TOURISMOS: AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF TOURISM
Volume 11, Number 1, pp. 135-151
UDC: 338.48+640(050)

Tourism Expansion, Urbanization and Economic Growth in India: An Empirical Analysis

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The present study empirically investigate the causal nexus between tourism expansion, urbanization and economic growth in India using Granger Causality test over the period from 1995 to 2014. The empirical results revealed that tourism expansion and economic growth are independent of each other in the short-run and does not validate either tourism-led growth hypothesis or growth-led tourism hypothesis. Besides, the test results showed that one-way Granger causality runs from economic growth to urbanization and urbanization to tourism expansion in India. The study suggests that the urbanization and tourism expansion cannot be sustained if economic growth momentum is not enhanced in effective manner. By implementing vigorous economic growth strategies in India, the scope for urbanization and tourism will further widen.

Keywords: *Tourism, Urbanization, Economic Growth, Granger Causality, India*

JEL Classifications: C32, L83, O40, O18

INTRODUCTION

Over the decades, tourism has experienced continuous growth and deepening diversification to become one of the fastest growing economic sectors in the world. Tourism has become an important sector that has an impact on development of national economy. It has been asserted that foreign tourism has a positive effect on the increase of long-run economic growth through different channels. First, tourism is a significant foreign exchange earner which allows for payment of imported capital goods or the basic

inputs used in the production process. Second, tourism plays an important role in stimulating investment in new infrastructure and competition between local firms and firms in other tourist countries. Third, tourism encourages other economic industries by direct, indirect and induced effects. Fourth, tourism contributes to generating employment and increasing income. Fifth, tourism can cause positive exploitation of economies of scale in national firms (Andriotis, 2002; Fagance, 1999; Lin and Liu, 2000; Schubert et al., 2011). Finally, tourism is an important factor in the diffusion of technical knowledge, stimulation of research and development and the accumulation of human capital.

In the emerging economies, tourism has become a very important element in all policies related to urban development, it is not just a strategy to provide a competitive product to meet visitors' expectations but a way to develop the city itself and provide more and better infrastructures and bring conditions to residents. Tourism needs the diverse and flexible products the urbanization can offer and urbanization need tourism to achieve their social and economic objectives.

Tourism has become a focal point for emerging Asia-Pacific nations like India. Tourism is also one of the major sectors of the economy, contributing to a large proportion of the National Income and generating huge employment opportunities. It has become the fastest growing service industry in the country with great potentials for its further expansion and diversification. India has been one of the most dynamic tourism markets over the past two decade and has become the world's top most important country in terms of international tourist arrivals. Table 1 presents the trends in international tourism arrivals and economic growth in India.

Table 1: International Tourism Arrivals and Gross Domestic Product in India

Year	GDP (Constant 2005 Billion US$)	International Tourism (Number of Arrivals)	International Tourism Receipts as a percent of GDP*
1995	448.72	2,124,000	0.70
1996	482.60	2,288,000	0.71
1997	502.14	2,374,000	0.68
1998	533.20	2,359,000	0.69

1999	580.36	2,482,000	0.64
2000	602.65	2,649,000	0.75
2001	631.73	2,537,000	0.68
2002	655.76	2,384,000	0.63
2003	707.30	2,726,000	0.74
2004	763.34	3,457,000	0.87
2005	834.22	3,919,000	0.92
2006	911.50	4,447,000	0.94
2007	1000.84	5,082,000	0.91
2008	1039.78	5,283,000	1.02
2009	1127.95	5,168,000	0.82
2010	1243.68	5,776,000	0.85
2011	1326.24	6,309,000	0.96
2012	1393.63	6,578,000	1.00
2013	1489.78	6,968,000	1.02
2014	1600.27	7,168,000	NA

Source: World Development Indicator, World Bank.
Note: NA-denotes Not-Available. International Tourism as a percent of GDP is computed using International tourism, receipts (current US$) and GDP at market prices (current US$) database collected from World Development Indicator, World Bank.

The table reveals that the number of tourist arrivals in India have consistently increased from 2.1 million during 1995 and reached to 7.1 million in 2014. India complements Asia's newest prospects for economic superpower status with the proud heritage and culture. As a result, India's tourism industries experiencing a strong period of growth, driven by the burgeoning middle class (for domestic and outbound travel) and growth in high-spending foreign tourists. The tourism industry in India is substantial and vibrant, and the nation is fast becoming a major global destination as well as an outbound visitor generating market. However, the contribution of international tourism receipts towards GDP is found to be meager and it is ranges between 0.70 and 1.02 percent throughout the study period. Table 2

presents the trend of international tourism arrivals and urbanization in India. Urbanization, represented by total urban population, and tourists arrivals in the Indian economy have been steadily growing. The total urban population have rose to 419.23 million during 2014 from 255.66 percent in 1995. Simultaneously, the number of foreign arrivals visiting India has been consistently increasing.

Table 2: International Tourism Arrivals and Urbanization in India

Year	Tourism Arrivals (Millions in Nos.)	Urbanization (Million in Nos.)
1995	2.12	255.66
1996	2.29	262.62
1997	2.37	269.69
1998	2.36	276.87
1999	2.48	284.13
2000	2.65	291.47
2001	2.54	299.25
2002	2.38	307.91
2003	2.73	316.68
2004	3.46	325.57
2005	3.92	334.54
2006	4.45	343.62
2007	5.08	352.80
2008	5.28	362.07
2009	5.17	371.38
2010	5.78	380.74
2011	6.31	390.15
2012	6.58	399.69
2013	6.97	409.36
2014	7.20	419.23

Source: World Development Indicator, World Bank.
Note: Urbanization is represented by Total Urban Population in India.

India's changing urban landscape has become the engine of attracting foreign tourist arrivals and economic growth for the Indian economy. According to the Ministry of Urban Development, and the National Institute of Urban Affairs (NIUA), more than 50 per cent of India's population will be living in urban areas by 2039. With this rapid urbanization, India is embracing the push to create smart cities. Simultaneously, Indian cities are aggressively looking to improve their infrastructure, as well as the quality of life for their inhabitants. In view of growing urbanization, the Central and State Government implemented several other significant schemes with the Smart Cities Mission such as Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM), National Heritage City Development and Augmentation Yojana (HRIDAY), Digital India, Skill development, Housing for All, construction of Museums funded by the Culture Department and other programs connected to social infrastructure such as Health, Education and Culture. These initiatives with well managed Smart City would be able to attract tourists and businesses for its enhanced sustainability and quality of life to the people of the city, and in turn promotes economic activity.

Broadly speaking, the trend of growing tourism, in both absolute and relative terms, soaring urbanization and economic activity in the Indian economy raise an empirical question whether tourism growth actually causes the economic activity and urbanization which is known as the Tourism-led Growth hypothesis/Tourism-led Urbanization hypothesis in the economic literature or, alternatively, did economic growth strongly contribute to tourism growth and urbanization?, supporting Growth-led Tourism hypothesis/Growth-led Urbanization hypothesis or, did urbanization growth contribute to tourism and economic growth which is known as the Urbanization-led Tourism hypothesis/Urbanization-led Growth hypothesis/Tourism-led Urbanization hypothesis. Sometimes, did tourism, urbanization and economic growth are independent, validating the neutrality hypothesis which states that there is no causality between tourism, economic growth and urbanization. Considerable volume of research has been conducted on the subject, but still there exist conflicting evidences in the literature regarding the Tourism-Growth relationship. Insufficient literature on the Tourism-Urbanization nexus has contributed to the lack of understanding of tourism and its effects on the development of cities i.e. urbanization, and vice versa. Hence, the need to examine the causality between the tourism and urbanization has become much more relevant in the recent decades for the developing nations like India. Moreover, from the

related literature, it is clear that most of the studies have indeed been dealing with samples of developed countries belongs to the European Union, the Middle East, Africa and Americas. Despite the increasing importance of tourism for developing economies, a very few studies have been found to rigorously assess the Tourism-Urbanization-Growth nexus in the context of Indian economy.

Our paper attempts to investigate the causal nexus between tourism expansion, urbanization and economic growth in India using pair-wise Granger Causality approach. Throwing light on this subject will have important implications for the development of different tourism marketing and policy decisions in the context of urban transformation and economic activity. The remainder of the paper is organized as follows: Section-II provides the related literature. Section-III describes the methodology and data used for empirical analysis. Section-IV offers empirical results and discussion of the study. Concluding remarks are presented in section-V

REVIEW OF LITERATURE

Keeping in view the positive impact of tourism on economic growth many researchers have investigated the relationship between tourism sector development and economic growth. Gani (1998) for South Pacific economies, Kim et al. (2006) for Taiwan, Louca (2006) for the case of Cyprus, Noriko and Mototsugu (2007) for the Amami Islands in Japan concluded that significant relationship exists between tourism expenditure and economic growth. For Spain and Mauritius, Balaguer and Cantavella-Jorda (2002) and Durbarry (2004) supported the tourism-led growth hypothesis, respectively. Eugenio-Martin and Morales (2004) confirmed the validity of the tourism-led growth hypothesis for low and middle income countries in Latin America while they assert that the situation is different for high income countries. Skerritt and Huybers (2005) analyzed the effect of international tourism on GDP per capita of 37 developing countries and the results supported the tourism-led growth hypothesis. Wickremasinghe and Ihalanayake (2006) investigated the tourism and growth nexus for Sri Lanka using annual data from 1960 to 2000 and they suggested a significant causal relationship from tourism receipts to the GDP of Sri Lanka. Khalil et al (2007) examined the role of tourism in the short-run economic development for Pakistan through error correction model and indicated that there is strong relationship among tourism receipts and economic expansion. Fayissa et al (2007) using a panel data of 42 African countries, showed that

receipts from tourism industry significantly contribute to economic growth for the Sub-Saharan African countries.

In addition, Fayissa et al (2009), using a panel data of 17 Latin American countries for the years that span from 1995 to 2004, showed that revenues from the tourism industry positively contribute to the economic growth of Latin American Countries. Brida et al. (2009) supported the tourism-led growth hypothesis for Colombia. Kreishan (2011) examined the causality relations between tourism earnings and economic growth for Jordan using annual data covering the period 1970-2009. The empirical results showed a positive relationship between tourism development and economic development in the long-run. Moreover, the Granger causality test results revealed the presence of unidirectional causality from tourism earnings to economic growth. Besides, Kasimati (2011) reports unidirectional causal links from tourism arrivals to GDP in Greece. Moreover, Srinivasan et al. (2012) examined the impact of tourism on economic growth in Sri Lanka and showed that the tourism has a positive impact on economic growth in Sri Lanka both in the short-run and long-run. Similarly, Trang et al. (2014) found the evidence of tourism-led growth hypothesis for Vietnam. Recently, Tang and Tan (2015) verified the validity of the tourism-led growth hypothesis in Malaysia using a multivariate model using annual data from 1975 to 2011. They found that tourism Granger-causes economic growth.

On the other hand, Oh (2005) found one-way causal relationship from economic growth to tourism in the case of Korean economy. Besides, Dristakis (2004) for Greece empirically proved the existence of a bidirectional relationship between the two variables. For Turkey, while Gunduz and Hatemi-J (2005) found unidirectional causality from tourism to economic growth using leveraged bootstrap causality tests for the period 1963–2002, Ongan and Demiroz (2005) suggested bidirectional causality between international tourism and economic growth in Turkey for the period of 1980Q1–2004Q2 using Granger causality test results. Lee and Chien (2008) reported bi-directional causality in Taiwan. Chen and Chiou-Wei (2009) showed that the tourism-led economic growth hypothesis was supported for Taiwan with a reciprocal causal relationship found for South Korea. Lee and Chang (2008) investigated the casual relation between tourism development and economic growth for OECD and non-OECD countries (including those in Asia, Latin America and Sub-Sahara Africa) over the 1990–2002 period. The empirical results showed unidirectional relationship from tourism to growth for OECD countries whereas a bidirectional causality relationship exists for non-OECD countries.

For America, Latin America, Caribbean and World countries, Caglayan et al. (2012) showed that there is a unidirectional causality from GDP to tourism revenue. Moreover, for the cases of East Asia, South Asia and Oceania the reverse direction of causality was found from tourism revenue to GDP. The study failed to trace any causal relationship for the cases of Asia, Middle East and North Africa, Central Asia and Sub Saharan Africa. Chou (2013) studied the causal relationships between tourism spending and economic growth in 10 transition countries for the period 1988–2011. The empirical findings supported the neutrality hypothesis for 3 of these 10 transition countries (i.e. Bulgaria, Romania and Slovenia). The tourism-led growth hypothesis holds for Cyprus, Latvia and Slovakia while reverse relationships were found for the Czech Republic and Poland. The feedback hypothesis also holds for Estonia and Hungary. Deng et al. (2014) found that tourism influences economic growth, but the relationship was not statically significant for the 30 provinces of China. Recently, Antonakakis et al. (2015) detected that the causal relationship between tourism and economic growth is not stable over time for the 10 European countries.

METHODOLOGY

Data

In the present study, we have taken annual time-series data over the period from 1995 to 2014. The variables in this study include Tourism Expansion (TOUR), expressed in terms of number of foreign tourist arrivals in India and Indian Gross Domestic Product (GDP) measured in constant 2005 US dollars. The total tourist arrivals are utilized as a proxy of tourism expansion, consistent with previous studies (Wang and Godbey, 1994, Kim et al. 2006 and Seetanah et al. 2011). Urbanization (URBAN) is measured by the total population living in urban areas as defined by Central Statistical Office (CSO), India. The data are obtained from World Development Indicators (WDI) database, World Bank, Washington. Ultimately, all series are transformed into natural logarithm form to obtain stationarity in the variance-covariance matrix (Chang et al., 2001 and Fatai et al., 2004).

Model

Unit root test

Granger and Newbold (1974) illustrated that if Ordinary Least Squares (OLS) methods are applied to non-stationary data, one is highly likely to obtain very misleading estimates of the parameters of interest. This situation is known as spurious regression, where the OLS results show a

strong link between variables even though there may be no relationship between them. In order to examine the stationarity properties of the time-series, the unit root test is used. A series is said to be (weakly or covariantly) stationary if the mean and autocovariances of the series do not depend on time. Any series that is not stationary is said to be non-stationary, and includes a unit root such that the number of differences (d) it takes for us to render the data stationary defines the level of stationarity, denoted I(d). Typically, for a time-series to be rendered stationary, we must first-difference the observations, rendering the series an I(1) process.

A common example of a non-stationary series is the random walk denoted as:

$Y_t = Y_{t-1} + \varepsilon_t$ *(1)*

where y_t is the target variable in current and y_{t-1} is one time lag of the same variable. ε_t is a stationary random disturbance term. The series y has a constant forecast value, conditional on time t, while the variance increases over time. The random walk is an I(1) stationary series, since the first difference of y is stationary as follows:

$Y_t - Y_{t-1} = (1 - L)\, Y_t = \varepsilon_t$ *(2)*

A first-difference stationary series is said to be integrated and is denoted as I(d), where d is the order of integration. The order of integration is the number of unit roots contained in the series, or the number of differencing operations it takes to make the series stationary.

Standard inference procedures do not apply to regressions, which contain an integrated dependent variable or integrated regressors. Therefore, it is important to check whether a series is stationary before using it in a regression. The formal method to test the stationarity of a time-series is the unit root test: the Augmented Dickey-Fuller (ADF) test or the Phillips-Perron (PP) test. The Augmented Dickey-Fuller - ADF test consists on the estimation of the following equation using the Method of Least Square (MLS):

$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{i=1}^{p} \delta_i \Delta Y_{t-1} + \varepsilon_t \qquad (3)$$

where, ΔY_t is the first difference operator ($Y_t - Y_{t-1}$), α is the intercept, βt is the model tendency component, γ is the coefficient that allows the stationary test (if $\gamma = 0$, Y has a unitary root), p is the number of lag terms to be included in the model and ε_t is the random error term or the stochastic disturbance.

The Phillips and Perron (PP) test was also commonly used to verify the presence or not of unitary root. The difference between both tests is that the Phillips-Perron test gives us the guarantee that the disturbances are not correlated and have constant variance. Opposed to the Augmented Dickey-Fuller test, the Phillips and Perron test does not include the lag difference terms, but may include the tendency and the intercept terms.
The KPSS (Kwiatkowski, Phillips, Schmidt & Shin) test[1] was developed as a form to complement the analysis of the traditional unitary root tests, such as the ADF and PP tests. On the contrary of the ADF and PP tests, the KPSS test considers as the null hypothesis that the series is stationary, or stationary around a deterministic tendency, against the existence of a random path as an alternative hypothesis. The present study uses the KPSS test to examine the stationarity condition of the variables.

Granger Causality Test

The Granger causality test is used to examine the causal nexus between tourism expansion, urbanization and economic growth in India. The Granger (1969) approach to the question of whether an independent variable (x) causes variation in the dependent variable (y) is to see how much of the current value of y can be explained by its past values. We should then move to examine whether adding lagged values of the independent x can improve the explanatory power of the model. The dependent variable y is said to be Granger caused by x if x helps in the prediction of y, or equivalently if the coefficients on the lagged x values are statistically significant. It should be noted that a two-way causation is frequently found such that x Granger causes y and y Granger causes x. It is important to address that the statement "x Granger causes y" does not imply that y is the effect or the result of x. Granger causality measures precedence and information contents but does not by itself indicate causality in the more common use of the term.
A primary step to follow when selecting the Granger causality view is to define the number of lags to be used in the test regressions, since the theory is bedded in terms of the relevance of all past information. A lag length should be chosen that corresponds to reasonable beliefs about the time over which one of the variables could help predict the other. The optimal lag length is selected with the smallest values of Akaike Information Criteria (AIC) and Schwartz Information Criteria (SIC).
We ran bivariate regressions of the form:

$$y_t = \alpha_0 + \alpha_1(y_{t-1}) + \beta(x_1) + \beta_1(x_{t-1}) + \epsilon_t \quad (4)$$

$$x_t = \alpha_0 + \alpha_1(x_{t-1}) + \beta(y_1) + \beta_1(y_{t-1}) + \epsilon_t \quad (5)$$

For all possible pairs of an (x, y) series in the group, the reported F-statistics are the Wald statistics for the joint hypothesis, and the null and alternative hypotheses, respectively, are reported as follows:

$$H_0: \alpha_1 = 0;\ \beta_1 = 0;\ \beta_2 = 0$$
$$H_1: \alpha_1 \neq 0;\ \beta_1 \neq 0;\ \beta_2 \neq 0$$

For each equation, the null hypothesis is that x does not Granger cause y in the first regression and that y does not Granger cause x in the second regression.

EMPIRICAL RESULTS

To check the stationarity of our data we use the KPSS (Kwiatkowski, Phillips, Schmidt & Shin) test and the results are reported in Table 3. The unit root test results reveal that the null hypothesis of stationarity against the alternative of non-stationarity cannot be rejected in levels of variables, hence the time-series data of TOUR, URBAN and GDP are stationary at levels and are integrated of the order, I(0).

Table 3: KPSS Unit Root Test

Variables	Intercept	Intercept & trend
	Level	
TOUR	0.586	0.111
URBAN	0.614	0.142
GDP	0.611	0.156

Notes: Optimal lag length is determined by the Schwarz Information Criterion (SIC).

Since the time-series data of tourism expansion, urbanization and economic growth are stationary of order I(0), a Granger Causality test can be constructed in terms of the levels of the data (Engle and Granger, 1987). Therefore, we proceeds with a short-run causal nexus between the study variables using the Granger Causality approach.

Table 4: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	66.09	--	7.54e-08	-7.887	-7.742	-7.879
1	170.6	156.7	5.08e-13	-19.82	-19.24	-19.79
2	192.4	24.58	1.19e-13	-21.43	-20.42	-21.38

3	201.1	6.514	1.96e-13	-21.39	-19.94	-21.32
4	281.7	30.22*	9.18e-17*	-30.34*	-28.46*	-30.24*

Notes: * indicates lag order selected by the criterion. LR: sequential modified LR test statistic. FPE: Final prediction error AIC: Akaike information criterion SC: Schwarz information criterion HQ: Hannan-Quinn information criterion.

The Granger Causality test is sensitive to the selection of optimal lag length and the necessary lag length of TOUR, URBAN and GDP series is determined by the Akaike information Criterion (AIC) and Schwarz Information Criterion (SIC). The results are presented in Table 4 and it reveals appropriate optimal lag length of four.

Table 5: Pair-wise Granger Causality Test

Lags	**1**		**2**		**3**		**4**		**Inference**
Null Hypotheses	**F-Stat**	**Prob**	**F-Stat**	**Prob.**	**F-Stat**	**Prob.**	**F-Stat**	**Prob.**	
TOUR does not Granger cause GDP	0.015	0.903	0.101	0.904	1.177	0.397	1.177	0.397	
GDP does not Granger cause TOUR	2.522	0.131	7.329	0.007	1.802	0.232	1.802	0.232	INDEPENDENT
URBAN does not Granger cause TOUR	3.755	0.070	6.455	0.011	6.322	0.011	3.252	0.082	
TOUR does not Granger cause URBAN	14.19	0.001	1.901	0.188	1.828	0.205	0.809	0.556	URBAN ⇒ TOUR
URBAN does not Granger cause GDP	4.636	0.046	0.101	0.904	2.474	0.121	2.928	0.102	
GDP does not Granger cause URBAN	45.16	0.000	7.329	0.007	2.800	0.094	4.426	0.042	GDP ⇒ URBAN

Results of Granger causality test for India as presented in the Table 5 show that the neither null hypothesis of 'TOUR does not cause GDP imports' nor 'GDP does not cause TOUR' cannot be for all lags except lag of two. At two-lag period, the null hypothesis of 'GDP does not cause TOUR' has been rejected at one percent level, implying the presence of unidirectional causation from economic growth to tourism expansion in India. Except for lag two situation, the other lag periods under the Granger Causality test strongly reveals that tourism expansion and economic growth are independent of each other, supporting the neutrality hypothesis.

Moreover, the test results at one-lag period show that null hypothesis for 'URBAN does not cause TOUR' as well as null hypothesis for 'TOUR does not cause URBAN' are rejected at one and five percent level of significance, respectively. This leads to the conclusion that there exist bidirectional causality between tourism expansion and urbanization. However, the evidence from other lags indicate that null hypothesis 'URBAN does not cause TOUR' are rejected at five and ten percent levels, on the other hand the null hypothesis of 'TOUR does not cause URBAN'

are accepted, which indicates the unidirectional causality running from urbanization to tourism expansion, supporting urbanization-led tourism strategy.

Furthermore, the Granger Causality test results at one-lag period show that null hypothesis for 'URBAN do not cause GDP' and null hypothesis for 'GDP does not cause URBAN' are rejected at five and one five percent level of significance, respectively. This shows that there exist bidirectional causality between urbanization and economic growth. However, the evidence from other lags indicate that null hypothesis 'URBAN does not cause GDP' are accepted, and the null hypothesis of 'GDP does not cause URBAN' are rejected, which indicates the unidirectional causality running from economic growth to urbanization, supporting growth-led urbanization strategy.

From the empirical evidences of optimal lag four, suggested by lag-length selection criteria such as AIC and SIC, and taking into consideration the predominance findings observed from other lag-period as well, it can be concluded that tourism expansion and economic growth are independent of each other, whereas economic growth causes urbanization which in turn leads to tourism expansion in India.

Our empirical findings have major policy implications. We detected that tourism expansion and economic growth are independent of each other, suggesting that the Central Government of India should give much emphasis on its economic policies to promote economic growth more than paying attention towards promoting inbound tourism in the region. Second, our results show a one-way Granger causality from economic growth to urbanization and urbanization to tourism expansion in India, the implication is that urbanization and tourism expansion cannot be sustained if economic growth momentum is not enhanced in effective manner. By implementing effective economic growth strategies in India, the scope for urbanization and tourism will further widen.

CONCLUSION

The present study empirically investigate the causal nexus between tourism expansion, urbanization and economic growth in India using Granger Causality test over the period from 1995 to 2014. The empirical results revealed that tourism expansion and economic growth are independent of each other in the short-run and does not validate either tourism-led growth hypothesis or growth-led tourism hypothesis. Besides, the test results showed that one-way Granger causality runs from economic

growth to urbanization and urbanization to tourism expansion in India. The study suggests that the urbanization and tourism expansion cannot be sustained if economic growth momentum is not enhanced in effective manner. By implementing vigorous economic growth strategies in India, the scope for urbanization and tourism will further widen.

End Note

[1] See Kwiatkowski *et al*. (1992).

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