

## TOURISM: THE UNTAPPED GOLDMINE IN THE GOLD COAST

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### **Abstract**

**Purpose** – This study examines the economic impact of international tourism and currency valuation in the West African country of Ghana. Previously known as the Gold Coast due to its vast gold reserves, Ghana is a developing economy with a sharply devalued currency and a heavy reliance on imports.

**Design** – The paper shows that Ghana's weak currency can be leveraged to boost international tourism and with that, economic growth. This view of tourism-led growth is in part supported by evidence in which tourism receipts are a major source of foreign exchange earnings for a number of developing economies.

**Methodology** – The relationship between economic growth, tourism receipts, and currency valuation is examined using a vector error correction model. This approach offers an opportunity to not only confirm the existence of a dynamic relationship among the time series but also, the existence of causality both in the short- and long-run.

**Findings** – Cointegration tests confirm the existence of a long-run relationship among the variables. Both tourism and exchange rate are found to positively impact economic growth. Also, there is a long-run causality from exchange rate to tourism receipts.

**Originality** – This is the first empirical study that demonstrates the existence of causality between currency valuation and tourism using data from Sub-Saharan Africa, a region with abundant natural resources but one that remains significantly underdeveloped.

**Keywords** Tourism, Ghana, Exchange rate, Error correction, Granger causality

### **INTRODUCTION**

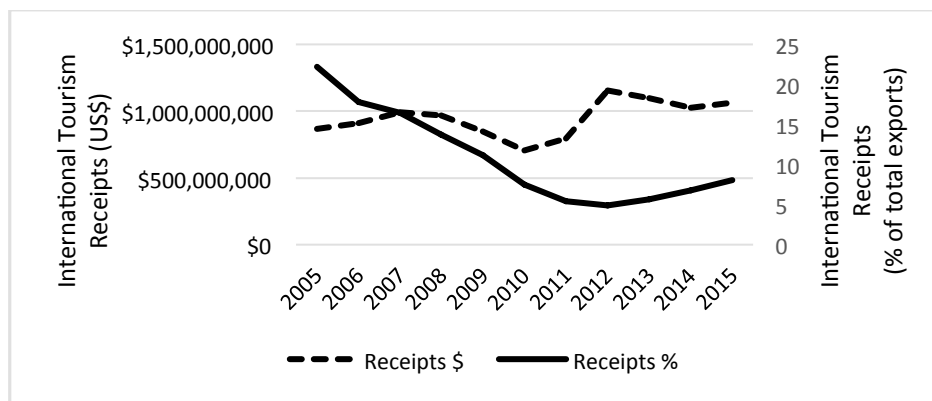
This preliminary inquiry on the economic impact of tourism in Ghana examines how the country's currency valuation and cultural climate can be leveraged to promote international tourism. With the rapid pace of globalization, there is a growing body of evidence that places tourism in the center of the economic development concept. This view of tourism-led growth is the subject of recent studies summarized by Brida and Pulina (2010). According to the United Nations World Tourism Organization (UNWTO, 2014), tourism is one of the top five export categories for over 80 percent of countries. It is also the main source of foreign exchange earnings for four of ten countries. The UNWTO estimates that between 2010 and 2030, tourism arrivals in emerging destinations are expected to increase at twice the rate of those in the advanced economies. For Sub Saharan Africa, the World Travel & Tourism Council projects that almost four million jobs could be created by this industry over the next 10 years (Christie *et al*, 2013).

The United Nations Environment Program (UNEP) has highlighted the economic benefits of tourism to include generation of foreign exchange earnings, contributions to government revenues, stimulation of infrastructure investment, and the creation of employment and business opportunities. On this basis, this study shows that the combined effects of Ghana's relatively weak currency and tranquil political climate can serve as a catalyst for the promotion of international tourism. This can in turn lead to a sustained economic growth similar to the experience of most tourism-dependent economies in the Caribbean.

Formerly known as the Gold Coast until its independence in 1957, Ghana is one of Sub-Saharan Africa's leading economies, with an estimated population, in 2014, of over 25 million. While many of its neighbors have, at various times, been mired in political conflicts, Ghana has enjoyed relative tranquility, making it a desired destination for not only its neighbors fleeing economic and political hardships but also foreigners with investment interests. Like its Sub-Saharan neighbors, however, Ghana's population has grown exponentially since independence. Unfortunately, population growth has not been met with comparable economic progress, in spite of the abundance of natural resources.

The services sector accounts for one half of Ghana's GDP but employs less than a third of the labor force. A trickle effect of tourism is reflected in the hotels and restaurants category, which, in any event, declined from 13 percent in 2009 to only about nine percent in 2015, according to the Ghana Statistical Service 2014. As Figure 1 shows, tourism earnings, as a percent of total exports, declined from 22 percent in 2005 to less than six percent in 2015.

Figure 1: **International Tourism Receipts**

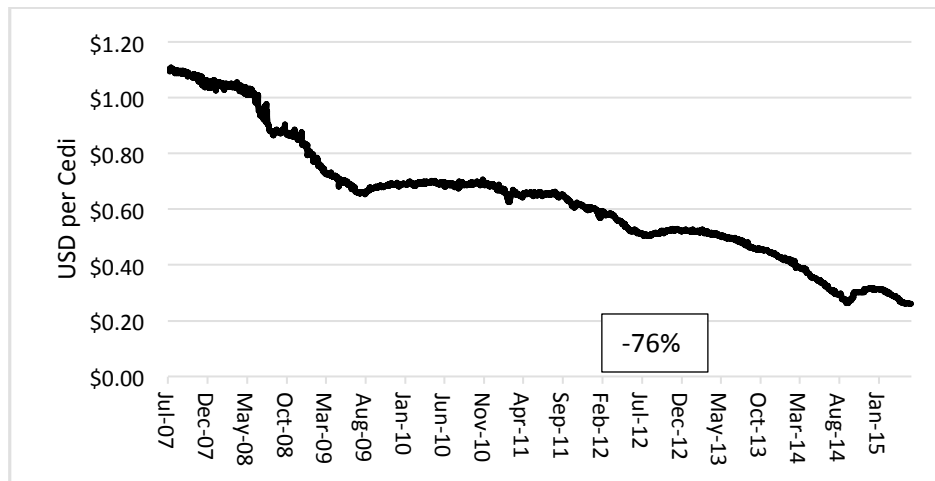


Data sources: World Travel & Tourism Council (Receipt %) and World Development Indicators (Receipt \$)

Ghana's currency, the cedi (symbol: GHS), was redenominated in July 2007. In the eight-year period since its introduction, it has lost over 75 percent of its value against the U.S. dollar (Figure 2), which is significantly more than any of the other currencies in Sub-Saharan Africa. In the absence of any notable manufacturing capacity, the growth in Ghana's household consumption has been fueled by the massive importation

of all manner of consumer and industrial goods, which, in turn, has led to a huge current account deficit and arguably, the erosion of the cedi's value.

Figure 2: Valuation of the New Ghana Cedi since 2007 Launch



Data source: OANDA

If Ghana were an export-oriented manufacturing economy, currency depreciation might prove beneficial because export-bound goods would become less expensive and thus, more competitive overseas. Nevertheless, one important way that the depreciating currency might yet prove a boon to the domestic economy is by the promotion of inbound tourism.

Although hardly touted in the international media, Ghana boasts a number of fascinating tourist attractions. These include the beautiful white sandy beaches in the Greater Accra Region, most notably, Labadi Beach; the spectacular nightlife at Osu, a traditional neighborhood in Accra; the surreal slave forts in Cape Coast; the intriguing Kakum National Park which houses some of the most amazing mangrove swamps and equatorial rain forest; the awe-inspiring seat of the famed Asante Kingdom in Kumasi; the amazing local artwork and kente textile, both of which are famous in West Africa and beyond; and the impressive hydro-power station at Akosombo. It is unfortunate that in spite of their richness, these treasured heritage have yet to come into noticeable international visibility. As has been demonstrated by Crouch (1993), Greenwood (2007), and more recently, Ruane (2014), international tourism can be enhanced by falling exchange rates. Among other factors, Ghana's relatively cheap currency should make it an attractive destination for foreign tourists seeking to get more value for their travel money.

The rest of this study is organized as follows: Section 2 reviews the literature on the relationship between tourism and economic growth, with exchange rate as an additional explanatory variable. Section 3 describes the empirical data and the estimation model.

Empirical results are presented in section 4. The study conclusions and policy issues are discussed in the final section.

## 1. LITERATURE

With the wave of international travels in recent years, the tourism literature is replete with studies that highlight the positive economic impact of tourism. This view of tourism-led growth is in part supported by the view that international tourism receipts are a major source of foreign exchange earnings for many countries. A comprehensive review of the literature on the tourism-led-growth hypothesis is presented by Brida and Pulina (2010).

In a key study showing the positive economic impact of tourism in Sub-Saharan Africa, Akinboade and Braimoh (2010) found that both in the short- and long-run, tourism receipts affect economic growth in South Africa; not the other way round. Arora and Vamvakidis (2010) also presented evidence of a direct correlation between tourism and GDP in South Africa, with the tourism variable Granger-causing real GDP. Using the autoregressive distributed lags (ARDL) bounds testing procedure, Odhiambo (2012) proved a unidirectional causality from tourism development to economic growth in Zambia. And more recently, Fairbanks (2013) noted that Rwanda has continued to develop as an economic giant in Central Africa with a strategic plan that makes tourism a top priority.

Elsewhere, evidence also abounds regarding the role of tourism in the growth of both developing and advanced economies. For example, Eugenio-Martín, Morales, and Scarpa (2004) have shown that tourism expansion is chiefly responsible for the economic growth of 21 Latin American countries. Using the Tourism Satellite Account model, Jovanović and Vukasović (2014) show a direct contribution of tourism consumption to Serbia's GDP. Similarly, Dritsakis (2004) showed evidence of a causal flow from tourism earnings to the Greek economy. In a vector autoregressive study, Chaiboonsri, Chaitip, and Rangaswamy (2009) examined the relationship between international tourist arrivals and GDP in Thailand. The two variables were found to be cointegrated, with tourism arrivals Granger-causing GDP growth. Evidence of a one-way causality – from tourism to GDP – has also been documented for Italy by Massidda and Mattana (2013) and for Chile, by Brida, Rizzo, and Bonapace (2009).

Exchange rate is one important variable that has been shown to directly impact tourism receipts in many countries. One of the early studies to examine the role of currency valuation on tourism development is by Thomas (2006). With tourism data from the United Kingdom, he showed an inverse relation between inbound tourism receipts and the value of the pound sterling. Earlier, Crouch (1993) proved that a 10 percent devaluation in currency produces an increase in international tourism demand of almost one percent. In a recent study with U.S. data, Cheng, Kim, and Thompson (2013) revealed that the dollar's depreciation from the late 1990s until the 2008 financial crisis led to unprecedented tourism export revenues.

In a vector-autoregressive study, Belloumi (2010) found that tourism and economic growth in Tunisia are cointegrated, with tourism receipts having a positive impact on GDP growth owing to the country's cheap domestic currency. Using a similar framework with data from Tanzania, Odhiambo (2011) showed evidence of a unidirectional causality from exchange rate to tourism receipts. In the case of Malaysia, Tang (2013) also presented evidence of a unidirectional causality running from exchange rate to tourism receipts and real income. Ruane (2014) studied the effect of the strong U.S. dollar on inbound tourism in the U.S. Pacific island of Guam. The study found that the number of international tourists had decreased by more than six percent between 2013 and 2014, resulting in an overall economic decline of \$37 million.

As Messerli (2011) and Twining-Ward (2009) have pointed out, tourism has become one of the fastest growing sectors in many African economies. While the evidence of this rising trend has been documented for a number of African states, there have yet to be any studies on the potential impact that tourism development could have on the culturally rich and politically stable West African country of Ghana. This study is an attempt to fill this void.

## 2. THE EMPIRICAL MODEL

To investigate the economic impact of currency valuation and international tourism in Ghana, a vector autoregressive model is specified. Two key empirical questions are examined. The first is, does tourism and exchange rate have a long-run impact on economic activity? And the second, is currency valuation directly related to inbound tourism?

For this study, annual data for the following four variables are used: GDP growth rate, real effective exchange rate, inbound tourism receipts, and international tourism arrivals. GDP and exchange rate data were obtained from the World Bank Development Indicators (WBDI). Tourism data came from multiple sources, including WBDI and the United Nations World Tourism Organization (UNWTO). The sample period is from 1995 to 2015. To test the dynamic linkages among these variables, the following vector-autoregressive (VAR) model, popularized by Sims (1980), is specified for the case where GDP is the target variable:

$$\ln(GDP_t) = \lambda_0 + \sum_{i=1}^m \lambda_{1i}^1 \ln(GDP_{t-i}) + \sum_{i=1}^n \lambda_{2i}^1 \ln(ER_{t-i}) + \sum_{i=1}^p \lambda_{3i}^1 \ln(TR_{t-i}) + \sum_{i=1}^q \lambda_{4i}^1 \ln(TA_{t-i}) + \varepsilon_t^1 \quad (1)$$

In the above specification, GDP is the annual growth rate in gross domestic product, ER is the real effective exchange rate expressed in USD per Ghanaian cedi, TR is tourism receipts, TA is tourism arrivals, and  $\varepsilon_t$  is the innovation or impulse term.

To verify the extent to which the variables move together in the long-run, a cointegration analysis with a vector error correction (VEC) model is performed (Johansen, 1991). Engle and Granger (1987) and Granger (1988) have explained that if variables are non-stationary then a VAR model in levels may lead to spurious results. Therefore, prior to investigating the existence of long-run relations, unit root tests are

conducted in levels and also on first differences. If the variables are non-stationary in levels but are stationary after first differencing, then we know they are integrated of the same order; in this case, I(1). Where this is the case, the error correction term, which represents adjustments toward long-run equilibrium, obtained from Equation (1), is re-introduced into the VAR. The resulting equation is a restricted VAR known as the vector error correction (VEC) model of the form:

$$\Delta \ln(GDP_t) = \delta_0 + \sum_{i=1}^m \delta_{1i} \Delta \ln(GDP_{t-i}) + \sum_{i=1}^m \delta_{2i} \Delta \ln(ER_{t-i}) + \sum_{i=1}^m \delta_{3i} \Delta \ln(TR_{t-i}) + \sum_{i=1}^m \delta_{4i} \Delta \ln(TA_{t-i}) + \delta_5 EC_{t-1} + \varpi_t \quad (2)$$

where  $\Delta$  is the first difference operator,  $\varpi$  is a white noise Gaussian error term, and  $EC_{t-1}$  is the error correction term obtained from Equation (1) and is defined as

$$EC_{t-1} = \alpha_0 + \alpha_1 \ln(GDP_{t-j}) - \alpha_2 \ln(ER_{t-j}) - \alpha_3 \ln(TR_{t-j}) - \alpha_4 \ln(TA_{t-j}) \quad (3)$$

The coefficient of the error correction term in Equation (2),  $\delta_5$ , measures the single period response of GDP to departures from equilibrium. The lag structure in the VECM is chosen such that the lag truncation parameter,  $m$ , is one that ensures the residuals are white noise. This is carried out using a lag selection procedure such as Akaike information criterion (AIC) or Schwarz information criterion (SIC). In general, the lower the value of the criterion, the better the model. When variables are cointegrated, VEC models allow us to directly estimate the speed at which one time series returns to equilibrium after a change has occurred in the other. According to Granger (1988), if variables are cointegrated, causality should exist in at least one direction.

### 3. RESULTS

The correlation matrix of the variables, in Table 1, confirms that GDP growth has a positive association with tourism receipts (TR) as well as with tourist arrivals (TA). The exchange rate variable, measured in U.S. dollars per Ghanaian cedi, is negatively correlated with GDP growth, suggesting that GDP tends to decelerate as the cedi appreciates in value. All data are in their natural logarithm.

Table 1: **Correlation Matrix of Variables: 1995 - 2015**

	<b>GDP</b>	<b>TR</b>	<b>TA</b>	<b>ER</b>
<b>GDP</b>	1.0000			
<b>TR</b>	0.4373	1.0000		
<b>TA</b>	0.4793	0.7682	1.0000	
<b>ER</b>	-0.3655	-0.8433	-0.9421	1.0000

GDP: GDP per capita  
TR: International tourism receipts  
TA: International tourism arrivals  
ER: Real effective exchange rate (USD per 1 Ghanaian cedi)

Unit root test results, summarized in Table 2, are based on the Augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1981). To overcome the low power of the ADF test pointed out by West (1988), these results were supplemented by unit root tests using Phillips-Perron, Dickey-Fuller GLS, and Ng-Perron. The last two methods are particularly superior under conditions of inadequate sample size as is the case with this study. Notwithstanding, the results of these latter stationarity tests are consistent with those of the ADF test and are therefore not shown. All the variables are nonstationary at level, with p-values of greater than 0.05. After first differencing, however, the time series become stationary, confirming that the variables are integrated of the same order.

Table 2: **Augmented Dickey-Fuller Unit Root Test**

	Level		1st Difference	
	t-Statistic	P-value	t-Statistic	P-value
<b>GDP Growth Rate</b>	-2.1587	0.2263	-5.7825	0.0003
<b>Exchange Rate</b>	-1.4008	0.5586	-3.8980	0.0098
<b>Tourism Receipts</b>	-2.2556	0.1954	-4.0818	0.0068
<b>Tourism Arrivals</b>	-1.1171	0.8971	-4.2104	0.0207

Null hypothesis: Series has a unit root (non-stationary)  
 All variables in natural logarithm.

For the Johansen tests of cointegration, all the conventional lag selection criteria settled for one lag. The null hypothesis for the Johansen test is that the number of cointegrating equations in the model is zero, meaning that there is no long-run relationship among the variables. As Table 3 shows, the Trace test rejects this null hypothesis at the 5 percent level. The results show there is at least one cointegrating equation (that is, one error term) in the model. The cointegration specification includes an intercept but no deterministic trend.

Table 3: **Johansen Cointegration Test**

<b>Unrestricted Cointegration Rank Test (Trace) +</b>				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value at 0.05	P-value*
None +++	0.7391	52.8590	47.8561	0.0157
At most 1	0.5547	27.3278	29.7971	0.0939
At most 2	0.3555	11.9578	15.4947	0.1590
At most 3	0.1730	3.6098	3.8415	0.0574

+ Trace test indicates 1 cointegrating equation at the 0.05 level  
 +++ denotes rejection of the hypothesis at the 0.05 level  
 \*MacKinnon-Haug-Michelis (1999) p-values

The long-run cointegration equations in which GDP growth rate (GDP), tourism receipt (TR), and exchange rate (ER) were specified as dependent variables, produced the following estimates:

$$\ln(\text{GDP}) = -1.8516\ln(\text{ER}) - 0.5071\ln(\text{TR}) - 2.7890\ln(\text{TA})$$

(0.3006)            (0.1130)            (0.4101)

$$\ln(\text{TR}) = 5.4995\ln(\text{TA}) + 3.6514\ln(\text{ER}) - 1.9720\ln(\text{GDP})$$

(0.8751)            (0.3778)            (0.4996)

$$\ln(\text{ER}) = 1.5063\ln(\text{TR}) + 0.2739\ln(\text{TA}) - 5.400\ln(\text{GDP})$$

(0.1326)            (0.0372)            (0.1308)

Standard errors of the estimated long-run coefficients are in parenthesis. The results show that all coefficients are statistically significant at any conventional level, meaning that in the long-run, there is a two-way causality among the variables. In particular, there is a long-run causality running from exchange rate (ER) to both tourism receipts (TR) and GDP. These results are consistent with Dritsakis (2004) who also found a two-way causality between tourism earnings and economic growth in the case of Greece.

Considering the case where tourism receipt (TR) is the dependent variable, the positive coefficient for tourism arrivals (TA) confirms that in the long-run, tourism earnings are a direct function of inbound tourism. Similarly, in the case where exchange rate is the response variable, the positive coefficients for both TR and TA suggest that a boost in international tourism has the long run effect of strengthening the value of the domestic currency.

Having established the existence of a long-run relationship among the variables, the next step is to derive the vector error correction model (VECM). Considering the case where GDP is set as the target variable, we can derive the residual of the cointegrating equation from the Johansen test. The result of this error correction model is summarized in Table 4.

**Table 4: Error Correction Model and Granger Causality Results**

	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>P-value</b>
C(1)	-0.6002	0.2894	-2.0741	0.0585
C(2)	-0.1945	0.2417	-0.8044	0.4356
C(3)	0.4709	0.4725	0.9965	0.3372
C(4)	-0.3403	0.2110	-1.6125	0.1309
C(5)	-1.1495	0.9963	-1.1537	0.2694
C(6)	0.2125	0.1440	1.4765	0.1636



$$\begin{aligned} \Delta \ln(\text{GDPG}) = & C(1)[\ln(\text{GDP}_{t-1}) - 1.8516\ln(\text{ER}_{t-1}) - 0.5071\ln(\text{TR}_{t-1}) - 2.7890(\text{TA}_{t-1}) + \\ & 45.6341] \\ & + C(2)\Delta \ln(\text{GDPG}_{t-1}) + C(3)\Delta \ln(\text{ER}_{t-1}) + C(4)\Delta \ln(\text{TR}_{t-1}) + C(5)\Delta \ln(\text{TA}_{t-1}) \\ & + C(6) \end{aligned}$$

The focus of this system equation is C(1), the coefficient of the cointegrating equation (that is, the coefficient of the error correction term). This coefficient captures the long-run impact on GDP growth due to all the other variables combined. The size of C(1) indicates the speed of adjustment towards long-run equilibrium. For its economic value to hold, C(1) must be negative and statistically significant. The absence of these two properties would suggest that there is no long-run causality running from all the other variables - as a group - to GDP. When C(1) is negative, the combined effect on GDP growth is positive. Thus, with a value of -0.60, about 60 percent of departures from long-run equilibrium is corrected in each period. This impact is significant at just above the 0.05 level. The remaining coefficients, C(2) to C(6), capture short-run causality from each of the variables (together with their lagged values) to GDP growth. The high p-values for C(2)...C(6) suggest the absence of causality from any of the variables to GDP growth when all the variables are examined together.

## CONCLUSIONS AND INDUSTRY IMPLICATIONS

This study examined the dynamic linkages among tourism, exchange rate, and economic growth using empirical data from the West African country of Ghana. The inquiry attempts to show that tourism can be used as an effective tool to improve Ghana's economy similar to the economies of most tourism-based Caribbean countries. Results show that economic growth is directly linked to both tourism receipts and international arrivals. Also, tourism demand seems to be linked to favorable exchange rates. The inclusion of the exchange rate variable is particularly noteworthy as it demonstrates the positive impact that a weak domestic currency can have on inbound tourism as well as on economic growth.

In the main, this study has presented preliminary empirical support for the positive impact that international tourism can have on the Ghanaian economy. As a result, the potential economic benefit of a well-developed tourism sector in Ghana's future growth cannot be minimized. This study has also pointed to instances where the vibrancy of international tourism is the primary basis for the economic development of the countries affected.

Regrettably, the barriers to international tourism in Ghana, as is the case in many other Sub-Saharan African countries, are quite extraordinary. Complicated travel procedures, under-developed airport facilities, inadequate amenities at tourist sites, poor infrastructure and security apparatus, and stringent visa requirements for tourists are a few of the barriers to making Ghana a preferred tourism destination. Arguably, these restrictions deny the country the millions of dollars that could be generated from this burgeoning global industry.

Many Sub-Saharan African countries, like Ghana, have opted to elevate the national pride of visa reciprocity above the greater economic benefit of visa-free visits. Tourism-dependent developing economies realize the huge economic gains from allowing visa-free visits, especially for tourists from high-income countries. Of note is that most of the developing countries that allow visa-free visits, and which, nevertheless do not have visa reciprocity arrangements with North American and European countries, have attained higher levels of economic development than Sub-Saharan African countries – with the exception of South Africa. Ironically, South Africa, which is the only industrialized economy in Africa, does allow visa-free tourism for Europeans and North Americans. It would be difficult to imagine that tourists from wealthy countries would visit Ghana to become economic migrants or pose a security risk.

To maximize the economic gains of international tourism, therefore, Ghana should offer unfettered entry to the world's top tourism spenders which, according to the United Nations World Tourism Organization (UNWTO 2014), include China, Russia, and the countries of North America and Europe. With the projected multi-year growth in global tourism, Ghana has an unparalleled opportunity to become a major tourist destination in the West African sub region by leveraging the competitive advantages of its friendly people, competitive currency, and rich national heritage.

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