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TRADE MISPRICING FOR FIVE AFRICAN COUNTRIES

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EXECUTIVE SUMMARY

This briefing estimates the extent of trade mispricing, a form of commercial tax evasion, for five African countries and addresses the data challenges in gauging this component of illicit financial flows (IFFs). This is an estimation of illegal or hidden activities, using the International Monetary Fund (IMF) Direction of Trade (DOTS) methodology. The research points to declining trade mispricing in South Africa and Zambia for the period 2013–2015 and in Nigeria for the period 2013–2014. Morocco and Egypt exhibit increasing trade mispricing from 2013–2014. These flows mean reduced revenues to the fiscus to invest in socio-economic infrastructure and pro-poor growth strategies, which would benefit women and the poor. Policy recommendations address trade mispricing and propose remedies for the data anomalies.

POLICY RECOMMENDATIONS

1. IFFs require a coherent policy agenda supported by improvements in the exchange of information and co-operation between governments, specifically regarding customs information.
2. Co-operative governance, within and across governments, is required among tax authorities, customs, central banks, treasuries and financial intelligence units.
3. South Africa needs to correct the data for its largest exports in UNCOMTRADE for gold, platinum and gold. Efforts to improve reporting standards and classifications and address source and destination reporting for goods in transit are a critical step in improving the accuracy of the analysis. This could be achieved by using the UCR.
4. The G20 Development Working Group should address the commercial tax evasion component of IFFs by mandating the WCO to develop and implement a multilateral instrument and fostering the automatic exchange of customs information, coupled with the enforcement of the UCR instrument.
5. The introduction of an online, real-time benchmark pricing tool included in the customs risk engine could assist in identifying mispriced goods before the consignment reaches a country's borders.

TRADE MISPRICING AND ILLICIT FINANCIAL FLOWS

There is no consensus regarding the definition of IFFs despite the fact that the concept has gained increasing recognition in the international development community as being a pervasive problem. IFFs can be defined as 'money that is illegally earned, transferred, or utilised. Somewhere at its origin, movement, or use, the money broke laws and hence it is considered illicit.'[2]

According to Global Financial Integrity's (GFI) 2015 report, IFFs of nearly $1 trillion leave developing countries annually, with over 83% due to trade mispricing (or mis-invoicing).[3] This is significantly higher than the original 2010 finding, which estimated that commercial tax evasion involving multinational corporations (MNCs) constituted approximately 60% of IFFs. Commercial tax evasion refers to abusive transfer pricing or trade mispricing practices used by MNCs and seemingly unrelated entities to hide profits from authorities and transfer them across borders, to lower tax destinations. The 2010 report estimated that 35% of IFFs arise from criminal activities and 5% from corruption and the theft of public funds.[4]

There is also little consensus on how to accurately measure IFFs, since they are a hidden activity. At the same time, the GFI methodology has a trade bias. The lack of agreement on methodology has fuelled debates on whether IFFs are as large as the numbers say. However, these methods are estimations and can never be accurate – even formally reported data have problems. What is important is to understand how and why money flows illicitly out of developing countries, and what strategies can stem these flows.

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This briefing measures the size of the trade mispricing for the five African countries with the highest level of measured IFFs (as per GFI), and provides insight into the methodological and data challenges associated with the trade mispricing component of IFFs. It provides policy recommendations to address the data challenges and curb the commercial tax evasion component of IFFs.

TRADE MISPRICING

Trade mispricing is the deliberate over-invoicing of imports or under-invoicing of exports by entities in a country, usually for the purpose of avoiding (higher) tax or levies in that country. Assume Company A, a food grower in Africa, processes its produce through three subsidiaries: X, located in Africa; Y, located in a secret destination with an offshore financial centre; and Z, located in the US. If Company X sells its product to Company Y at an artificially low price (under-invoicing), this results in a low profit and tax rate for the African-based company. Company Y then sells the product to Company Z at an artificially high price (over-invoicing) close to the retail price in the US, implying that Company Z would have a low profit and thus pay less tax.

MEASURING IFFS THROUGH TRADE MISPRICING

Two main channels are used to measure IFFs leaving a country:

- illicit capital outflows leaving a country through its external accounts (balance of payments, or BOP), estimated by the World Bank Residual Model; and
- trade mis-invoicing using the IMF Direction of Trade Statistics (DOTS), which compares trade data reported by partner countries, thus estimating the loss in tax revenues.

IMF DOTS TRADE MISPRICING MODEL

The World Bank model addresses capital flight while the IMF DOTS method measures international trade flows, and therefore trade mispricing, by comparing partner country trade data after adjusting for the cost of insurance and freight. Thus, Country X's exports to Country Y, valued free on board (FOB), are compared to what Country Y reports as imports from Country X, after adjusting for the cost of insurance and freight (CIF).

The same approach is used when analysing Country X's imports from Country Y. Trade mispricing is evident where:

- Country X's exports are understated when compared to Country Y's reported imports from Country X; and/or
- Country X's imports are overstated when compared to Country Y's reported exports, after adjusting for CIF.

These variances account for the measured differences arising from trade mispricing, which is linked to the commercial tax evasion component of IFFs.

Methodology

The DOTS method is applied to the five African countries reportedly[5] most affected by trade mispricing, namely:

- Nigeria;
- South Africa;
- Morocco;
- Zambia; and
- Egypt.

Secondary data sources are used to estimate the trade mispricing using the UN's COMTRADE database of imports and exports, reported by statistical authorities in more than 200 countries and standardised by the UN Statistics Division. The original methodology uses IMF data, but there are weaknesses in the IMF data, especially relating to the conversion from local currency into US dollars. It also has limited product categories, and reports only 184 countries. UNCOMTRADE is a far better data source with more countries, and it specialises in collecting this data on a quarterly basis.

The original period of analysis was from 2013–2015. However, there are missing data for 2015 for three of the five countries, namely Nigeria, Morocco and Egypt.

The next step is to adjust the values for the CIF and FOB, to ensure that the values are at base prices. The CIF/FOB ratio has often been treated as the cost of transportation. The lack of detailed CIF data and information results in a best practice conversion factor of 10% being assumed.[6]

The South African Revenue Service (SARS) has indicated that the CIF for a long-haul destination such as South Africa is less than 5%, hence an adjusted CIF conversion ratio of 1.05 has also been applied to the model. So there are two versions of the model:

- version 1: 1.1 as the CIF conversion factor, based on international best practice; and
- version 2: 1.05 as the CIF conversion factor, based on the SARS average.

Interpretations and data challenges

At this stage of the analysis we will merely report the extent of trade mispricing at a country level, as it is possible to identify reasons for asymmetries, namely:

- **Unreported trade**: Smuggling results in asymmetries in partner country trade statistics.
- **Fictitious trade**: This is imaginary trade transactions (where official trade figures are artificially inflated), either through fictitious trade between various free-trade areas or where companies located in multiple countries fabricate invoices.
- **Import restrictions**: When there are import restrictions the pattern operates in the opposite direction, as there is an incentive to under-invoice imports.

It is a well-known fact that official trade statistics are plagued with misreporting and fake declarations, with clear incentives for mis-invoicing.

From the IMF DOTs method, if there is an overstatement of exports and/or an understatement of imports (ie, with variables carrying the wrong signs), researchers generally net out the two effects, reducing the total impact. The adjusted GFI methodology estimates the gross value excluding reversals (GER) as well as the gross value net of these reversals.

Data challenges, resulting in over- and under-estimation of the results, stem from the following:

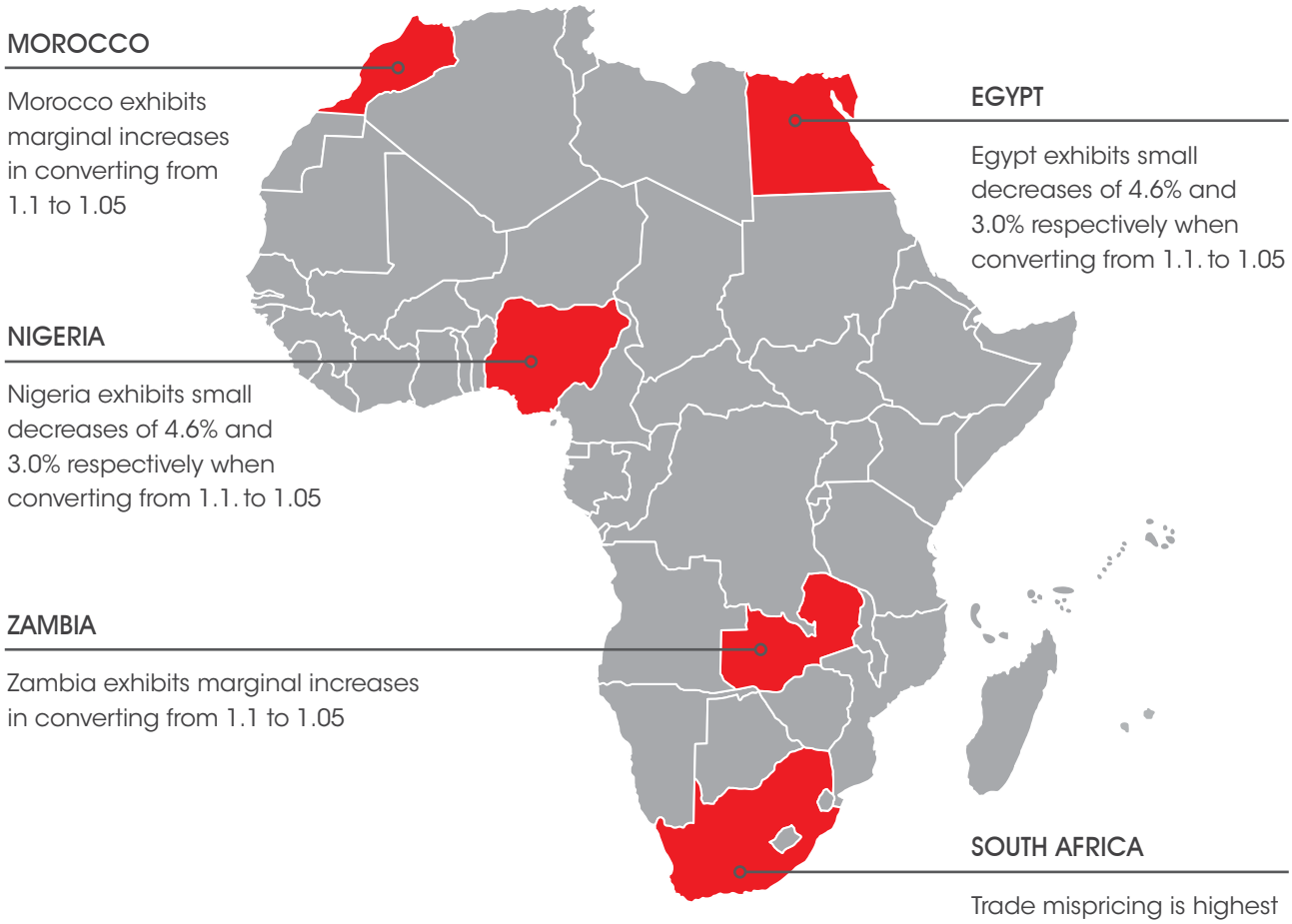
- multilateral trade flows, where the correct identification of the source or destination country is not reported;
- time lags between the departure and arrival of the shipment;
- recorded trade at the commodity level differing due to the omission of individual transactions (ie, military material or repair trade);
- misdeclaration;

- incomplete and inconsistent data;
- confidentiality affecting the availability of some of the data collected, specifically on the detailed commodity categories such as defence expenditure;
- classification variations;
- self-declaration; and
- conversion from one classification to another.

These limitations mean that extra caution is needed when analysing the data and making inferences.

The anomalies in the data need to be addressed. The biggest win stems from introducing the Unique Consignment Reference (UCR), which is a reference number for customs that is used for audit, consignment tracking and information reconciliation purposes.

FIGURE 1: TRADE MISPRICING FOR FIVE AFRICAN COUNTRIES (2014)



TRADE MISPRICING: GROSS EXCLUDING REVERSALS ($ MILLIONS)		
CONVERSION RATIO	1.1	1.05
South Africa	67,393	87,734
Nigeria	47,813	45,602
Egypt	32,652	31,669
Morocco	16,631	17,024
Zambia	12,524	13,035

Source: Author's calculations

The UCR addresses source and destination country misreporting. However, discrediting the data and the analysis of officially reported data raises other concerns about the credibility of any trade analysis.

VARIATIONS IN METHODS

The GFI methodology for estimating trade mispricing has recently been updated and is referred to as the new method–bilateral advanced economies calculation. There is a one-to-one assessment of (bilateral) DOT for Country *i*, such as Zambia, with 36 advanced economies; and for the rest, an aggregated method is used, namely Trade (import or export) with the Rest of the World (ROW). The older method does not include a bilateral analysis of advanced economies but uses the aggregated method. For example, exports by Nigeria (Country i) would be compared to aggregate imports with the ROW to a total of 149 countries.[7] The ROW aggregate, which is a net figure, is applied to 93 countries and results in a probable under-estimation of trade mispricing.[8] This method does not correct for source and destination errors for consignments in transit, and one should bear in mind that for South Africa the misclassification of gold, platinum and diamonds is probably the source of a large proportion of the problem.

The methodology used here is a pure bilateral trade estimation method that compares bilateral trade (ie, exports) for Country *i* with trade (ie, imports) for Country *j* (ie, for more than 200 countries, where data are applicable). Although an incredibly time-consuming exercise, it estimates trade mispricing for each and every country, assuming that the data submitted to UNCOMTRADE (the officially reported data) are accurate.[9]

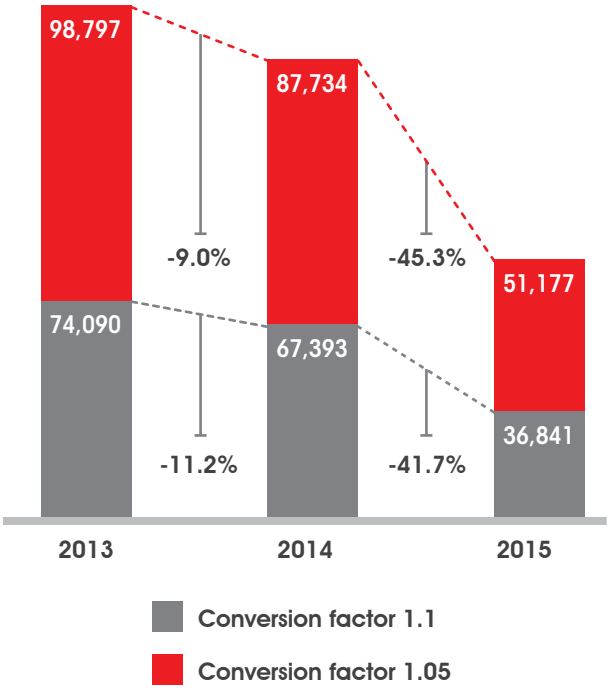
FINDINGS

Using a one-to-one bilateral DOTS analysis for the five African countries and applying the 10% and 5% conversion factor, the following is evident: South Africa has the highest level of trade mispricing, followed by Nigeria, Egypt, Morocco and Zambia. However, if South Africa's data are corrected, the country would not have the highest level of IFFs in Africa.

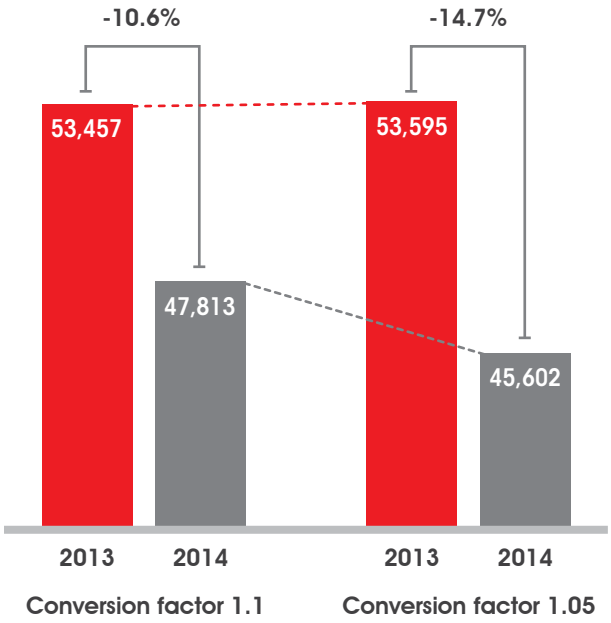
Figure 2 highlights the total trade mispricing (GER) in millions of dollars for 2013, 2014 and 2015, using the 1.1 standard conversion rate and 1.05.

FIGURE 2: GROSS TRADE MISPRICING (GER) EXCLUDING REVERSALS, $ MILLIONS

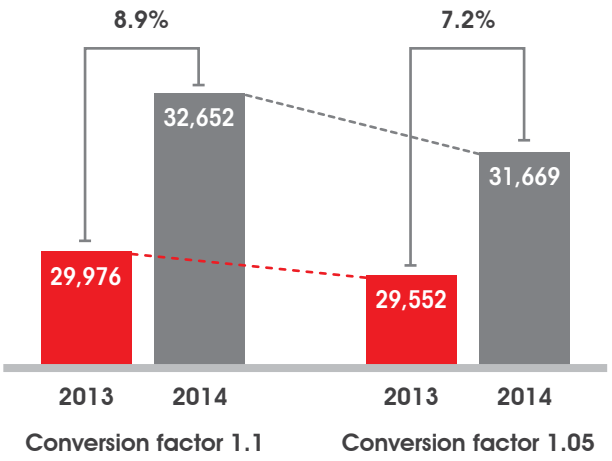
SOUTH AFRICA



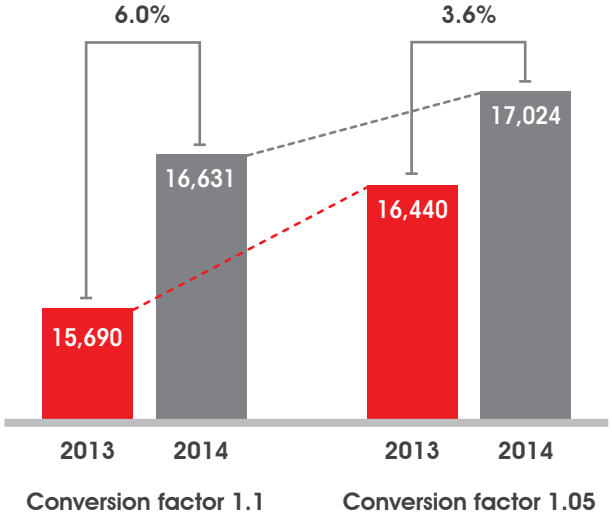
NIGERIA



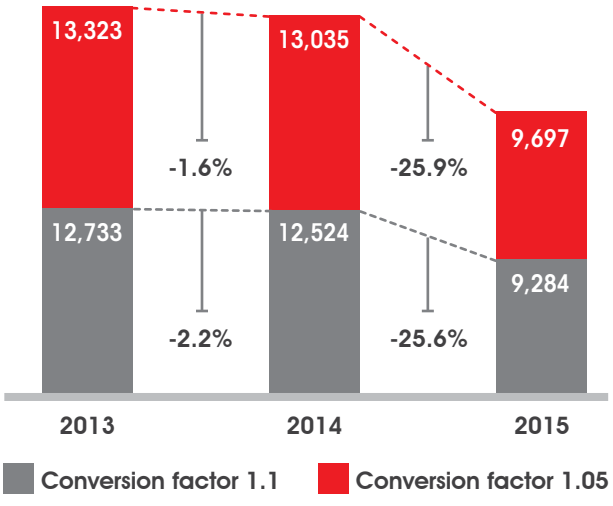
EGYPT



MOROCCO



ZAMBIA



Source: Author's calculations

The above analysis indicates likely net trade mispricing inflows that outweigh outflows for Nigeria. The amount for 2014 is significantly larger, amounting to nearly $20 million using 1.1 (or about $14 million using the 1.05 adjustment factor). Nigeria's apparent total outflows, using 1.1, amounted to $23.9 million in 2013 with a decrease of nearly 40% to $14.3 million in 2014.

For South Africa the outflows far outweigh the inflows and stem from export under-invoicing. This error is largely due to the missing gold, platinum and diamond exports in the data. This was highlighted in the debate sparked by a recent UN Conference on Trade and Development report, and South Africa needs to correct its reported data. This probably accounts for South Africa's trade mispricing being an outlier, and the number should be discounted. Using 1.05 as the most accurate measure for South Africa, probable outflows for 2013 were $78.1 million, decreasing to $73.4 million the following year, coupled with a further, significant decrease in 2015 to $43.6 million. Apparent net outflows for South Africa amounted to $57.4 million in 2013, decreasing to $35.9 million in 2015.

Apparent outflows for Morocco are higher than inflows. Total likely outflows, using 1.1, amounted to $8.8 million in 2013 and increased marginally by 7.3% to $9.5 million in 2014. Moroccan inflows have likely increased marginally from $6.9 million in 2013 to $7.2 million in 2014. Nigeria has also seen decreases in foreign direct investment in 2015, which more than likely will point to decreases in trade mispricing for 2015 when the data becomes available.

Zambia's apparent outflows also outweigh inflows and Egypt experiences likely inflows – which increased nearly tenfold between 2013 and 2014 – stemming from counter-party import under-invoicing.

CONCLUSION

It is necessary to be less focused on the actual amounts of IFFs, as this is a clandestine activity with resultant data problems. It is more important to understand that, regardless of what methodology is being used, and even discounting for data problems, misspecifications or misclassification, there is an underlying trade mispricing problem. This results in outflows from developing countries and requires a policy approach. To completely discount the data means that no trade analysis is credible

TABLE 1: GER RESULTS, $ MILLIONS						
	CONVERSION FACTOR 1.1			CONVERSION FACTOR 1.05		
	2013	2014	2015	2013	2014	2015
GROSS TRADE MISPRICING (EXCLUDING REVERSALS)						
Nigeria	53,457	47,813	–	53,594	45,602	–
South Africa	74,090	67,393	36,841	98,797	87,734	51,176
Morocco	15,690	16,631	–	16,440	17,024	–
Zambia	12,734	12,524	9,284	13,323	13,034	9,697
Egypt	29,976	32,652	–	29,552	31,669	–
NET FLOWS (INCLUDING REVERSALS; INFLOWS LESS OUTFLOWS)						
Nigeria	5,742	19,112	–	777	13,762	–
South Africa	60,610	59,577	34,951	57,373	59,022	35,927
Morocco	1,947	2,284	0	4,723	5,179	0
Zambia	1,715	573	359	2,433	1,218	842
Egypt	804	8,971	–	3,252	4,796	–

Source: Author's calculations

and that the data collected and reported to the World Customs Organisation (WCO) and the World Trade Organization are dubious – an equally dangerous conclusion.

ENDNOTES

1 Kathy Nicolaou was Senior Policy Advisor at South Africa's Financial Intelligence Centre from 2011–2016, researching illicit financial flows, the illicit economy, money laundering, trade mispricing, crypto-currencies, narcotics and environmental crime.

2 Kar D, 'Illicit financial flows from developing countries: The absurdity of traditional methods of estimation', GFI (Global Financial Integrity), blog, 16 August 2010, http://www.gfintegrity.org/illicit-financial-flows-from-developing-countries-the-absurdity-of-traditional-methods-of-estimation/, accessed 5 May 2015.

3 GFI, *Illicit Financial flows from Developing Countries: 2004–2013*, 2015.

4 Kar D & D Cartwright-Smith, *Illicit Financial Flows from Developing Countries: 2002–2006*. Washington, DC: GFI, 2010.

5 Kar D & J Spanjers, 'Illicit Financial Flows from Developing Countries: 2004–2013', GFI (Global Financial Integrity), December 2015, http://www.gfintegrity.org/wp-content/uploads/2015/12/IFF-Update_2015-Final.pdf, accessed 5 May 2016.

6 Due to limited information on FOB rates, the International Monetary Fund (IMF) and other researchers use 10% as the benchmark value for FOB.

7 There are 149 countries less the 36 advanced economics and the 20 countries analysed: 149-36-20=93.

8 This averaging method results in probable underestimation, since it discounts the trade between developing countries. This is especially problematic for countries on the African continent where China, a developing country, is a primary trading partner.

9 For South Africa there is a misspecification regarding the exports of its largest traded commodities: gold, platinum and diamonds. The rest of the data are perhaps less problematic.

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