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Oficina de las Naciones Unidas
contra la Droga y el Delito



Centro de Excelencia para
INFORMACIÓN ESTADÍSTICA DE GOBIERNO,
SEGURIDAD PÚBLICA, VICTIMIZACIÓN Y JUSTICIA

Measuring illicit financial flows related to the cocaine market in Peru



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1. Main formula

Supply-based model

**INWARD
IFFs**

= Exports* x prices

Where:

Exports

= Production – Seizures – Consumption

2. The data

VARIABLES	DATOS RECOLECTADOS
National production	Area under illicit coca cultivation Conversion factors
National consumption	Population from 15 to 65 years old Annual prevalence (%) Amount consumed per capita (gram)
Seizures	Seized quantities and traffic routes Seizures by destination country
Prices	Retail/Wholesale prices in Peru Wholesale prices of the destination countries
Purity	Wholesale (domestic, transit and destination countries)

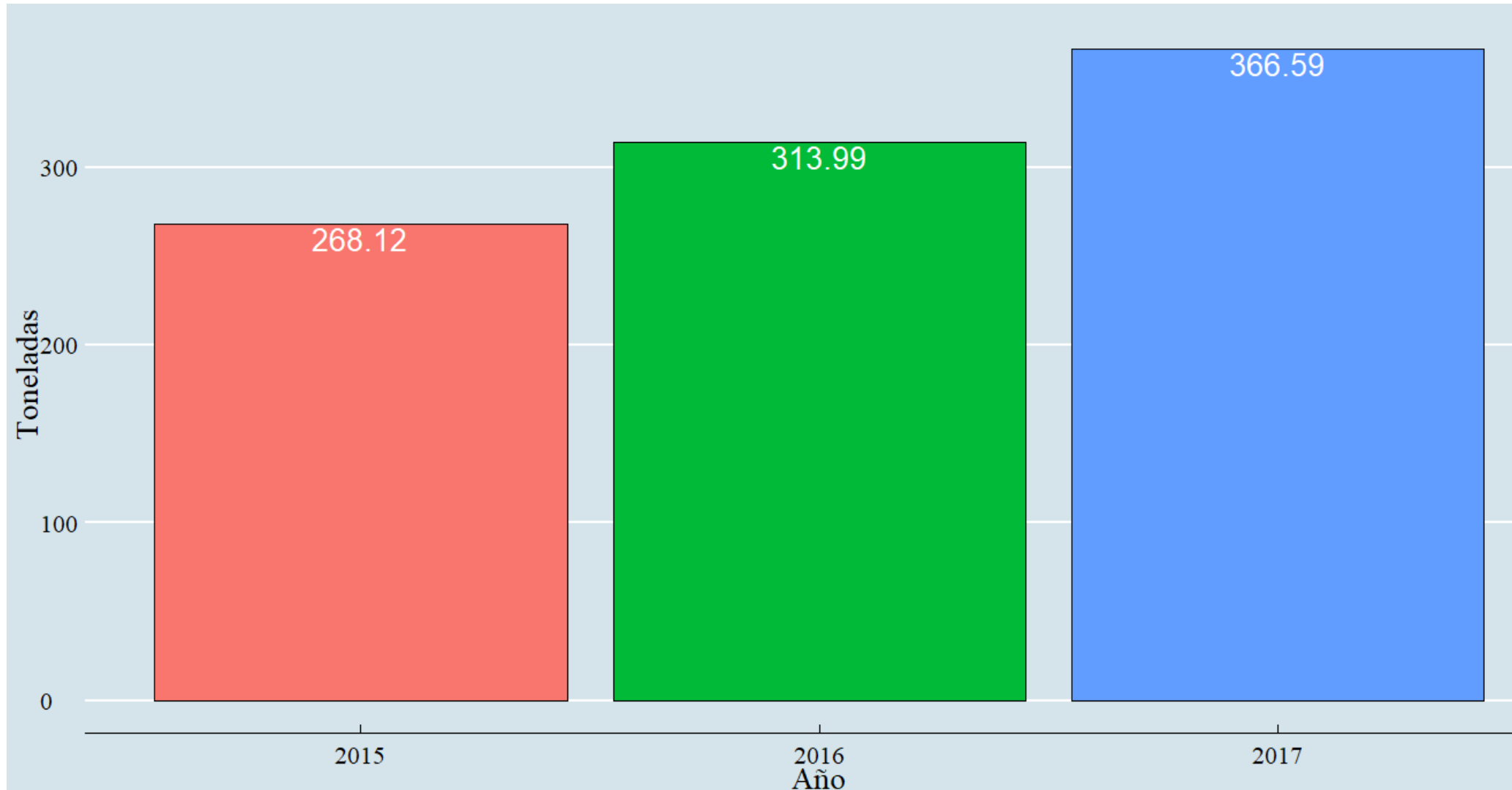
3. The measurement

3.1. The key variables

Potential production of coca leaves (metric tons) for the illicit market

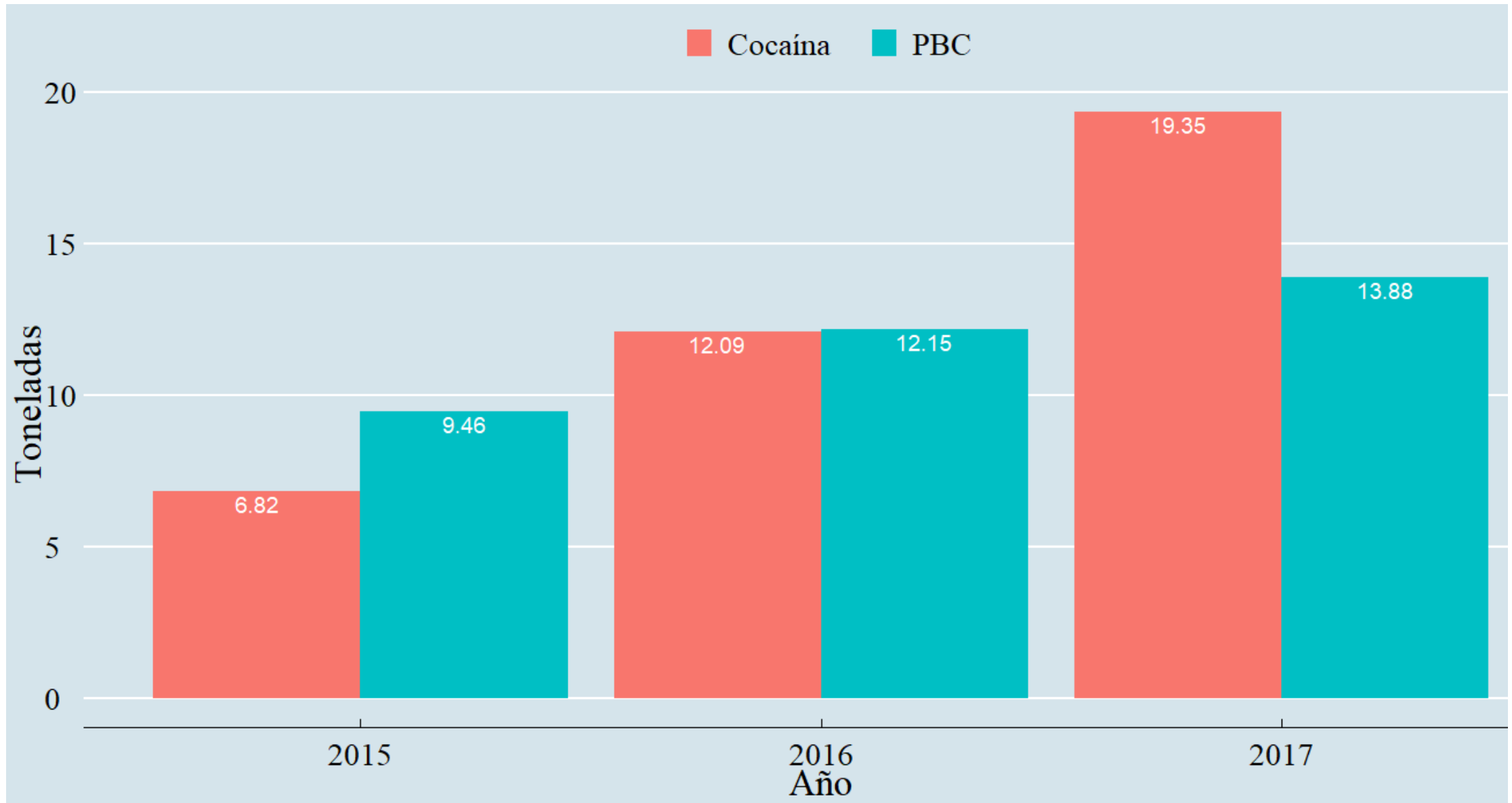
Concept	2015	2016	2017
Potential production	96,304	105,960	117,292
-Legal production*	9,163	10,891	10,891
-Seizures	127	69	97
=Potential illegal production	87,014	95,000	106,304

Potential production of pure cocaine destined for the illicit market (metric tons)



In the calculation, seizures of basic cocaine paste were subtracted.

Seizures adjusted to the purity of cocaine products, in dollars (average from 2015 to 2017)



Estimated quantities of pure cocaine hydrochloride consumed

Year (A)	Number of consumers (B)	Amounts consumed adjusted to purity (metric tons) (E) = D x purity factor
2015	79,739	6.93
2016	81,404	7.53
2017	83,429	8.13

Estimated quantities of pure cocaine base paste consumed, cocaine equivalents

Year (A)	Number of consumers (B)	Amounts consumed adjusted to purity (metric tons) (E) = D x purity factor
2015	97,243	20.48
2016	99,273	20.91
2017	101,743	21.43

Exports of pure cocaine (metric tons)

The pilot starts with the supply – demand equation

$$Production + Imports = Seizures + Exports + Consumption$$

Based on the assumption that there are no imports, we have

$$Production = Seizures + Exports + Consumption$$

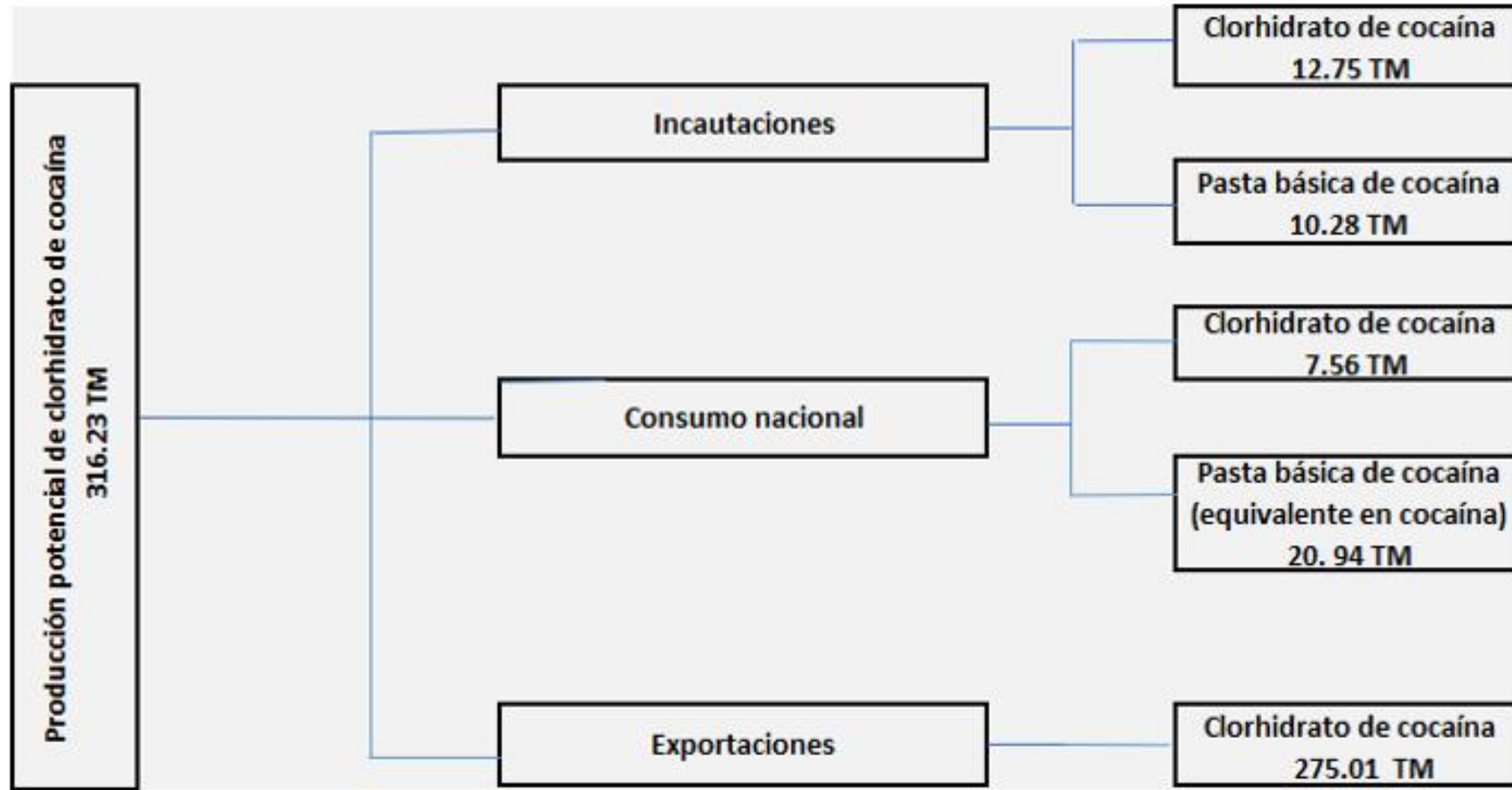
Clearing the exports, it remains:

$$Exports = Production - Seizures - Consumption$$

Year	Pure production (A)	Pure seizures (B)	Consumption of pure cocaine (C)	Pure exports (E) = A – B – C - D
2015	268.12	6.82	27.41	233.89
2016	313.99	12.09	28.44	273.46
2017	366.59	19.35	29.56	317.68



Key quantities for estimation (average 2015-2017)



Models to determine the market value of cocaine hydrochloride as well as incoming FFI

#	Concept	Gross income	Net Income
1	Market value	Consumption + exports	(Consumption + exports) - intermediate costs
2	Value of inward IFFs = Local drug trafficking organizations (residents))	Exports [South America] + delivery service to international cartels	(Exports [South America]) + delivery service to international cartels) - intermediate costs

Domestic consumer market value

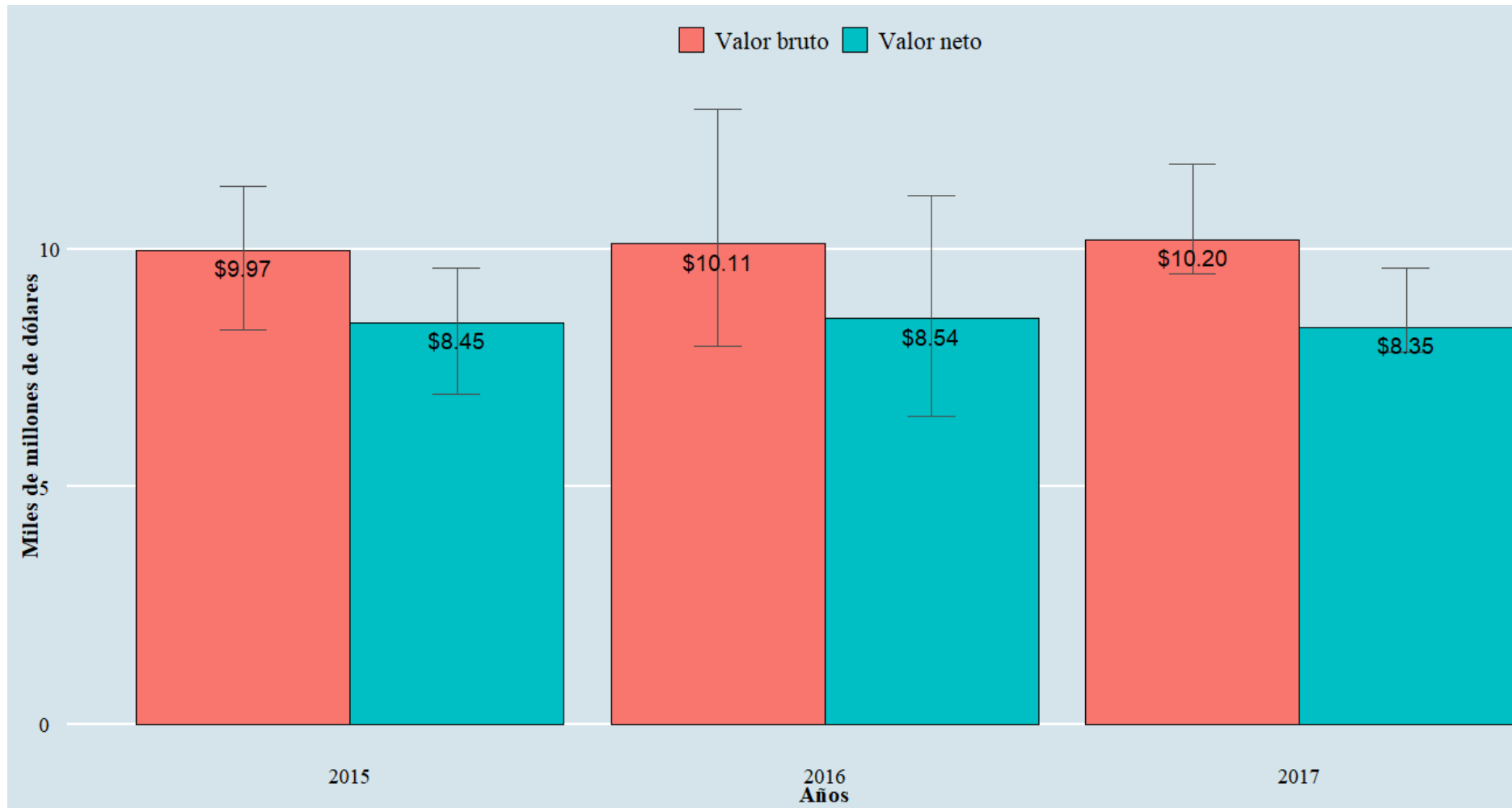
Once the export market was estimated, we proceeded to estimate the value of the domestic market, to finally measure the total market.

Year	Quantities consumed (tons) (A)	Minimum value (millions of USD) (E) = AxB	Average value (millions of USD) (F) = AxC	Maximum value (millions of USD) (G) = AxD
2015	6.93	17.20	30.11	43.01
2016	7.53	17.39	30.44	43.49
2017	8.13	17.99	31.48	44.98



3.2. Results

Total gross and net market value



Value of inward IFFs, in billion dollars



On average, from 2015 to 2017:

- The value of exports from agriculture, livestock and related activities was \$3.6 billion
- The value of pharmaceutical exports was \$48 million

(INEI, exports; UN Exchange rates)

Value of inward IFFs vs. market value

On average, the value of inward IFFs represented 15% of the value of the cocaine market in Peru.

