
Cumulative	4378,5	3686,4	4997,6	5311,9	5629,3	5949,9	6273,6	6600,5	6930,7	7264,2	7601	7941

The actual losses could be between these two extremes if the trade diversion were limited to 12.5% of the CIF imports coming from the EU28-UK.

2.2 – The import duties to pay on Ghanaian exports to the other ECOWAS Member States

The other ECOWAS Member States would be forced to tax their imports from Ghana on the basis of the ECOWAS CET (common external tariff) in order not to be flooded with EU products that Ghana would import duty free. Even if the share of Ghana exports to ECOWAS was limited to €842 M in FOB value in 2013⁹, or only 8.8% of its total exports of €9.5 bn or one third (33.4%) of its exports to the EU28 of €2.8 bn, nevertheless these exports to the other ECOWAS Member States would have led to import duties of around €140 M in Ghana FOB value (implying an average import duty of 16.6%) and €161 M in ECOWAS CIF value (assuming an average gap of 15% between FOB and CIF). And these duties will rise to €178 M in 2020, taking into account 2/3 of the growth rate of the population between 2013 and 2020. After that the growth rate of these import duties will slow down to 1.32% between 2020 and 2025, 1.21% between 2025 and 2030, 1.14% between 2030 and 2035 and 0,99% between 2035 and 2050. We see that these duties to ECOWAS exceed already in 2021 the GSP duties to pay to the EU28-UK without the EPA.

Some claim that the other Member States of ECOWAS should not tax their imports of Ghana (and Ivory Coast) for their liberalized imports from the EU but only their domestic products. However, this restriction does not hold as their domestic products will benefit from lower production costs due to their duty free imports of inputs and equipment from the EU. Since Ghana imports of liberalized products of groups A taxed at 5% (for commodities, capital goods and specific inputs) and B taxed at 10% (on inputs and intermediate goods) have represented 93% of all imports of liberalized goods and 70.2% of all imports (including excluded products), this implies that the bulk of imports are not finished products. The petroleum products alone (in fact the whole HS chapter 27) accounted for 26.2% of Ghana total imports from the UK EU28- in 2015, which were taxed at 9.90% on average in 2015 and this alone would reduce significantly the cost of production and especially the transport cost of all domestic products. It remains to be seen however the extent to which the implementation of Ghana and Ivory Coast interim EPAs would lead to their eviction from ECOWAS and on the way the lax ECOWAS rules of origin would limit duty free imports from Ghana.

⁹ The ITC TradeMap does not provide data for 2014 or 2015.

2.3 – The cumulative losses of customs revenues on imports from the EU and on exports to the other ECOWAS Member States, net of GSP duties without EPA

Tables 8 and 9 show the cumulative losses of customs revenues from 2020 to 2050 on imports from the EU28-UK linked to the EPA plus the import duties to pay on exports to ECOWAS, net of the cumulative GSP+MFN duties to pay on Ghana's exports to the EU28-UK if the EPA is not implemented, and this depending on whether or not trade diversion is taken into account (table 8) or not (table 9).

Since Ghana will begin to liberalize imports from the EU28-UK from T5 (2020) on – assuming the interim EPA schedule would be aligned on that of the regional EPA – it is from there that it will have to pay duties on its exports to other ECOWAS countries. Without taking into account these import duties on exports to ECOWAS, it is only in T19 (2034) that the cumulative losses due to the market opening of EPA would exceed the cumulative GSP+MFN duties without the EPA.

Table 8 – Ghana's cumulative losses of duties on EU28-UK and ECOWAS net of GSP: 2015 to 2050

€ 1000	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
GSP	44,6	89,2	133,8	178,	223	267,6	312,2	356,8	401,4	446	490,6
Loss on EU						-49,8	-87,1	-109,9	-205,9	-192,4	-155,9
Loss/Ecowas						178,1	358,5	541,3	726,5	914,2	1104,3
Total loss						128,3	271,4	431,4	520,6	721,8	948,4
Net loss	-44,6	-89,2	-133,6	-178	-223	-139,3	-40,8	74,6	119,2	275,8	457,8
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2050
GSP	535,2	579,8	624,4	669	713,6	758,2	802,8	847,4	892	936,6	1605,6
Loss on EU	-100,8	-25,2	73,2	196,9	348,6	503,9	662,8	825,5	991,9	1162,3	3931,4
Loss/Ecowas	1296,7	1419,2	1688,6	1888,1	2090	2294,2	2500,8	2709,8	2921,1	3134,8	5796
Total loss	1195,9	1394	1761,8	2085	2438,6	2798,1	3163,6	3535,3	3913	4297,1	9727,4
Net loss	660,7	814,2	1137,4	1416	1725	2039,9	2360,8	2687,9	3021	3360,5	8121,8

But, without taking into account these losses of duties on EU28-UK exports to Ghana, as soon as T6 (2021) the cumulative losses due to Ghana's exports to the other ECOWAS countries with the EPA would exceed the cumulative GSP+MFN duties without the EPA if all Ghana's exports to the other ECOWAS countries would be taxed (in practice if Ghana would be excluded from ECOWAS). So that the net cumulative losses of duties on imports from the EU28-UK plus those to pay on exports to other ECOWAS States minus the GSP duties to pay on Ghana exports to the EU28-UK without EPA would become positive in T7 (2022) at €74.6 M and then would rise to €457.8 M in T10 (2025), €1.725 billion in T15 (2030), €3.361 billion and finally €8.122 billion in 2050!

Table 9 – Ghana's cumulative losses of duties on EU28-UK and ECOWAS net of GSP: 2015 to 2050

€ 1000	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
GSP	44,6	89,2	133,8	178,	223	267,6	312,2	356,8	401,4	446	490,6
Loss on EU						59	131,9	221,8	332,7	496,6	638,5
Loss/Ecowas						178,1	358,5	541,3	726,5	914,2	1104,3
Total loss						237,1	490,4	763,1	1059,2	1410,8	1742,8
Net loss	-44,6	-89,2	-133,6	-178	-223	-30,5	178,2	406,3	657,8	964,8	1252,2
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2050
GSP	535,2	579,8	624,4	669	713,6	758,2	802,8	847,4	892	936,6	1605,6
Loss on EU	823,7	1026,7	1249,3	1493,4	1761	2033,6	2311,2	2593,9	2881,9	3175,3	7941
Loss/Ecowas	1296,7	1419,2	1688,6	1888,1	2090	2294,2	2500,8	2709,8	2921,1	3134,8	5796
Total loss	2120,4	2445,9	2937,9	3381,5	3851	4327,8	4812	5303,7	5803	6310,1	13737
Net loss	1585,2	1866,1	2313,5	2712,5	3137,4	3569,6	4009,2	4456,3	4911	5373,5	12131,4

Without trade diversion table 9 shows that the cumulative loss of ID+VAT duties on imports from the EU28-UK would exceed already in T9 (2024) the GSP ID to pay on Ghana's exports to the EU28-UK and they would become 3.4 times larger in T20 (2035) and 5 times in T35

(2050). So that there is no need to take into account the losses of duties to pay on Ghana exports to ECOWAS countries.

2.4 – How then can we explain this large underestimate of Ghana ID losses if the WA EPA is not implemented?

This large underestimate of ID losses by Ghana's Ministry of Trade and Industry (MOTI) is due to multiple factors among which the serious inadequacy of the impact study by the World Bank and the MOTI of January 2015 on the basis of 2013 data¹⁰. The large shortcomings of the TRIST model used are highlighted in the study itself and confirmed in the Fontagné's report.

- Underestimate of the percentage of the value of products liberalized at 65% when we have shown it was of 75% in 2015 (for the EU28-UK).

- Assumption that total government revenues, including ID and VAT on imports, would increase by 3% annually based on the growth rate calculated by the IMF, adding: "*As other revenue sources increase in importance, the relative reliance on import revenues and hence the noticeable impact of import revenue losses from the EPA will fall*". It is then easy to deduce that the EPA would increase them by 1.2% per year without the CET reform. Yet the latest IMF report on Ghana is less optimistic because growth has slowed down at 2.5% from the first 4 months of 2015 to those of 2016, and the share of import revenues from trade taxes has not fallen, increasing from 16.7% of tax revenues (excluding VAT on imports charged to indirect taxes) and 15.2% of budget revenues (excluding foreign grants) to 17.4% and 16.9% respectively anticipated for 2016¹¹.

- According to the study "*By the time the EPA has been fully implemented in 2035, annual imports are forecast to be 0.5 percent higher than they would be under the CET, but 0.5 percent lower than they are currently. Again, this is a static model, and as such does not account for any rise in imports due to causes other than the CET and EPA... Imports as well as other sources of revenue are likely to grow and be affected by other shocks not accounted for by the model over the same time period*". It is contradictory to assume a 3% economic growth without any growth in imports! It is then easy to deduce that the EPA would increase imports and revenues by 1.2% per year without the CET reform. SOL estimated that Ghana's imports would increase by 61% from 2025 to 2035.

- Large underestimate of trade diversion, between zero and 2.8% of imports by 2035 according to sectors, while the joint study by Fontagné and Laborde of IFPRI estimated it at 32.5 % for WA. SOL has retained 25%.

- The study assumes that the EPA would increase by 77% the profitability of the manufacturing sector due to lower prices of imported inputs and equipment from the EU. Forgetting the loss of competitiveness due to the competition of finished goods imported from the EU. Yet the study acknowledges that "*The EPA will result in an unambiguous reduction in preference margins within the ECOWAS market. However, the effect of this on Ghanaian exporters will depend on the specific products excluded from liberalization, and the products in which the European Union competes with Ghanaian exporters*".

- The study simply states that "*the effect of EPA on Ghana's exports to other ECOWAS countries is ambiguous*" when we have shown that it will result in payment of large ID. Yet the study itself acknowledges that Ghana's exports to the rest of ECOWAS are much larger than those to the EU: "*The most important export market for employment is ECOWAS: exporters to*

¹⁰ MacLeod, Jamie; Von Uexkull, Jan Erik; Shui, Lulu, *Assessing the economic impact of the ECOWAS CET and economic partnership agreement on Ghana*, 1st January 2015, <http://documents.worldbank.org/curated/en/845041467999971258/Assessing-the-economic-impact-of-the-ECOWAS-CET-and-economic-partnership-agreement-on-Ghana>

¹¹ <https://www.imf.org/external/pubs/ft/scr/2016/cr16321.pdf>

ECOWAS employed 38.7 percent of the sample's workers. The second most important market was the European Union: exporters to the European Union employed 4.9 percent of the sample's workers". But the study assumes that the free movement of goods will continue in case of implementation of the regional EPA without questioning the implementation of the interim EPAs of Ghana and Ivory Coast. However, by signing the regional EPA, LDCs (except the Gambia and Mauritania) accepted reluctantly the correlative losses of tariff revenues without questioning the free movement of goods within ECOWAS. It is likely that they would now challenge their previous stance after the implementation of Ghana's and Ivory Coast's interim EPAs to which they were not associated and which are contradicting the provisions of the regional EPA, including on PAPED.

III – The other constraints linked to the ratification of Ghana's interim EPA

The ratification and implementation of the interim EPAs of Ghana and Ivory Coast would sign the end of the ECOWAS free movement of goods, of the Common External Tariff (CET) and more generally of the first objective of the regional EPA which was to foster regional integration. So that Ghana might be excluded from ECOWAS and from all or most of the benefits provided through its various common policies, of which the ECOWAP (common agricultural policy).

Even if Ghana, having implemented the interim EPA, would clearly not be excluded from the EPADP (development assistance program of the EPA) for its national investment programme, the EPADP would be reduced after the Brexit, especially the part coming from the 11th EDF (European Development Fund) funded by the EU Member States (of which 14.5% by the UK) and not by the Community budget.

Above all we cannot forget all the EPA constraints which would limit Ghana's policy space to foster its development:

- Export taxes (article 16 of the iEPA and article 13 of the WA EPA): interdiction to raise export taxes beyond the level at T.
- Standstill clause (article 15 of the iEPA and article 9 of the WA EPA): "*Ghana may revise until 31 December 2011 its basic customs duties applying to goods originating in the European Community as long as the general incidence of those duties is not higher than the one of the duties specified in Annex 2*". This provision would be in contradiction with the likely DG Trade proposal to align the specific provisions of the iEPA with those of the WA EPA, particularly on tariff offers as the maximum import duty of the iEPA was of 20% against 35% in the WA EPA.
- The MFN clause (article 17 of the iEPA and article 6 of the EPA) would require Ghana to give the EU any more favorable treatment, particularly tariff reductions, resulting from agreements with other major developed or emerging countries.
- The "rendez-vous" clause (article 44 of the iEPA and article 106 of the WA EPA) provides that, six months after the conclusion of the EPA, negotiations should begin to expand the EPA liberalizations to new issues that all DCs have refused at the WTO: services, intellectual property, investment, competition, government procurement, current payments and capital movements, etc.
- Bilateral safeguards (article 25 of iEPA and article 22 of WA EPA): whereas safeguards are the same, the WA EPA provides that they will be applicable 4 years, with the possibility of renewing for additional 4 years but the iEPA provides that they will be available for at most 2 years with the possibility of renew at most for 2 years. However this paragraph 6.b of Article 25 is contradictory since it adds: "*this measure may nevertheless be applied for*

a period of no more than four years and, when the circumstances justifying the imposition of safeguard measures continue to exist, be extended for a further four-year period". Let us add that the WA EPA provides that the EU takes exceptional safeguards when "the average Community price of white sugar falls during two consecutive months below 80 percent of the Community average price for white sugar recorded during the previous marketing campaign".

- Infant industry clause (article 23 of the WA EPA): the iEPA has not such specific article even though the article 16 on export taxes and 25 on bilateral safeguards of the iEPA mention the infant industry issue as an argument to increase them, an argument which is also mentioned in the corresponding articles 13 and 22 of the WA EPA. The article 23 of WA EPA underscores that "*These measures may be applied for a period of up to eight (8) years. The application of the measures may be extended by a decision of the Joint Council of the EPA*", which is much longer than "*on temporary basis*" in "*exceptional circumstances*" allowed for export taxes and the four years mentioned for bilateral safeguards.

- Multilateral safeguards (article 21 of the WA EPA): the WA EPA provides that the EU would refrain to use the multilateral safeguards of GATT article XIX, the Safeguard agreement and article 5 of the Agreement on Agriculture (the special safeguard which can be triggered for excessive import quantities or too low import prices) but only for 5 years. Which implies that it could use them afterwards. There is no article for multilateral safeguards in the iEPA, and no allusion is made to the ECOWAS safeguards. Yet the complementary protection tax (CPT) – a surtax to the CET-ECOWAS – is applied to products imported from third countries in two cases: when the volume of imports of a product in a year increases by more than or equal to 25% than the average of imports of the last three years, or when the average CIF price over one month of an imported product falls below 80% of the average import prices of the last three years. ECOWAS countries may set the level of the CPT up to a maximum of 70%, within each ECOWAS country's bound MFN level within the WTO. So that we see that this CPT is much broader than the bilateral safeguards of the WA EPA or the iEPAS as it applies also to low import prices and that the WA EPA and IC iEPA prevent to use this ECOWAS CPT to imports from the EU, in contradiction with ECOWAS regional integration.

- Prohibition of quantitative restrictions (article 18 of the iEPA and article 34 of WA EPA), which is even more abnormal that the EU uses them for its agricultural products in its other free trade agreements. As the EU sensitive products concern temperate products not exported by WA (of which Ghana), with the exception of sugar which is a product of both climates, this provision penalizes only IC.

- The sharp drop in tax revenues would reduce all budgets devoted to education, health, small farmers and environment protection. The more so as Ghana, as the rest of WA, is already facing three structural challenges: population explosion, climate change and food deficit, even with the EU if we exclude cocoa when the average food deficit was of €75.6 million from 2010 to 2015. To which we could add the collapse in the last two years of most commodities prices except cocoa, of which of oil products (having accounted for 33.9% of Ghana's total exports to the EU28-RU in 2015).

- Without forgetting that Ghana will suffer from the EU dumping of its agricultural products as the EPA will liberalize 32% of Ghana imports of agricultural products from the EU at T20. In 2013 the EU subsidies to its agricultural exports to Ghana reached €70.9 million, of which €36 million to bovine meat, €19.3 million to poultry meat, €8.3 million to cereals, €5.4 million to dairy products and €2 million to pig meat. The more so as the EU has refused to deal with the issue of its domestic agricultural subsidies in the EPA, that it refuses to deal as well at the WTO, alleging that most of them are fully decoupled and notified in the green box.

IV – Conclusion: two favorable alternatives to the EPA exist but the EU refuses them

The first alternative would be to get a WTO waiver for all sub-Saharan Africa (SSA) EPAs, of which to West Africa and the two interim EPAs, as the United States (US) example which got a WTO consensus in 2015 to renew for 10 years its preferential trade agreement with SSA, with a formal approval of the EU Council and Parliament. This would be easily obtained for the EU since the banana war with Andean and Central American exporting countries – which were at the origin of the EU condemnation at the WTO and the abandonment of the Lomé conventions for the Cotonou Agreement establishing the EPAs – has been buried twice: in December 2009 at the WTO and since the FTAs signed with the EU in 2012 (in 2015 for Ecuador) having reduced even more the duty per tonne.

The second alternative would be to get the GSP+ status for Ghana (and also for IC and Nigeria), which should not pose a legal objection since they have now signed or ratified the 27 international conventions required¹² and since they fulfill the criteria of economic vulnerability, which was confirmed by a DG Trade e-mail of 13 June 2016. Bern Lange, President of the European Parliament's INTA Committee, has also suggested to Kenya file its request for GSP+ as an alternative to the East Africa EPA since Tanzania and Burundi refuse to sign.

When Ghana exports to the EU28-UK would have had to pay €55.9 million in 2015 to the EU-UK under GSP + MFN (if the EU imposes Article 8 of Annex VI of Regulation 978/2012 of 25 October 2012 on GSP as Ghana exports of cocoa products have exceeded 17.5% of the EU imports from GSP countries in the last three years), it would have had to pay only €5.030 million, less than ten times, with GSP+ because most EU sensitive agricultural products for GSP (€43.152 million) are duty free for GSP+ (3.648 million). The most sensitive GSP+ are fruits (fresh bananas only) for €2.851 million, vegetables (mainly yams) for €0.701 million and milling products for €78,788. The only non-agricultural sensitive product for which Ghana would have to pay GSP+ duties is aluminium (HS chapter 76) for €1.382 million. In fact Ghana should not pay more than €3.863 M for GSP+ in 2020 if it could get the same 75 €/t duty on bananas granted to the Latin American countries having signed FTAs with the EU.

Despite the disasters to be expected from the EPA, the present Ghanaian politicians would no longer be there, as soon as 2025, to explain their decision. And the present EU Ambassador to Ghana, William Hanna, would himself not be accountable of his declaration that the EPA ratification "*is a win/win deal for Ghana and the European Union*"¹³.

¹² The list of the 27 conventions is given at the end of the EU impact assessment report of January 2016 on the GSP countries and Ghana's signature or ratification can be checked on 3 United Nations websites: [https://eeas.europa.eu/delegations/costa_rica/documents/eu_costa_rica/european_commission._\(2016\)._report_o_n_the_generalised_scheme_of_preferences_during_the_period_2014-2015..pdf](https://eeas.europa.eu/delegations/costa_rica/documents/eu_costa_rica/european_commission._(2016)._report_o_n_the_generalised_scheme_of_preferences_during_the_period_2014-2015..pdf)
https://treaties.un.org/Pages/TreatyParticipantSearch.aspx?clang=_en;
http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103231
<https://cites.org/eng/disc/parties/chronolo.php>

¹³ <https://www.facebook.com/EuDelegationToGhana/posts/627971517370730>

Appendix 1 – GSP duties that Ghana would have had to pay to the EU28 or the EU28-UK in 2015 without EPA

Euros	EU28 Imports from Ghana			EU28-UK imports from Ghana		
	Harmonised System chapters	Imports	GSP duties	GSP rate	Imports	GSP duties
1- Live animals	86588	0		78329	0	
2- Meats						
3- Fish	17717677	1232361	6,96%	17625557	1226739	6,96%
4- Dairy produce	235			235		
5- Products of animal origin	0	0				
6- Live trees and other plants	1792326	8841	0,49%	1792326	146620	
7- Vegetables	20306557	1012566	4,99%	5873202	749888	
8- Fruits	105698454	7818292	7,40%	60233111	4457250	7,40%
9- Coffee, tea, spices	163786	155	0,09%	152282	137	0,09%
0 - Cereals	3904			2228		
1- Milling products	1068059	215509	20,18%	400676	80856	20,18%
2- Oilseeds	39102639	37	#0	38981749		#0
3- Lac, gums, resins	13481	0		2096		
4- Vegetable plaiting materials	1746053	0		1674898		
5- Animal and vegetable fats and oils	32999720	1383772	4,19%	31527995	1321023	4,19%
6- Preparations of meats and fish	170626191	34978369	20,50%	91256680	18707619	20,50%
7- Sugars and sugar confectionery	1265			123		
8- Cocoa and cocoa preparations	104533230	17835435	1,71%	975139411	16366644	1,68%
9- Preparations of cereals	2125437	218615	10,29%	165912	17072	10,29%
0- Preparations of vegetables, fruit	6445262	625871	9,71%	6139549	596150	9,71%
1- Miscellaneous edible preparations	1067418	91418	8,56%	661031	56584	8,56%
2- Beverages	483906	24371	5,04%	402073	20264	5,04%
3- Residues, oilseeds meals	251951	0		251951		
24- Tobacco						
Sub-total 01-24	1446981718	65445612	4,52%	1232361414	43152252	3,50%
25- Salt, sulphur, earths, cement	7805	0		7805	0	
26- Ores, slag and ash	13464988	0		13464988	0	
27- Mineral fuels, mineral oils	759304462	0		717034108	0	
28- Inorganic chemicals	596	0		596	0	
29- Organic chemicals	2812	0		423	0	
30- Pharmaceutical products	217536	0		33824	0	
31- Fertilizers	35054	6	0,02%	35054	6	0,02%
32- Tanning or dyeing extracts	90	0		90	0	
33- Essential oils	2539348	0		1790254	0	
34- Soap and washing preparations	64589	0		49195	0	
35- Albuminoidal substances	61	0		61	0	
36- Explosives; pyrotechnic products	0	0		0	0	
37- Photographic or cinematographic goods	389	0		389	0	
38- Miscellaneous chemical products	808020	0		808020	0	
39- Plastics	58669	0		42535	0	
40- Rubber	22105943	82	#0	17645253	#0	
41- Raw hides and skins						
42- Articles of leather	56199	0		47199	0	
43- Furskins and artificial fur		0			0	
44- Wood and articles of wood	30442826	6618	0,02%	27381829	5476	0,02%
45- Cork and articles of cork	1072	0		1072	0	
46- Manufactures of straw	526442	0		504652	0	
47- Pulp of wood		0			0	
48- Paper and paperboard	19328	0		6963	0	
49- Printed books, newspapers	44504	0		26563	0	
50- Silk						
51- Wool						
52- Cotton	13720	878	6,40%	3623	232	6,40%
53- Other vegetable textile fibres	78028	0		78028	0	
54- Man-made filaments	1090			1090		
55- Man-made staple fibres		0			0	
56- Wadding, felt and nonwovens	28			28		
57- Carpets and floor coverings	4755			4755		
58- Special woven fabrics						
59- Covered textile fabrics	390	0		390	0	
60- Knitted or crocheted fabrics	90	0		90	0	
61- Apparel knitted or crocheted	19150	1777	9,28%	14711	1365	9,28%
62- Apparel not knitted or crocheted	108245	10264	9,48%	48549	4602	9,48%
63- Other made up textile articles	24755	958	3,87%	23521	910	3,87%
64- Footwear	4194	274	6,53%	4194	274	6,53%
65- Headgear	3261	0		2106		
66- Umbrellas	694	0		694	0	
67- Prepared feathers and down	58500	0		58500	0	
68- Articles of stone, plaster, cement	3260	0		1667	0	

69- Ceramic products	90622		0	90465		0
70- Glass and glassware	32171		0	27489		0
71- Natural or cultured pearls	5931621		0	5854179		0
72- Iron and steel	768368		0	737111		0
73- Articles of iron or steel	2131251		0	1259331		0
74- Copper and articles thereof	23233871		0	23242599		0
75- Nickel and articles thereof	25497		0	25497		0
76- Aluminium and articles thereof	46409813	1382173	2,98%	46402306	1382789	2,98%
78- Lead and articles thereof	9929677		0	9929677		0
79- Zinc and articles thereof						
80- Tin and articles thereof	82		0	82		0
81- Other base metals						
82- Tools, implements, cutlery	394368		0	391315		0
83- Miscellaneous articles of metal	185577		0	185577		0
84- Nuclear reactors, boilers, machinery	12917381		0	9585484		0
85- Electrical machinery and equipment	3697792	0	0	3409614		0
86- Railway or tramway locomotives	182		0	182		0
87- Other vehicles	2515694	19011	0,76%	598253	4547	0,76%
88- Aircraft	404732		0	397049		0
89- Ships	482477		0	482477		0
90- Optical, photographic, cinematographic	2359552		0	908371		0
91- Clocks and watches	1475		0	1475		0
92- Musical instruments	263970		0	224594		0
93- Arms and ammunition						
94- Furniture; bedding	70738		0	65208		0
95- Toys, games and sports requisites	20643		0	17878		0
96- Miscellaneous manufactured articles	285053		0	462		0
97- Works of art	24893		0	14860		0
99- Other products	4353937		0	1284411		0
Sub-total 25-99	946552330	1422041	0,15%	884258765	1400201	0,16%
Total	2394159264	66867653	2,79%	2116620179	44552453	2,10%
01-24/total	60,43	97,87		58,22%	96,86%	

Source: Eurostat and TARIC (http://ec.europa.eu/taxation_customs/dds2/taric/taric_consultation.jsp?Lang=fr)

Appendix 2 – EU28-UK FOB exports to Ghana and ID by group and rate, in euros: T to T20

HS chapters	Group	ID rate	Exports	T (2015)	T5 (2020)	T10 (2025)	T15 (2030)	T20 (2035)
01-02	D	35%	78173998	27360899,3	27360899,3	27360899,3	27360899,3	27360899,3
03-04		35%	17805	6231,8	6231,8	6231,8	6231,8	6231,8
05-08		35%	978143	342350,2	342350,1	342350,1	342350,1	342350,1
15-18		35%	7660529	2681185,2	2681185,2	2681185,2	2681185,2	2681185,2
19-24		35%	6771982	2370193,7	2370193,7	2370193,7	2370193,7	2370193,7
29-37		35%	1522198	532769,3	532769,3	532769,3	532769,3	532769,3
51-59		35%	4075885	1426559,8	1426559,8	1426559,8	1426559,8	1426559,8
Sous-total		35%	9920540	34720189	34720189	34720189	34720189	34720189
01-02	D	20%	854086	170817,2	170817,2	170817,2	170817,2	170817,2
03-04		20%	8271741	1654348,2	1654348,2	1654348,2	1654348,2	1654348,2
05-08		20%	2089474	417894,8	417894,8	417894,8	417894,8	417894,8
09-14		20%	212702	42540,4	42540,4	42540,4	42540,4	42540,4
15-18		20%	28070261	5614052,2	5614052,2	5614052,2	5614052,2	5614052,2
19-24		20%	82257779	16451555,8	16451555,8	16451555,8	16451555,8	16451555,8
25-28		20%	10222119	2044423,8	2044423,8	2044423,8	2044423,8	2044423,8
29-37		20%	22714370	4542874	4542874	4542874	4542874	4542874
38-43		20%	18643466	3728693,2	3728693,2	3728693,2	3728693,2	3728693,2
44-50		20%	9615211	1923042,2	1923042,2	1923042,2	1923042,2	1923042,2
51-59		20%	2223805	444761	444761	444761	444761	444761
60-62		20%	1766250	353250	353250	353250	353250	353250
63-70		20%	53097547	10619509,4	10619509,4	10619509,4	10619509,4	10619509,4
71-73		20%	42684	8536,8	8536,8	8536,8	8536,8	8536,8
74-76		20%	4591940	918388	918388	918388	918388	918388
77-83		20%	77498655	15499731	15499731	15499731	15499731	15499731
84		20%	4408586	881717,2	881717,2	881717,2	881717,2	881717,2
85		20%	4786402	957280,4	957280,4	957280,4	957280,4	957280,4
86-90		20%	32935665	6587133	6587133	6587133	6587133	6587133
91-97		20%	15796761	3159352,2	3159352,2	3159352,2	3159352,2	3159352,2
Sous-total		20%	380099504	76019900,8	76019900,8	76019900,8	76019900,8	76019900,8
03-04	D	10%	20774522	2077452,2	2077452,2	2077452,2	2077452,2	2077452,2
09-14		10%	380218	38021,8	38021,8	38021,8	38021,8	38021,8
15-18		10%	266487	26648,7	26648,7	26648,7	26648,7	26648,7
19-24		10%	125915	12591,5	12591,5	12591,5	12591,5	12591,5
29-37		10%	4283657	428365,7	428365,7	428365,7	428365,7	428365,7
38-43		10%	1507067	150706,7	150706,7	150706,7	150706,7	150706,7

51-59		10%	3079215	307921,5	307921,5	307921,5	307921,5	307921,5
63-70		10%	228276	22827,6	22827,6	22827,6	22827,6	22827,6
71-73		10%						
77-83		10%	96487	9648,7	9648,7	9648,7	9648,7	9648,7
86-90		10%	38821405	3882140,5	3882140,5	3882140,5	3882140,5	3882140,5
Sous-total		10%	69563249	6956324,9	6956324,9	6956324,9	6956324,9	6956324,9
29-37	D	0%	57780539	0	0	0	0	0
Total	D	0% à 35%	606643832	117696414,7	117696414,7	117696414,7	117696414,7	117696414,7
01-02	A	5%	764061	38203,1				
03-04		5%	27193775	1359688,8	0	0	0	0
05-08		5%	2095163	104758,2	0	0	0	0
09-14		5%	25213353	1260667,7	0	0	0	0
15-18		5%	432216	21610,8	0	0	0	0
19-24		5%	9907866	495393,3	0	0	0	0
25-28		5%	30081200	1504060	0	0	0	0
29-37		5%	35552552	1777627,6	0	0	0	0
38-43		5%	36205490	1810274,5	0	0	0	0
44-50		5%	18613221	930661,1	0	0	0	0
51-59		5%	12367	618,4	0	0	0	0
63-70		5%	133088	6654,4	0	0	0	0
71-73		5%	363528	18176,4	0	0	0	0
74-76		5%	8016442	400822,1	0	0	0	0
77-83		5%	34427	1721,4	0	0	0	0
84		5%	330414203	16520710,2	0	0	0	0
85		5%	86829449	4341472,5	0	0	0	0
86-90		5%	108165586	5408279,3	0	0	0	0
91-97		5%		0	0	0	0	0
Sous-total		5%	720027987	36001399,5	0	0	0	0
25-28	A	0%	1249492	0	0	0	0	0
29-37			35311943	0	0	0	0	0
38-43			3860559	0	0	0	0	0
44-50			23856630	0	0	0	0	0
71-73			47349	0	0	0	0	0
85			619405	0	0	0	0	0
86-90			12380	0	0	0	0	0
Sous-total			63708266	0	0	0	0	0
Total A			783736253	36001399,4	0	0	0	0
01-02	B	10%	2808238	280823,8	280823,8	140411,9	0	0
03-04		10%	24810600	2481060	2481060	1240530	0	0
09-14		10%	3228020	322802	322802	161401	0	0
15-18		10%	571821	57182,1	57182,1	28591,05	0	0
19-24		10%	12247372	1224737,2	1224737,2	612368,6	0	0
25-28		10%	678413644	67841364,4	67841364,4	33920682,2	0	0
29-37		10%	21471055	2147105,5	2147105,5	1073552,8	0	0
38-43		10%	33167199	3316719,9	3316719,9	1658360	0	0
44-50		10%	6460399	646039,9	646039,9	323020	0	0
51-59		10%	528783	52878,3	52878,3	26439,2	0	0
63-70		10%	3298189	329818,9	329818,9	164909,5	0	0
71-73		10%	1407097	140709,7	140709,7	70354,9	0	0
74-76		10%	2197833	219783,3	219783,3	109891,7	0	0
77-83		10%	12969959	1296995,9	1296995,9	648498	0	0
84		10%	36907560	3690756	3690756	1845378	0	0
85		10%	29396142	2939614,2	2939614,2	1469807,1	0	0
86-90		10%	36028817	3602881,7	3602881,7	1801440,9	0	0
91-97		10%	1184407	118440,7	118440,7	59220,4	0	0
Sous-total		10%	907097135	90709713,5	90709713,5	45354856,8	0	0
09-14	B	5%				0	0	0
38-43		5%	3401971	0	0	0	0	0
71-73						0	0	0
Sous-total			3401971	0	0	0	0	0
29-37	B	0%	10960004	0	0	0	0	0
Total	B	0% à 10%	921459110	90709713,5	90709713,5	45354856,8	0	0
01-02	C	20%	755388	151077,6	151077,6	75538,8	37769,4	0
03-04		20%	507623	101524,6	101524,6	50762,3	25381,2	0
05-08		20%	987513	197502,6	197502,6	98751,3	49375,7	0
09-14		20%	225861	45172,2	45172,2	22586,1	11293,1	0
15-18		20%	32602	6520,4	6520,4	3260,2	1630,1	0
19-24		20%	456430	91286	91286	45643	22821,5	0
25-28		20%	42827425	8565485	8565485	4282742,5	2141371,3	0
29-37		20%	1476561	295312,2	295312,2	147656,1	73828,1	0
38-43		20%	13273321	2654664,2	2654664,2	1327332,1	663666,1	0
44-50		20%	413416	82683,2	82683,2	41341,6	20670,8	0

51-59		20%	526580	105316	105316	52658	26329	0
60-62		20%	593493	118698,6	118698,6	59349,3	29674,7	0
63-70		20%	10253138	2050627,6	2050627,6	1025313,8	512656,9	0
71-73		20%	1977359	395471,8	395471,8	197735,9	98868	0
74-76		20%	1688177	337635,4	337635,4	168817,7	84408,9	0
77-83		20%	3048581	609716,2	609716,2	304858,1	152429,1	0
84		20%	7333071	1466614,2	1466614,2	733307,1	366653,6	0
85		20%	14122511	2824502,2	2824502,2	1412251,1	706125,6	0
86-90		20%	1752294	350458,8	350458,8	175229,4	87614,7	0
91-97		20%	16250195	3250039	3250039	1625019,5	812509,8	0
Sous-total		20%	118501539	23700307,8	23700307,8	11850153,9	5925077	0
38-43	C	5%	9561601	478080,05	0	0	0	0
70-73				0		0	0	0
86-90		5%	12529	626,45	0	0	0	0
Sous-total		5%	9574130	478706,5		0	0	0
Total	C	5% et 20%	128075669	24179014,3	23700307,8	11850153,9	5925077	0
TOTAL	A+B+C		1833271032	150890127,2	114410021,3	57205010,7	5925077	0
TOTAL	A+B+C+D		2429914864	268586541,9	232106436	174901425,4	123621491,7	117696414,7
ABC/ABCD			75,14%	56,18%	49,29%	32,71%	4,79%	0