

## Tourism, money supply and progressive inflation

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### ABSTRACT

Context and background: The relation between money supply and inflation is not always clear in tourism economic systems, due to non-economic factors, and incomplete explanation such as by the Tourism Area Life Cycle, which gives no idea of how cycles are affected by or affect price. Motivation: This study is motivated by an idea that in real life prices do not rise or fall as per Marginal Utility Theory, but rise is lump-sums, hence to present a more realistic theory of money, inflation, and tourism. The hypothesis is that inflation is often due to weakness of currency but also monetary policy, in terms of reduced supply of smaller currency, cumulative effect of price rise of some commodities, rise in wages, and inelastic demand. The method used is to demonstrate the failed Product Life Cycle concept and present the modified quantum or denomination theory of money. The results, after analysing data from UK and world figures, show that inflation is progressive. A strategy based on the theory can help less well-off people in rural areas manage better, affordable tourism.

### 1. Introduction

This research paper develops a view that is both that of economic anthropology and traditional economics; a combination of a viewpoint that is both of modern economics and Marxian (as different from 'Marxist', which implies political ideology): the paper deals entirely with economics, but as a result of the cross-disciplinary perspective, the literature review has a long discussion.

The central problem of tourism, from the standard viewpoint of economics, has been how to manage it in such a way that the benefits outweigh the costs. Around the 1950s and 1960s, the economics of tourism was often thought of in terms of 'foreign trade' (DeKadt, 1979). Thus, gains from tourism on a national level are assessed through 'satellite accounts', which 'allows for the harmonization and reconciliation of tourism statistics from an economic (National Accounts) perspective. This enables the generation of tourism economic data (such as Tourism Direct GDP) that is comparable with other economic statistics of nations', as well as input-output analysis (Sinclair & Stabler, 1997; OECD 2008). Yet analysts quite early on realized that tourism was not exactly like foreign trade, since it involves the incursion of people, hence social impacts that could not be ignored because they had further economic repercussions: wastage of resources, heavy reliance on imports, tying up of capital or investment that may benefit tourists but not local people, and negative ecological impacts that affect the economy in the medium to long term (Archer, 1984; DeKadt, 1979; Farrell, 1977; Holden, 2000; Young, 1973).

From the viewpoint of statics in economics, however, tourism seemed promising for increasing money supply and consequently an increase in income, as also favourably affecting investment in a sector that would increase employment/income in other sectors (Sinclair & Stabler, 1997). It was presumed that increase in tourism or even a stable volume of tourism would, following the Keynesian concept of multipliers (income and employment), have a ripple effect, benefiting the economy. Today, when, due to the two and half years of the COVID pandemic, the world is in an economic crisis, both practitioners and academics are trying hard to understand how to 'restart tourism' so that, once again, higher employment rates and higher income, can replenish impoverished systems. While the situation may not be as bad as the Great Depression of 1929, it is natural to remember Marshall and Keynes, who were highly instrumental in influencing changes that improved economic systems world over after the Depression. But it is also necessary to remember Marx, called the 'last of the classical economists' (McLellan, 1975).

While some have tried to establish that what Marx called his 'greatest achievement', the theory or 'rule of the falling rate of profit' is not entirely provable (Meek, 1976), a fresh look at it has shown how Marx was essentially

trying to show that economic systems are affected by the Law of Entropy (cf. Rifkin & Howard, 1981), including not just capitalistic systems, but *all systems based on money*, which are not 100% efficient, leading to natural decline in efficiency over time, hence a decline in profits (Singh, 2022). This is established both from the Marxian economics view, and with econometrics, whereby the total value of the economy is not thought of as 'accumulated in the total money circulating or invested in various ways' but also some resources that are needed and have value (but cannot be thought of in terms of the Theory of Utility) by the economy to function, such as ecological systems, including clean air and water (Singh, 2022). In fact, Marx's commentator and critic, McLellan (1975) clearly states: 'Marx was distinctive in ... criticizing, from his early writings onwards, the current conception of economics which dealt only with the market (appearance) without considering the social foundation (essence) on which the market is based.'

### 2. Literature Review

While talking at length about the methods of analysis that economists utilize, Berliner (1962) wrote that the subject deals with statics, comparative statics, and dynamic states of equilibriums. Clearly, tourism is thought of frequently in terms of comparative statics, when it is said that tourism benefits economic systems that have it, and the ones without it are poorer off (because, all other things are, theoretically, equal): hence, infusion of money through tourism benefits the system through income and employment, *ceteris paribus*. Yet, Berliner did not emphasize sufficiently that all three modes or methods of conceiving equilibriums are largely 'constructs', since, in reality, economic systems fluctuate from stable to unstable to stable again, hence dynamic in an uncertain way. It is due to this uncertainty that the illogical certainty of the Tourism Area Life Cycle (TALC), which is a variation of the Product Life Cycle (PLC), hence a way of depicting business cycles indirectly, is always shown by followers of the concept as an S-curve (see Butler 1980, 2006a, 2006b), irrespective of location (accessibility, which affects seasonality and volume of visitation), type of destination (hence type of product), climate change, and types and mixes of marketing strategies (since marketing certainly changes the dynamics of visitation, otherwise it is surely a waste of time and money), and has been critiqued by Singh (2021) as 'purely hypothetical, not borne out by facts'.

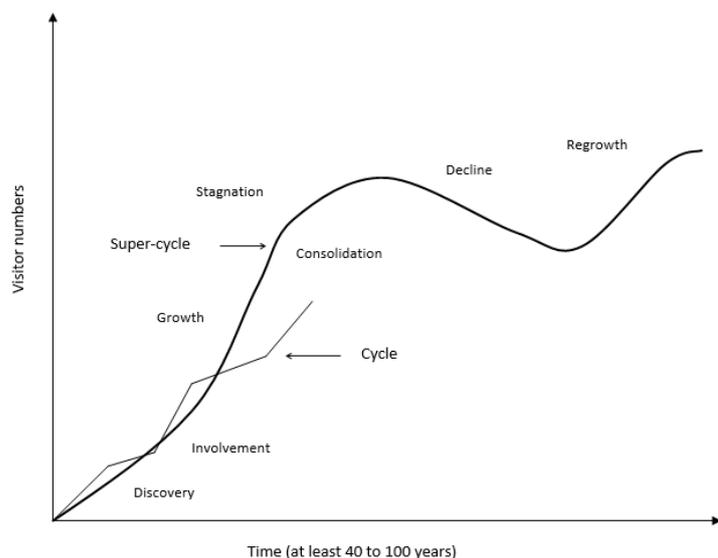
The TALC model is actually supposed to be a model of dynamic equilibriums of various destinations, but presents it in a completely static way. Hence, as seen in a modified version of the TALC (Figure 1), the average rise and fall is predicted, so that, irrespective of (1) what the tourism product is, (2) what length of time is

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taken up, (3) what marketing forces are at work, (4) what is the state of the infrastructure and facilities in the economy that the destination is located in, (5) whatever be its geographical location and climate, (6) whatever be the culture of the host society/community, (7) whatever be the culture of the tourists, (8) whatever be the transport restrictions as a result of above factors, (9) whatever be the state of the economies of the tourists who are visiting the destination, (10) whatever be the political situation—the tourist 'volume' always works out to be an S-curve, against 'time'. The absurdity of this notion, since it cannot be called a concept, while widely accepted without disagreement, should be obvious.

Figure 1. Tourism Area Evolution



Source: Singh (2021)

If that is not enough, the 'prediction' of the end of the TALC process, is given by four or five 'variations' (obvious and logical), hence the model is mainly absolutely rigid and then totally flexible, and thus has no predictive power. But the power of 'academic authority' is such that researchers continue to accept it. So while discussing Chaos Theory with reference to TALC (Russell 2006), the author says at the outset: 'At the macroscale the development of many tourist destinations does appear to progress through the S-curve or a mutation of it, quite predictably [?] as suggested by Butler. But when zooming in on the evolution of a destination it is evident that the process is not as straightforward as it appears in the macro view' (Russell, 2006). So even in the first case, 'a mutation' is allowed (predictably?), while in the other case 'it is evident that the process is not as straightforward'. The author further says that the last stage of TALC, the 'stagnation stage' may present a point of 'tenuous equilibrium' at 'the edge of a dramatic transformation which could have distinctly different outcomes ... However, it might be that destinations are at the edge of chaos at all stages of their evolution' (Russell, 2006). It becomes very obvious from the foregoing that the author is confused, and wishes not to 'step out of the line' and say that the model is of really no conceptual value.

The TALC model has been discussed here to emphasize that models of reality may be so out of tune (see, for example, Choy, 1992; Chapman & Light, 2016) that they cease to be useful heuristically or from the viewpoint of tourism 'epistemology' (they contribute nothing to tourism as a field of 'theory of knowledge') or tourism economics' 'hermeneutics' (validity of knowledge for understanding the nature of existence) (Bullock, Stallybrass & Trombley, 1988).

The PLC, especially as seen in the TALC, seems, to begin with, to contradict the Marginal Utility Theory, which states that, as demand increases for a product and sales increase, economies of scale are reached and the price of the good keeps going down. While it must be kept in mind that economies of scale are not *ad hoc*, but have to do with time of production, period of production, type of technology used, types of products being made, etc. (Silberston 1973), the basic idea is that, given economies of scale, the price of products will be optimised, while Marginal Utility Theory (MUT) says that, generally, as production increases, given economies of scale, it will bring prices down marginally per extra unit (Stonier & Hague, 1980). The TALC, or PLC, seems to offer the 'concept' that *all products have full elasticity of demand*, but in a fixed way, so that volume of tourists (in TALC) will just keep rising in a pattern, despite all the 10 complexities mentioned above, and that increase or decrease in prices would have no effect, except in the long run, on volume of tourism: but

even in the end, Butler's (1980) TALC model leaves the cycle open-ended and uncertain. The only point that can be said in favour of TALC is that, in offering a 'tentative decline in volume', it seems to be repeating what Marx had said 100 years before the TALC model was proffered: the rule of the falling rate of profit. The big differences, of course, are that Marx's rule is definitive and about profits, while the TALC model uncertain about the end and says nothing about profits directly. In other words, while TALC, as a special case of PLC, is a 'concept' in business economics or about business cycles, it has no insight to offer on the central idea of economics: that products and services are exchanged for profit maximization along with satisfactions of needs.

The PLC and TALC tell us nothing about how money supply affects inflation, though they should, since they explain microeconomics: they ought to explain how prices of products bring about inflation and, conversely, how inflation affects product prices. To come back to statics, comparative statics and dynamics: suppose there are two economies E1 and E2, with sectors A1, B1, C1 and T1, where T stands for 'tourism'; and A2, B2, C2 and T2. Statics would involve, as Berliner (1962) says, comparison of sectors A1, B1, C1 and how they interact with T1, and then separately analyse A2, B2, C2 and how they interact with T2, to see, generally, how tourism sectors, with income, employment, products, labour mesh with their respective sectors in E1 and E2. Comparative statics is comparison of how T1 and T2 interact with A1, B1, C1 and A2, B2, C2, comparing their interactive ability across the two economies. Dynamics, on the other hand, is very complex, when comparison is made of equilibriums. In tourism economics, models of dynamic equilibrium of economies conceived of leakages of income, seasonality of jobs through tourism, high underemployment in unorganized sector of tourism systems, and other structural instabilities. But comparison of inflation rates, taking any one standard as defining others, is all too complex, and when seen from the viewpoint on currency exchange rates and money supply, a task that has been, to the best of knowledge, not taken up.

This is because tourists are not comparable. The TALC and destination competitiveness indexes do not explain, for instance, how a mixture of Chinese tourists and Japanese ones at a destination are comparable, or the consistency or strength of their demand and spending, comparable to another destination with British and Russian tourists. To explain, comparative statics would explain in an economy, how demand works while capital and labour work to their full capacity. Hence, Moggridge (1976), explains Marshall, 'while recognizing that deficient aggregate demand could exist in exceptional periods, following episodes of widespread speculation culminating in financial crisis, generally assumed that capital and labour were fully employed.' Similarly, for the credit cycle, Marshall assumed 'changes in real variables—harvests, wars or threats of war, inventions. Such changes led to changes in businessmen's expectations, errors of optimism or pessimism as he called them, which the banking system magnified. Thus an event that led to a favourable shift in expectations led businessmen, financed by the credit system which took a more favourable view of paper to pay, for increase in demand for inputs of goods and labour. This pushed up wages, prices and profits. Many speculators, experiencing the rise in prices and thinking it would continue, bought goods with the expectation of selling them at a profit, thus giving a further twist to the upward movement. The expansion continued ... until lenders began to read the signs of the times, and began to contract their loans, thus affecting both speculators and businessmen undertaking longer-term capital projects. Speculators sold some of their goods to pay off their debts and by so doing brought a check to the prices. At this point, distrust replaced confidence ... There followed a dull heavy calm ... In his explanation, Marshall laid some emphasis on the effect of rigidities in the system, particularly wages, salaries and other business charges.' (Moggridge, 1976).

The passage explains how statics works, as capital and labour are assumed to be fully employed, hence the changes, despite 'rigidities', led to 'rise in wages, prices and profits'. As they all rise at the same time, so growth, not inflation and unemployment, are results. In terms of tourism, economic factors cannot be as easily assumed to be in a 'perfect' condition. First, tourism systems, as part of larger economic systems, are inherently in a state of flux. Either naturally, or due to marketing and government promotion of investment in this sector, as happens in many developing economies, tourists increase, and nations and regions are connected by the flow of tourists as well as money that they spend. This calls for understanding dynamic equilibriums, which is more difficult as cultural factors have to be accounted for and cannot be accurately thought in monetary terms. Non-tourism related factors like overfishing in a seaside tourism resort, led to its decline and death, and attempts are being made to revive it for tourism (BBC 2018).

While planning for tourism, tourism carrying capacity has to be taken into account, both from the economic and social viewpoint (Getz, 1983), as well as the security angle of tourists and local people. For example, the visitor/tourist carrying capacity of a museum like the Louvre in Paris, housing the famous painting MonaLisa, can be fixed. To control decay of this painting due to excessive

carbon dioxide that leads to formation of carbonic acid in the ambient air of the museum, the capacity, perforce, has to be limited. When there is constant, heavy demand to see the Louvre, admission charges can be raised, say, from €15 to €25, but the demand can be so high that a pricing mechanism alone is bound to fail. So, a fixed number of tickets sold per day may solve the problem. But, in contrast, a destination as a whole usually has very limited means of fixing strict admission. In Venice, the city centre, which is isolated by canals, used to have a breach of absolute carrying capacity for a fixed number of days, and this continued for years. However, the number of tourists in the rest of Venice, calculated by fuzzy logic and maximum economic carrying capacity, could not be implemented properly, though calculated by van Der Borg (1992) and this discrepancy led to over-tourism (Singh, 2015a). It was only when local people came out on to the streets in waves of protests against tourists that the seriousness of adverse impacts of tourism was realized (Singh, 2021).

In fact, this has little directly to do with money supply and inflation, but if such protests had continued (the COVID pandemic came as a 'relief'), the number and quality of tourists would decline, as local people's rage can lead to serious violence sometimes, marring the future prospects of such a well-known tourist city as Venice. In a similar case, north Goa, which has been run over by foreign as well as domestic tourists, has seen rising crimes and dirty beaches: a deterioration of the destination leads to permanent loss of high-paying tourists, or even steady tourism, or paradoxically, raises room rates in choice, safe areas, while leading to deserted areas in other places; or even proliferation of second homes and loss to criminal elements who populate such 'lost tourist areas' like some parts of Goa (Singh, 2015a; 2015b). To conclude, the effect of increase or decrease in tourists itself does not promote sustainable tourism, hence the influence of volume increase may increase tourism-led inflation, as is well-known for many tourist areas, even as it increases money supply (Tribe, 1995). On the other hand, decrease in tourism supply, hence loss of money, may not lead to disappearance of inflation, as happens in off-seasons in some tourists areas like Manali, Himachal Pradesh, India, where souvenirs and room rates remain overpriced (fieldwork experience of author). The logical conclusion is that, just as a destination cannot precisely control the types and numbers of tourists, the relationships between volume of demand, types of demand, marketing, money supply and inflation, and even demarketing (in case of over-tourism), cannot be accurately measured by concepts like the Granger co-efficient, since cultural and social factors are not accounted for by it.

The general relationship between supply of money and inflation is not necessarily to increase money supply to control inflation: the opposite may also be true, and different economies may behave differently (Pearce, 1974). While a general overview of money and business cycles is provided by Friedman & Schwartz (1965) and George et al. (1999), Posner (1961) has examined international trade from the viewpoint of technical change. A brief look at the range of theories related to money supply and inflation in tourism, as well as economic growth, finds little mention of it in early works like Sinclair & Stabler (1997). However, Crouch (1992) has examined the relationship between income and price on international tourism. Tribe (1995) mentions tourism-led inflation, but offers no in-depth analysis of what this results in, in terms of tourism demand. In a later work, Tribe (2010) does not mention any strategy for tourism optimization through control of money supply or inflation. Turner et al. (1997) and Cho (2001) use very complex, technical concepts, on the other hand, to study tourism forecasting. Later works, such as Işık, Kasimati and Ongan (2017) clearly mention causality between growth of CO<sub>2</sub> emissions and negative environmental impacts, along with economic growth and tourism in Greece in the long term, but not in other cases studied; while Ridderstaat, Croes & Nijkamp (2013), in another long-term study, conclude that tourism spurs economic growth, and economic growth, too, increased tourism in Aruba. This reciprocal relationship is not always in keeping with very positive effects of tourism, as anthropologists Greenwood (1989) and Nash (1989) have classified this sort of economic situation as creation of 'dependencies'.

Goodwin (2007) has examined the effect of money supply through tourism on the economically disadvantaged, with the obvious corollary that tourism and inflation hurt the poor more. Guizzardi & Mazzocchi (2010) have investigated the role of tourism demand on business cycles in Italy; while Brakke (2004) has delved into the relationship between tourism demand and GDP. Analysing linear and non-linear relationships between tourism development and economic growth, Işık, Dogru & Sirakaya Turk (2017) 'show that tourism development and economic growth are interdependent in Germany'; and 'whereas tourism development induces economic growth in China and Turkey, the reverse is true in Spain'. A more recent study of money supply and tourism demand by Ridderstaat & Croes (2017) shows that 'money supply cycles can impact the cyclical movements of tourism demand, and that

the impacts are asymmetric, depending on the stage of development of the cycles. These findings [show] the need for adequate policies to counter expected tourism performances below their trend'. While Dogru, Işık & Sirakaya Turk (2019) have investigated the relationship between balance of trade, exchange rates and tourism, a sophisticated study by Turna & Özcan (2021) of the relationship between foreign exchange rate, interest rate and inflation in Turkey, and another, on the relationship between exchange rate and inflation (Altunöz 2020) show that exchange rates have a definite link to inflation.

However, the theory outlined here is a much simpler explanation of how to maximize optimization in sub-systems, similar to developing economic resilience in sub-systems or the unorganized sector, such as discussed by Becken (2013) and Cochrane (2010), especially resilience for recovery from economic shocks due to natural disaster (Biggs, Hall & Stoeckl, 2012). In a concept of partially controlling inflation in the short term, a strategy is suggested in the following that echoes its need, voiced by Ridderstaat and Croes (2017). As Adger (2000) has pointed out, social (and as a consequence, economic) resilience are not the same as ecological resilience, but they are related, especially for the vulnerable poor; hence, the resilience of sub-systems in economies can be enhanced by monetary policy to continue, or promote, small currency to offset inflationary tendencies, especially for the poorer, rural people involved in tourism.

While inflation is not a new phenomenon, and has been around for over a century, it exists all over the world, even in developed countries; to counter a disadvantage in tourism demand in the short term, inflation can be partially controlled by liquidity in small currency. The study, therefore, advances a new theory of inflation that states that, due to incremental, lump-sum changes in prices of essential and daily commodities, and consequent raising of wages by employers, with an inability by manufacturers to raise prices of many products with greater frequency, compounded by price inelasticity of some products, disuse of (though officially existent) small currency—owing to devaluation by the people in an economy—causes progressive inflation. The paper thus makes a case for another reason for support of Marx's 'rule of falling rate of profit', in addition to an explanation offered by Singh (2022), and suggests that monetary policy that actively enhances use of small denomination currency, can lead to stability of price of some commodities in the short term, staving off inflation and enhancing the gains from tourism in the short term.

Small denomination currency circulation can prevent rise in prices of products by the fact that ordinary tourism products, like food and beverage prices usually rise gradually, but room rates rise in larger 'quanta' or 'packets' or 'lump-sums', not small units. That is, small price rises in food offered at hotels and restaurants can be adjusted to rise in raw materials, but wages are usually not raised as frequently. Even if real wages do not rise in tune with inflation, increasing wages and cumulative rise in prices of essential commodities force the entrepreneur to increase price of food items and room rates. Even room rates, however, cannot be adjusted for inflation on a very regular basis, as this affects attractiveness of hotels and other accommodation. Yet, it is common knowledge that room rates do rise, and when they do they are in hundreds of units, not units, and it is only then that investors can adjust for losses due to increase in wages and food materials. Sudden price rises in costly raw materials are adjusted in similar way by raising prices in lump-sums. Overall, however, some essential items like food keep rising in the medium to long term, suggesting that circulation of small currency can partially offset inflationary pressures of prices of all commodities, including tourism products, making a destination more attractive from the price point of view.

For the hotelier investor to continue to profit, raises in what economists call real wages are done only occasionally. While prices of daily-use commodities may remain, comparably, stable, small quantum increases add up to fuel inflation. When prices are increased by tourism enterprises, especially rented room rates, they do so only when no other way out can be seen. Hence, room rates may rise from \$100/day to \$110, but not, usually, from \$100 to \$101 or \$102. This is a peculiar case of how control over prices allows tourist-receiving enterprises to stave off quick and/or steep increases in price of accommodation, thus making a destination competitive for tourists, since lesser inflation in host country or region, and currency prices relative to tourist-generating country or region may generate, or help generate, tourism. However, necessary to this is wide circulation of smaller denomination currency, allowing marginal increases in prices of tourist-consumption products (except room rates), instead of in 'quanta'. This theory is buttressed with the example of waiting-for-Brexit UK, whose currency had fallen in buying power, and inflation surged in the two years before Brexit, but had seen sharp growth in tourism, despite inflation above 2% (as against 1.2% in 2016) in 2017 and 2018 (Statista.com, 2017a). However, inflation in UK in 2018 did lead to a decline in tourism as per expectations. The theory forwarded here is a supplementary explanation.

### 3. Discussion

In a short period of time (from the viewpoint of economic history) (cf. Polanyi, Arensberg & Pearson, 1957; Johnson & Nobay, 1974), inflation rates may rise, but the use of small currency allows small changes in prices of food and transport costs, but not, usually, of accommodation: in order to prevent 'subjective inflation' (the consumer feeling of 'all prices going up at the same time'). This phenomenon has not been remarked upon in consumer psychology and tourism economics (cf. Tribe 1995; Sinclair & Stabler, 1997; Pizam & Mansfeld, 1999; Mazanec, Crouch, Brent Ritchie & Woodside, 2001; Crouch, Perdue, Timmermans & Uysal 2004; Morgan, Lugosi & Brent Ritchie 2010).

Nor has the fact that markets usually behave in terms of quantum theory of prices and that prices almost always go up, rather than down as suggested by marginal price decrease (based on Marginal Utility Theory), been properly understood in economics (e.g. Johnson & Nobay, 1974; Lamberton 1971) or in tourism marketing (e.g., Middleton, 1988; Middleton & Hawkins, 1998), tourism strategy (e.g. Tribe 2010) or even the competitive destination (e.g., Brent Ritchie & Crouch, 2003).

The foregoing shows, among other things, that while it is often assumed that factors responsible for increase of in-bound tourism can be sorted out as either economic or non-economic, the two are not mutually exclusive. Peculiar economic factors such as the amount of small currency in circulation can offset inflation as an inducing factor for decline in tourism demand; though this may not be due to calculation, at least on the part of the tourist; and this may be an additional factor to cultural attractiveness, which is non-economic in nature. Indeed, relative inflation may increase income from tourists, but that is itself dependent on monetary policies of the host and tourist-generating region, rather than merely difference in buying power of the currency. To further this point, reference can be made to the most widely used means of assessing inflation, the consumer price index (CPI) and the cost of living index. These are important from the viewpoint of the consumer-tourist.

One way of calculating relative inflation for tourism is to compare the difference in inflation rates of say, country A (tourist-generating) and B (tourist-receiving); a second could be to calculate the *rate of change* of changing inflation between these two countries. A third is to see how countries maintain circulation of small currency, besides containing their inflation rates; which latter, in any case, is marked from a particular year (base year) onwards, which national governments keep changing as per convenience (sometimes after 5 years, sometimes only 3 years) and it is not always illuminating to just refer to the 'rate of inflation', which can be deceptively used by governments to show 'relative decline in inflation' to influence decisions to vote political parties to power, and used as propaganda statistics, as if it were referring to 'good economic conditions' over 'a long time period'.

However, tourists themselves almost never take up such monumental tasks as the second (that is, calculate the rate of change of changing inflation between two countries), although they do take into consideration the third, or circulation of small currency and exchange rate; and even researchers view destination competitiveness, consumer behaviour and forecasting from various angles without delving on inflation (e.g. Pizam & Mansfeld, 1999; Brent Ritchie & Crouch, 2003; Dixit 2017). Whereas inflation *due* to tourism has been remarked upon (Tribe, 1995), most consider competitiveness from the viewpoint of marketing (e.g., Thimm, 2014). Certainly, some texts on tourism do not much consider the relation of inflation and tourism with respect to understanding destination attractiveness (e.g. Tribe, 1995; Sinclair & Stabler, 1997; Lanza, Markandya & Pigliaru, 2005; Tribe, 2010).

Moreover, there are no standard points to establish the effectiveness of comparison of, say, CPI of two countries, and 'benchmarking' has not been done (if it can be) in the context of CPI, tourism and inflation (e.g., Kozak, 2004). One frequently used measure to compare relative inflation and destination attractiveness is Granger Cointegration Coefficient, which, however, is *not of use to actual tourists in taking decisions*: so, from a practical view, as a tourist himself or herself never uses such concepts, it is not discussed.

Another way could be to calculate the relative costs between two countries as measured by the exchange rate of the currencies: something that most tourists, in fact, do. Yet, comparison of multiple countries to explain how inflation affects tourism is formidable. Observing tourism with respect to inflation vis-à-vis the quantum theory of money for forecasting is illuminating in a new way. This paper makes, therefore, no attempt to analyse traditional methods of forecasting tourism demand, but offers quantum theory of money as a tool to help understand tourism attractiveness.

### 5. Application of the Quantum Theory

The price of the British Pound relative to the Indian Rupee was roughly Rs 82 for a pound in 2003, and increased to Rs 98 in 2015 and then declined to Rs 87 in 2017. The difference in the US dollar in the same period rose from Rs 45 for one dollar to Rs 66 in 2015 and remained in the range of Rs 66-67 in 2017. However, this does not mean, as statistics also show, that the number of US tourists to India increased significantly, as compared to tourists from UK. Even as of 2015, British tourists were one of the most significant portions of foreign tourists in India at 11.4%, falling behind those from USA, with an increase of US tourists by only 2% between 2013 and 2015, at 17.6% (Travelbizmonitor, 2014; Ministry of Tourism India, 2015). While the value of the Indian rupee relative to the British Pound ranged around Rs 85-87 in 2017, it rose to Rs 85.6 and then to Rs 98.5 in 2018 (PoundSterlingLive.com, 2019a), but British tourists to India fell from 561,573 in 2017 to 510,651 in 2018 (VisitBritain, 2019).

Even the cost of living index is no indication of the relative competitiveness of a destination, all other things being equal, and is less helpful in forecasting demand. From the viewpoint of cost of living, some countries in Africa and South Asia are very competitive, but do not receive so many tourists, commensurately. Therefore, some other reason, such as costs of basics used by tourists or *cost of living for tourism* index must be considered as a more reliable guide. For instance, the cost of living index shows that India, Nepal and Pakistan are among the lowest in the world in terms of rent, transport, and food (Numbeo.com, 2015). The website www.HolidayIQ.com mentioned Bengaluru, the Indian hub of information technology firms, and one of the most populous cities in India, with a population of 12.3 million, as among the top 20 cities *to be avoided* for 'reliable and cheap' public transport, but comment threads on it in Facebook defended it as 'one of the most friendly' (for Indians). This shows that opinions can be divided, and the tourist decision about visiting a destination, once dependent on hear-say and travel agents, has been given a boost by the Internet and help websites such as Tripadvisor.

However, tourists use such information usually to buttress their decisions (already taken) about a place, or what aspects to look out for while at the place, and about honing their decision at the micro-level, rather than giving them sole importance. So, in 2013, researching Goa, which was a Portuguese colony and still has Portuguese culture as an attraction, the author followed comment threads on Tripadvisor.in and it was found that many people supported cheap stay and food with drinks at south Goa, rather than the over-developed north Goa. Yet, with a majority of beaches and events (like the Carnival, Christmas festivities, and the music event, Sunburn Goa) taking place in the north, it remains popular.

A major factor that influences how popular a tourist destination appears, is policy: (a) to promote the destination at travel marts (like ITB Berlin; where, for example, despite the running controversies about dirty beaches, drug running, increasing crime against tourists, and manipulation of beach-space by mafia, Goa won the Asia Pacific Travel Writers' Award for best beaches in 2013) (IANS, 2013; TNN 2013; Indiainfoline, 2013); (b) mutual exchange of promotion exercises, such as the promotion of British tour operators' ('upmarket') products in Goa by VisitBritain (BreakingTravelNews, 2013), and (c) monetary policy. It is with respect to the last that this paper clarifies how inflation rate, along with availability of lowest denomination currency, can make a destination cheap, or costly, and correspondingly popular or less popular, and help understand tourism attractiveness.

The rate of use of money, or the increase in prices, called inflation, is affected by the supply of the lowest denomination of a currency in circulation. In other words, the more the lowest denomination of a currency that circulates in the market, the less likely that monetary policy will fuel inflation: which can be called the 'influence of currency denomination' or 'quantum theory of money'. As an example from India, toffees averagely used to cost 5 paise (1 rupee equals 100 paise) and 10 paise in 1972. As the 5 paise disappeared from circulation, the same toffees started costing 10 paise and 20 paise.

Later, as these coins also stopped circulating, toffees used to cost in multiples of the 25 paise that was still in circulation. By 2013, with 25 paise and 50 paise both out of circulation, their prices jumped to Rupee 1. Similarly, the price of half-litre packs of milk till 2013 in north India increased every four-to-six months by 50 paise; but with 50 paise going out of circulation, they started increasing by at least one rupee each time per half litre. *This is one major reason for inflation: as lower denomination currency disappears, the possibility for increasing prices in units is affected, so that they increase in quanta or 'packets', not lowest units; as the majority of the developing world people use cash, not credit and debit cards, this keeps fuelling inflation.*

This has marked implications for (1) the theory of marginal decrease in prices based on Marginal Utility Theory; (2) the theory of money and inflation. It means that marginal increases in *costs* are *not offset* by marginal increase in *prices*, but manufacturers have to wait till they can *increase the prices in quanta*,

which then *fuels inflation in prices across the economy, in a way explained by the well-known domino effect*. Hence, also, while profits by ‘investors’ are measured in units (each unit counts), wages have to increase in hundreds of units in order for wage earners to make ends meet (the cumulative price increase of various commodities bought by wage earners amounting to hundreds), and the ‘industrialist’, in order continue to profit, has to increase prices by hundreds. Yet, neither prices nor wages can be increased frequently, otherwise volumes of sales/profits go down. So, room rates, unlike the price of some daily commodities like milk, may remain stable over a greater period, but when they increase, they increase in quanta, largely due to the facts that small currency does not exist anymore and the total cost increases have added up: that is, the *loss of small currency has an exponential effect on price rise*. This is a very noticeable cause of inflation, especially the sort of inflation caused by tourism *and causes* the sort of inflation that generates further inflation in tourism product prices, affecting tourism demand/attractiveness.

The second, even more important, aspect of how loss, or discontinuation of small denomination currency affects prices and *hence causes widespread inflation* is the fact that when prices of essential commodities increase in small quanta, it affects *both* the wage earners and the commodity producers. If 50 paise is out of circulation, an Indian milk producer would have to raise a one litre-pack by Rs 2 (or Re 1 per half litre, since a 50-paise increase per half litre pack, as packed milk is usually sold in India, would entail tremendous amounts of accounting of ‘credit’ [since, while commodities like milk are ‘bought’ daily, as against weekly in Europe and elsewhere, third world retailers quite often get cash from many consumers, but who take it on ‘credit’, paying much later, such as after a month or two] such as is given to consumers by retailers in countries like India that depend on cash, rather than bank credit or debit cards). [The same would hold true for those who pay ‘the milkman’ who delivers the milk every morning, in small towns in UK and elsewhere in Europe, and is paid monthly amounts.] Hence, an increase by Re 1 (per litre) would be disadvantageous to the both producer and the retailer as losses due to accounting problems and ‘unpaid bills’. So the fact that 50 paise coin in India, by 2017, while officially valid, was both ‘no more accepted by the public’ (being of too nominal value in their view, considering the size of the coin) or almost out of circulation as a matter of monetary policy (no more new coins being produced), forced producers to raise prices in quanta of Re 1. [In July 2019, therefore, price of a litre of milk was raised by Rs 2 by a majority of milk suppliers in India, and again by Rs 2 per litre in February 2020. After another price rise in 2021, in April 2022, price per half litre of packaged milk by major milk producers again increased by Re 1, or Rs 2 per litre.]

A small increase in price of milk would also be accompanied (due to increase in costs of transportation, packaging, etc., common to most commodities) by an increase in price of, say, tea leaves. ‘Tea’, as consumed by a resident or a tourist, would hence become much costlier. For an ordinary consumer, if s/he buys only one litre of milk, and a one-litre pack of milk costs Rs 2 more per day, it amounts to an increase of Rs 60 per month. At the same time, an increase in price of a 250-gm pack of tea leaves may entail a hike of only Rs 20 per pack: yet, taking a minimum monthly consumption of only 0.5 kg of tea per four-member family, this would amount to a monthly increase of Rs 40. So, the higher costs of *just two items of daily use* would lead to an increase in consumer spending by Rs 100. In India, the employed consumer, however, may get a wage hike of only Rs 500 per month, which may not offset the total amount of money spent on sundry commodities as a result of higher prices—or what is called ‘inflation’.

In such a situation, the hotelier who employs 50 people, by increasing wages Rs 500 per month per employee, would then have to pay an excess of Rs 25,000 per month ( $500 \times 50$ ), besides having to account for the increased price of items that the tourist consumes, as a result of higher price of commodities that are part of consumption (as meals, tea and other beverages, etc.); and would then also have to hike room rates by, say, at least Rs 700 per room or at least \$ 10 (so that a room available for Rs 2,000 per day is rented at Rs 2,700; that is, say, up from \$ 100 to \$ 110, at an average exchange rate of over Rs 70 per dollar: the actual range of the dollar is over Rs 75 for \$ 1 after 2020). So, such inflation influences tourism in both ways. A country with a lower inflation rate and a lower *tourist cost of living index* (an extension of tourism inflation, as discussed by Tribe (1995), room rates and consumables are frequently differently priced for the tourist, as compared to the local) would make it more attractive to tourists, besides its rating in cultural attractiveness, all other things being equal. However, if the generally known inflation rate is high, it would affect the tourist’s spending power, despite a favourable currency exchange rate, *unless small currency is in circulation*.

The truth of the above statements about tourism, inflation, denomination or quantum theory of money and cultural attractiveness rang truer in waiting

for Brexit UK (pre-COVID), for instance. UK tourists, despite a heavy fall in price of the pound vis-à-vis the rupee and the dollar in 2017, continued to travel to India and other countries, although their visits were marked by misery as a result of decline of the pound (The Guardian, 2017). The reverse situation possible (more Indian and other foreign tourists visiting UK) was also true, and Britain attracted more than 8.3 million visits in the first quarter of 2017 (BBC, 2017), with a record tourist spending of £4.4 billion. Indeed, UK showed a record tourist growth in 2017 of 30.1 million between January and September, rising to a total of 39.2 million by year-end, with a spending of £25.1 billion (The Independent, 2017; Statista.com, 2017a). This was so while inflation rose to 2.7% in May 2017, touching 2.8% in September-November, and remaining on average above 2% throughout 2017 (Statista.com, 2017b).

In a later record, inflation in 2017 was pegged at 3.58% but was down to 2.48% in 2018 (in2013dollars.com, 2019). In 2018, when 2.2% inflation was forecast, tourist arrivals in UK, which went up to 6<sup>th</sup> spot in the world in 2016 (UNWTO 2017), were expected to rise to 41.7 million with a record spending of £26.9 billion (VisitBritain, 2018). It was later assessed, however, that they *declined* from 39.2 million in 2017 to 37.9 million in 2018 (Statista.com, 2019; VisitBritain 2019). This may be inferred to be a result of inflation: however, the loss in tourism cannot be attributed to inflation rate alone (which, as can be seen, actually *declined* from 3.58% in 2017 to 2.48% in 2018), but *the loss in small currency available* and what can be called the *inflation rate relevant for tourism* that can be calculated in ways that are realistic—that is, ways tourists can be expected to think.

In 2017 and 2018, the value of the British Pound vis-à-vis the Indian Rupee varied from roughly Rs 85–Rs 89, but tourism to UK showed sharp growth, which can only be explained (at least in part) by the denomination or quantum theory of money. Had the currency been not fluid down to 20 pence, or even the old pound coins circulating in the economy, the rate of inflation would have been higher. With two pence and 20 pence being largely out of circulation by 2019, and even the lesser circulation of the one Pound Sterling coin by 2018 and 2019 in UK (Shuja Hoda, personal communication 2020; The Telegraph 2019), despite use of credit cards, inflation was more marked. The price of a certain brand of a 20s pack of cigarettes (given that many tourists smoke) would not, at present rates, rise, as it did in 2003-2004 (noted by researcher, who was then in UK, and a consumer of cigarettes), from, say, £5.72 to £5.75 in three months, but the actual steep hike in the price of the same brand of cigarettes to £8 by 2008-2009, and £9 in 2015, and averagely £13 in 2019 (Birchall 2019), shows how, as loss of circulation of small currency becomes more marked, prices rise in bigger lump-sums or quanta. The Metro newspaper of UK reported that, according to the Office of National Statistics, average price of a 20s pack of cigarettes rose from £ 4 in 2000 to £ 5.90 in October 2010, and ten years after that, by October 2021, doubled to £ 13.60 (Metro UK, 2021). Of course, a lot of this has to do with tax, but the fact remains that prices rise in quanta in real life, not small units.

Similarly, it is notable that inflation in the US was marked up, with US\$ 100 in 2009 being the same worth as US\$ 114.10 in 2017, while inflation in UK was even more marked, £100 in 2009 being equal to £130.28 in 2018 (in2013dollars.com 2018), even though the British Pound remained strong against the US Dollar in 2018 (PoundSterlingLive.com, 2019b). So, although the US dollar remained cheaper relative to the British Pound over the same period, the exit of some banks from UK, hoarding by manufacturers, loss of business due to inflation *accompanied by loss of small currency*, led to decline in tourism that affected Britain’s economy while waiting-for-Brexit, pre-COVID. This confirms the denominational theory of money as a reasonable explanation of relative inflation being offset by, but also caused by, loss of small denomination currency, despite the cultural attractiveness of UK for tourists. While this would not be acceptable as a complete explanation by some, it adds to the explanation of destination attractiveness on a realistic, tourist-oriented basis, rather than academic-oriented views.

The data presented here in light of the quantum theory can be established by logic of the ‘rule of the falling rate of profit’, which was said by Marx to be his ‘greatest achievement’ (Marx 1973; Meek 1976). In simple terms, as prices of commodities increase, the industrialist has to increase wages, and pay more for raw material, given that inflation is natural to all economies. Higher wages, even if not so much an increase in real wages, and given regular inflation, and higher price of essential commodities, lead to losses for the investor. While wages cannot be increased in equal proportion as profits, as the ultimate purpose of business is maximization of profits, and hikes in prices cannot be made on a daily basis—else ‘subjective inflation’, or the consumer feeling of being exploited by producers of goods, will reduce demand—prices have to be raised at intervals of a few months or years, especially since the rise in prices of essential or daily commodities is affected by lack of small currency, which ensures that all prices rise in lump-sums, leading to progressive inflation.

Hence, most economists today realise that Hicks’ (1958-9) argument about a

a world-wide inflation 62 years ago, is a reality today. Table 1 compares the rise in Cost of Living between 1953 and 1957 (base year, 1937) of leading economies, as provided by Hicks (1959, p. 125). Given the Law of Entropy and its application to world economies, as costs of extraction of basic raw materials that also go into the functioning of the tourism industry—like iron ore (for steel in making vehicles), aluminium (for making aeroplanes), coal (for thermal power plants to supply electricity for cooling and warming accommodation for tourists, and to produce steel, as well as rubber: the latter is used to make tyres of automobiles)—go up due to decreasing efficiency, raw material costs perforce go up, leading to inflation. Hence, prices of essential commodities keep on rising, and wages have to keep rising, leading to net loss for the producer-investor or industrialist, leading to increase in prices of tourist accommodation and transport in lump-sums, despite stable marketing and demand.

Table 1: Cost of Living Across the World (in US dollars, 1937=100)

Country Group A	1953	1957	Country Group B	1953	1957
Germany	95	101	South Africa	115	126
Switzerland	167	179	Norway	125	140
USA	185	193	Ireland	130	146
Canada	188	198	UK	128	147
France	196	204	Denmark	137	158
Belgium	233	245	Australia	147	166
Japan	244	264	Sweden	154	173

Source: Hicks (1959, p. 125)

When demand goes down, as has happened during the COVID pandemic, prices may temporarily go down, but then go up again. In the medium to long term, prices have to go up, or else businesses have to close down after massive losses, as frequently happens in the tourism industry. In such a situation, a monetary policy that ensures circulation of small currency, given that prices of accommodation or transport will have to be increased in the medium term, offers a practical way to keep destinations competitive, apart from promotion of credit and debit cards, or mobile money (Singh, 2017).

## 6. Conclusion and Suggestions

A lot of methods are used to forecast rise or fall in tourism demand and understand destination attractiveness as well as economic growth. However, though inflation is considered an important factor, there are no clear-cut rules by which demand may be forecast by reference to inflation or economic factors alone, just as it also cannot be predicted by decline or rise in cultural attractiveness of a destination alone. For example, in China, many domestic tourists were willing to pay very high prices for short-distance culturally attractive destinations during the height of the COVID epidemic (Global Times China, 2021). An economic factor, such as loss of circulation of small denomination currency, which can be shown to both offset short-term decline in tourism (due to stability of accommodation rates, caused by reluctance of hoteliers to increase prices in 'lump sums' too often) but which may still cause further economy-wide inflation due to quantum rises in prices of small commodities, may be taken as evidence of the importance of the effect of price quanta on relative inflation, and hence, decline or stability of tourism demand, and destination attractiveness. But this 'quantum theory of money' also has wide implications for economic theory. It shows that the Marginal Utility Theory that states prices decrease as volume of production rises, is essentially flawed if taken as an absolute rule. Despite economies of scale, increase in volume of production of commodities will necessarily cause rise in prices of that commodity, as well as other commodities, termed 'inflation'. One major reason is that mass production always leads to deterioration of quality if price simply decreases (as efficiency of machinery decreases, both with over-production, and over time): hence, in order to retain quality, prices will have to increase, as the theory of marketing explains (Kotler, Bowen, Makens & Baloglu, 2018). Inflation is a very real, empirically-observable phenomenon in all economies seen over economic history periods (Polanyi, Arensberg & Pearson, 1957; Hicks, 1959). That these price rises, as inferred theoretically from the quantum theory of money, fuel further inflation is also a real phenomenon. Though price rises can be partially offset by controlling small denomination currency that is in circulation (monetary policy), it accounts for what Marx called his 'greatest achievement' (Marx, 1973; Meek, 1976) of establishing 'the rule of the falling rate of profit' of the industrialist. Since industrialists cannot keep on raising the prices of commodities in an *ad hoc* way (given, and despite the fact that prices rise in lump sums) nor raise prices

*ad infinitum*—a plain toffee will not be bought for \$3, even if profit margins are only \$0.01—leading producers, who sometimes invest millions of dollars in advertising and marketing, seek new pastures and offset the losses. With no certainty of profits in new ventures, even, and given high costs of setting up new ventures, rising inflation and the rising investment in labour through wages (despite the fact that 'real wages', as economists call it, do not usually offset 'real inflation')—lead to falling rates of profits in the medium to long term. So, to offset inflationary pressures in the short term, supplying small currency is essential for containing inflation and increase tourism destination price attractiveness.

Good supply of small currency, therefore, can also be a good way of ensuring maximum profits in remoter rural regions where tourism can be promoted, so that perishable items like food grains and vegetables that the poor cannot transport and market to urban regions (in impoverished post-COVID times), and goods like handicrafts that they produce, can be consumed by rural tourists and ecotourists, provided smaller currency makes the rural tourism product seem more affordable, and offsets inflation, for the time being. Combined with the attraction of rural environments, free of the suffocating urban feeling during these times when COVID is partly in abeyance, yet hovers threateningly on the mind of the urban-origin tourist, this would be a good way of reviving affordable tourism that helps the less well-off sections of societies. Small currency will help maintain liquidity and optimize monetary sub-systems; and, since neither credit cards nor debit cards are used widely in rural areas of developing countries, which are most in need of economic support from a new tourism, and given that mobile money, though flexible, cannot always be supported in rural areas due to technical difficulties, and lack of financial and digital literacy among the poor (cf. Singh 2017), this would be a good strategy for restarting pro-poor tourism.

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