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A PROPOSAL FOR DEVELOPING A TRAVEL, TRANSPORT AND TOURISM PRICE INDEX (TTPI) FOR SAUDI ARABIA

by
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EXECUTIVE SUMMARY

No clear consensus has emerged on who created the first price index. The earliest reported research in this area came from Welshman Rice Vaughan in 1675. His analysis indicated that price levels in England had risen six to eight-fold over the preceding century. Vaughan's research did not actually involve calculating an index. In 1707 Englishman William Fleetwood created perhaps the first true price index and used his methods to show that the value of a pound (for example) had changed greatly over the course of 260 years. A price index is a normalized weighted average of prices for a given class of goods or services in a given region, during a given interval of time. A statistical device which summarizes a collection of data (usually related to the price or quantity of a 'basket' of goods and services) in a single base figure serves as a benchmark for measuring changes in the price or quantity data over a period (month, quarter or year). The consumer price index (CPI) is the most widely used indicator of inflation in an economy. A review of the CPI of the U.S. since the year 1800 reveals that prices remained almost stable for the first 150 years, until 1950, but flared up thereafter. Inflation has increased average prices by 1,000% or more. The Kingdom of Saudi Arabia has a track record of very low inflation rates (less than 1% during 1998 – 2005) compared to the rest of the world, but during 2006 – 2008, the Kingdom entered a period in which inflation was well above its historical norms. CPI (Inflation) flared up to a high level of 9.9% in 2008

One of the basic aims of this report is to expand and develop "National System of Travel & Tourism Information" in Saudi Arabia. The other purpose is to explore the possibility of developing a "Travel, Transport and Tourism Price Index" (TTPI) for Saudi Arabia, based on a monthly publication of the Central Department of Statistics and Information (CDS&I), "Cost of Living Index" for all households of Saudi Arabia (Consumer Price Index) for June 2009. After reviewing the commodity basket, the sample size and the methodology used by the CDS&I, MAS Center identified the tourism-characteristic commodities available from the CLI-AH (CDS&I) commodity basket and made an attempt to develop "Travel, Transport and Tourism Price Index" (TTPI) for Saudi Arabia.

The Travel, Transport and Tourism price index (TTPI) expresses the average changes in prices of services and commodities consumed by foreign tourists. The price data come from the survey on consumer prices and the weighting data are based on a special sample survey on detailed spending of tourists. The expenditure patterns of local consumers and of tourists are very different. This makes the CPI a less precise instrument to analyze price elasticities of tourists. For the CLI – AH (CPI), the focus is on the local population, while for the TTPI the focus of attention is the inbound tourists.



Tourism expenditure is defined as "The total consumption expenditure made by a visitor or on behalf of a visitor for and during his / her trip and stay at destination". It is observed that the consumption expenditure patterns of internal (domestic & inbound) tourists and that of local population are different. For example, the local households spent 26% on Food & Beverages, while internal tourists spent relatively less, around 15%. There is also a variation in the consumption expenditure patterns of two types of tourists, domestic and inbound. Inbound tourists in Saudi Arabia spent almost 47.7% of the total expenditures on accommodation, which was more than twice as much as spent by domestic tourists, 20.1%. Domestic tourists spent 18.6% of the total expenditures on food & beverages, more than twice as much as spent by the inbound tourists, 8.9%. Moreover, domestic tourists spent 32.7% of their total expenditures on shopping compared to 20% of the total spent by inbound tourists.

For constructing Travel, Transport & Tourism Price Index (TTPI), tourism expenditure data are broken down by main item groups. This is done (a) to evaluate and analyze the influence of tourism on the various sectors; and (b) to establish a weighting base (or tourist 'market basket'). The UNWTO recommends that data on tourism expenditures should be collected and presented by at least the seven primary groups: (1) Package travel, package holidays and package tours; (2) Accommodation; (3) Food and drinks; (4) Transport; (5) Recreation, culture and sporting activities; (6) Shopping; (7) Others. Price indices on tourism can be divided into the following two main categories: (a) Price Indices from the demand side (which is currently the focus of our research); (b) Price Indices from the supply side. Price Indices on tourism from the demand side measure changes in prices over time of a given pattern of tourist expenditure made by all visitors (residents and non-residents) in the economic territory of a country (region, area). The results of tourism expenditure surveys are used for the calculation of the weighting scheme of tourism price indices. The weighting pattern provides the multipliers by which the prices, or price relatives, are combined for the calculation. In this study the focus will be on price indices from the demand side. From a practical point of view, it is recommended to use the same Laspeyres formula, which is used for constructing CPI, because it does not require the continuous recalculation of the weights. The formula can be expressed as a weighted mean of price relatives between the base period and the period under consideration. As a tourism indicator, the TTPI is a good measure of inflation in the tourism sector, which could be used as an indicator of the effectiveness of the government tourism policy.

The potential use of indices like the CPI in the framework of the TSA can give rise to bias that can seriously distort the results obtained in the context of the TSA. Some difficulties are observed, as CPIs are based on household budget surveys (HBSs), which collect data on the basis of place of residence. This gives rise to a problem in monitoring the real prices actually paid by consumers when there is a geographic dislocation between the place of consumption and the place of residence.



In their present form CPIs are tools that hold out great potential in the framework of the TSA, although they do entail problems that will be difficult to overcome in the case of inbound tourism. To construct these indices, the statistical procedures currently in use by the national statistical offices will have to address at least the following issues:

- Exploring the outcome of including the territorial component intrinsic to the TSA.
- Performing additional studies to supplement statistical procedures that will make it possible to establish the composition of the resident's shopping basket inside and outside the usual environment and the resulting weighting structure of the indices.
- Expanding procedures to implement specific modules for compiling the real prices actually paid by non-resident visitors in the economy in question.

An attempt has been made by the MAS Center of the SCTA to derive a TTPI from the CDS&I monthly "Cost of Living Index" for All Population for Saudi Arabia (CLI-AP). It reflects price changes in a fixed market basket of goods and services over a fixed period of time. The current item basket of the CDS&I covered a total of 406 items to build the index. The CDS&I used Laspeyres formula for calculating CLI - AH, which is used in most countries. For deriving TTPI, a list of 89 tourism-related products and services, as recommended by the UNWTO, was reviewed to come up with a tentative list of 62 tourism characteristic products/services, which has a significant relevance to Saudi Arabia. After reviewing 406 items in the CDS&I, CLI-AH, the price relatives for the selected tourism-related commodities and services were identified. Only 21 tourism-characteristic products/services were found out of 62 items proposed by the MAS Center – Travel, Transport & Tourism Price Index (TTPI) in CLI, June 2009. The derived tourism characteristic products and services from the CDS&I were grouped into seven categories and the price indices (price relatives) of individual items were obtained for June 2009, May 2009, March 2009 and June 2008. In the absence of relative weights for individual tourism-related products/services, simple averages (rather than weighted averages) were calculated for the components. The relative expenditure weights were available for six components from the MAS Center's International Visitor Survey (IVS) and the Domestic and Outbound Tourism Survey (DOTS). Overall, three separate Composite Travel, Transport and Tourism Price indices (TTPIs) were estimated for the domestic tourists and inbound tourists (internal tourists) by calculating the weighted averages of the price relatives for individual groups. The TTPI was developed based on incomplete data about the prices of tourism-related products/services, observed expenditure patterns of inbound tourists and the existing CDS&I cost of living index of Saudi Arabia. The results reveal that the internal tourists were less affected by inflation than the local population of Saudi Arabia. The annual CLI (Inflation) in June 2009 was 5.2% for local population; while the annual TTPI (Inflation) for internal tourists was 3.8%. A comparison between Inbound & domestic tourists of Saudi Arabia shows that the annual rate of inflation faced by the inbound tourists (TTPI) was higher at 4.6% compared to domestic tourists at 3.4% in June 2009.

The Travel and Tourism Competitiveness Index (TTCI) developed by the World Economic Forum's (WEF) in 2009 aims to measure the factors and policies that make it attractive to develop the travel and tourism sector in different countries. The TTCI is the most competitive and highly reflective of tourism. In terms of the overall travel and tourism competitiveness index 2009, Switzerland was ranked first out of the 133 countries, followed by Austria and Germany, France, Canada, Spain, Sweden, USA, Australia and Singapore. This is attributable to their relative strengths in rich cultural resources, tourism and ICT infrastructure, environmental sustainability, ground transport infrastructure, safety and security, quality of human resource and policy, rules and regulations in tourism industry. Malaysia was ranked 32nd overall, while Saudi Arabia was ranked 71st overall in TTCI 2009. Among the GCC countries, the most competitive country in terms of Travel & Tourism Competitiveness - 2009 was UAE, followed by Qatar, Bahrain, Oman, KSA and Kuwait.

While the TTCI is a good measure of general price levels in different countries it is not tourism-specific. To address this lack, related price data for four key tourism-related products are provided – these are: ticket taxes and airport charges, national purchasing power parity prices, fuel price levels, and hotel price index. By aggregating all these indicators, a more tourism-specific index of prices in different countries is obtained from up-to-date price indicators. In their destination choice decision, tourists consider the price (cost of living) at the destination relative to the costs of living at the origin and substitute destinations. The WEF world ranking of 133 countries in terms of travel and tourism price competitiveness in 2009 revealed that Egypt was ranked as the world's most T & T price competitive country, followed by Brunei, Indonesia, Malaysia, Syria, Bahrain, Tunisia, KSA, Botswana and Nepal. These countries are offering excellent price competitiveness with their low comparative hotel, fuel prices and favorable tax regime. In general, the GCC region (with the exception of UAE) enjoys better price competitiveness in travel and tourism due to favorable tax regimes, lower ticket taxes & airport charges and low fuel price levels. Bahrain was the most price competitive country in terms of travel & tourism, followed by KSA, Oman, Kuwait, Qatar and UAE.

Regarding international best practices, **Curacao's** TPI is only very marginally more efficient than the CPI. For this country, the exchange rate appears to have more significance than either TPI or CPI. **The British Virgin Island** publishes quarterly TPI. According to their findings, the Christmas/New Years season and the first quarter (Winter) is the high season and the prices especially of hotel rooms and packages are at their maximum. It drops in the spring and summer (2nd and 3rd quarters). The tourist arrivals are also low during the Hurricane season, which extends from May to November. The arrivals as well as prices pick up in the last quarter. The TPI reflects the same. **Macao** is also constructing a quarterly tourism price index based on 89 products/services, prices of which are collected from 125 selected outlets.



We conclude that the Travel, Transport and Tourism Price Index (TTPI) for Saudi Arabia is needed parallel to CDS&I Cost of Living Index, as the consumption patterns of local population and the inbound tourists are different. The TTPI could be a helpful indicator of the effectiveness of the government tourism policy. This indicator will be useful in tourism research, especially empirical research in the short-term as well as long-term at the national, regional and international levels.



INTRODUCTION

Price Indexes – A Historical Perspective

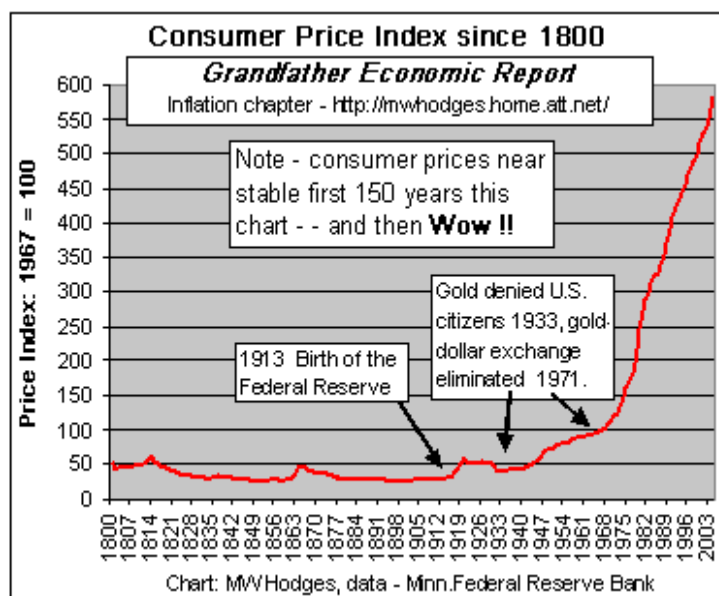
No clear consensus has emerged on who created the first price index. The earliest reported research in this area came from Welshman Rice Vaughan who examined price level change in his 1675 book, “A Discourse of Coin and Coinage”. Vaughan wanted to separate the inflationary impact of the influx of precious metals brought by Spain from the New World from the effect due to currency debasement. Vaughan compared labor laws from his own time to similar laws dating back to Edward III. These laws set wages for certain tasks and provided a good record of the change in wage levels. Vaughan's analysis indicated that price levels in England had risen six to eight-fold over the preceding century. While Vaughan can be considered a forerunner of price index research, his analysis did not actually involve calculating an index. In 1707 Englishman William Fleetwood created perhaps the first true price index. Fleetwood, who had an interest in price change, had collected a large amount of price data going back hundreds of years. Fleetwood proposed an index consisting of averaged price relatives and used his methods to show that the value of a pound (for example) had changed greatly over the course of 260 years [1].

A price index is a normalized weighted average of prices for a given class of goods or services in a given region, during a given interval of time. It is a statistic designed to help to compare how these prices, taken as a whole, differ between time periods or geographical locations (Wikipedia). Price indices have several potential uses. In particularly broad terms, the index can be said to measure the economy's price level or a cost of living. More narrow price indices can help producers with business plans and pricing. Sometimes, they can be useful in helping to guide investment. A price index tracks inflation by measuring price changes during a specified period. Examples include the Consumer Price Index, the Producer Price Index, the Wholesale Price Index, the Import Price Index, the Export Price Index, the Tourism Price Index, etc. A statistical device which summarizes a collection of data (usually related to the price or quantity of a 'basket' of goods and services) in a single base figure serves as a benchmark for measuring changes in the price or quantity data over a period (month, quarter, year). Usually, the base is assigned an arbitrary value of 100 and all subsequent data are expressed in relation to this base. For example, the consumer price index (CPI) of a year might stand at 95 (to indicate a fall of 5 percent in the prices) or 105 (to indicate an increase of 5 percent in the prices). Indexes (indices) also measure up and down movement of industrial production, and of the market prices of bonds, commodities and shares.

The consumer price index (CPI) is the most widely used indicator of inflation in an economy. Inflation is defined as a sustained increase in the general level of prices for goods and services, which is measured

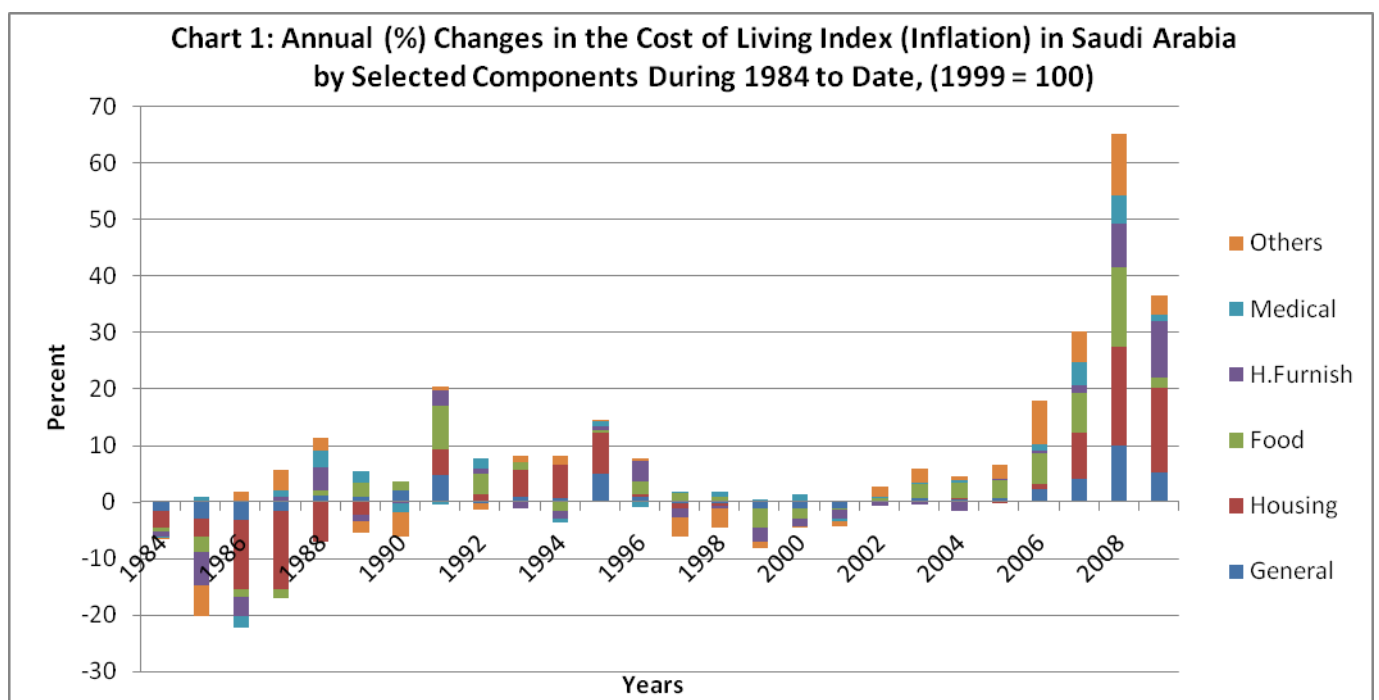
as a percentage increase in the CPI during a specified period. The percentage change could be positive or negative, indicating inflation or deflation in the economy. The value of the Saudi Riyal does not stay constant when there is inflation. Its value is observed in terms of purchasing power, which is the real, tangible goods & services that money can buy. As inflation rises, there is a decline in the purchasing power of money, and every Riyal you own buys a smaller percentage of a good or service. In the U.S. the Consumer Price Index for the Urban households (CPI-U) is compiled by the Bureau of Labor Statistics and is based upon a 1982 Base of 100. A Consumer Price Index of 158 indicates 58% inflation since 1982. The commonly quoted inflation rate of say 3% is actually the change in the Consumer Price Index from a year earlier. By looking at the change in the Consumer Price Index we can see that what cost an average of 9.9 cents in 1913 would cost us about \$1.82 in 2003 and \$2.02 in 2007.

A review of the CPI of the U.S. since the year 1800 reveals that prices remained almost stable for the first 150 years, until 1950, but flared up thereafter. Inflation has increased average prices by 1,000% or more – For example: a postage stamp in the 1950s cost 3 cents; today's cost is 42 cents - 1,300% inflation; a gallon of 90 Octane full-service gasoline cost 18 cents before; today it is \$3 for self-service - 1,567 % inflation; a house in 1959 cost \$14,100; today's median price is \$169,000 - 1,100% inflation; a dental crown used to cost \$40; today it's \$1,100 - 2,750% inflation; an ice cream cone in 1950 cost 5 cents; today its \$2.50 - 4,900% inflation; monthly government Medicare insurance premiums paid by seniors was \$5.30 in 1970; its now \$96.40 - 1,889% inflation; (and up 70% in 5 years). And in the past, wage-earner families lived well and built savings with minimal debt, many paying off their home and college-educating children without loans. How about today? [2].



During World War II, one could buy a loaf of bread for \$0.15, a new car for less than \$1,000 and an average house for around \$5,000. In the twenty-first century, bread, cars, houses and everything else cost a lot more. Clearly, a significant amount of inflation has been experienced over the last 50 - 60 years. When inflation surged to double-digit levels in the mid - to late-1970s, it was declared as public enemy No.1. Since then, public anxiety has abated along with inflation, but people remained fearful of inflation, even at the minimal levels. The risk of inflation is endemic to sustained economic growth in any type of economy, whether developed or developing. In developing countries the danger of inflation is much greater because of the inadequacy and imbalance of existing capacities and organizational structures. In addition, competition among suppliers is weak and supply shortages however temporary, can be more easily exploited for permanent price rises.

The Kingdom of Saudi Arabia has a track record of very low inflation rates (less than 1% during 1998 – 2005) compared to the rest of the world, but during 2006 – 2008, the Kingdom entered a period in which inflation was well above its historical norms (see Chart 1). CPI (Inflation) flared up to a high level of 9.9% in 2008 compared to 4.1% and 2.2% experienced in 2007 and 2006, respectively. A high inflation rate in 2008 was mainly attributed to 17.5%, 14.1% and 10.6% increases in house rents, food prices, and prices of other goods and services, respectively. Still the Kingdom is better positioned in terms of inflation than most of the GCC countries, where Qatar recorded the highest annual inflation of (15%) in 2008, followed by Oman (12.6%), UAE (11.5%), Kuwait (10.5%), KSA (9.9%) and Bahrain (3.5%). An annual inflation rate of the Kingdom has come down to (5.2%) in June 2009 and by the end of 2009, it is likely to come down further attributed to a decline in oil prices and slowing down of some economic and business activities at national, regional and global levels.



Importance of Consumer Price Index (CPI)

- As an economic indicator, it is the most widely used measure of the economy's price level or cost of living or inflation.
- It is an indicator of the effectiveness of government policy and is used by the government to determine whether economic policies need to be modified or continued.
- It is also used to adjust prices in other government indicators, such as GDP.
- As a deflator, the CPI and its components are used to adjust other economic series for price change and to translate these series into inflation-free currencies, e.g. Saudi Riyal or US Dollar (in constant prices).
- Business executives and other private citizens use the index as a guide in making economic decisions.
- The price indices can help producers with business plans and pricing. Sometimes they can be useful in helping to guide investment.
- The index is used to adjust Social Security and other government benefit program (especially in the developed countries).
- The U.S. Federal Reserve looks at the Core CPI (which excludes volatile energy and food prices) to decide whether or not to raise the Federal Funds rate.

Objective

The purpose of this report is as follows:

- One of the basic aims is to expand and develop "National System of Travel & Tourism Information" in Saudi Arabia.
- To review and analyze the current situation about the use of tourism price index globally.
- To explore the possibility of developing a "Travel, Transport and Tourism Price Index" (TTPI) for Saudi Arabia, based on a monthly publication of the Central Department of Statistics and Information (CDS&I), "Cost of Living Index" for all households (CLI-AH) of Saudi Arabia for June 2009.

After reviewing the commodity basket, the sample size and the methodology used by the CDS&I, MAS Center identified the tourism-characteristic commodities available from the CLI-AH (CDS&I) commodity basket and explored ways and means to develop TTPI for Saudi Arabia.

A CONCEPT OF TRAVEL, TRANSPORT AND TOURISM PRICE INDEX (TTPI)

The TTPI expresses the average changes in prices of services and commodities consumed by foreign tourists. The price data come from the regular surveys on consumer prices and the weighting data are based on a special sample survey on detailed spending of tourists. Most research on tourism uses local consumer price index (CPI) in a certain form. But the expenditure patterns of local consumers and of tourists are very different. This makes the CPI a less precise instrument to analyze price elasticities of tourists [3]. For the CLI (CPI), the focus is on the local population, while for the TTPI the focus of attention is the inbound tourists.

Tourism Expenditure

Insight into the volume and structure of tourism expenditure makes it possible to monitor and assess the impact of tourism on the national economy and on different sectors. Tourism expenditure is defined as "the total consumption expenditure made by a visitor or on behalf of a visitor for and during his / her trip and stay at destination" [4]. It is not limited to the purchase of consumer goods and services inherent in travel and stays, but it also covers the purchase of small durable goods for personal use, souvenirs, etc. It is not restricted to payments made during the trip. It also includes advance outlays necessary for the preparation and undertaking of the trip and travel-related purchases made in the place of residence before and after returning from the trip.

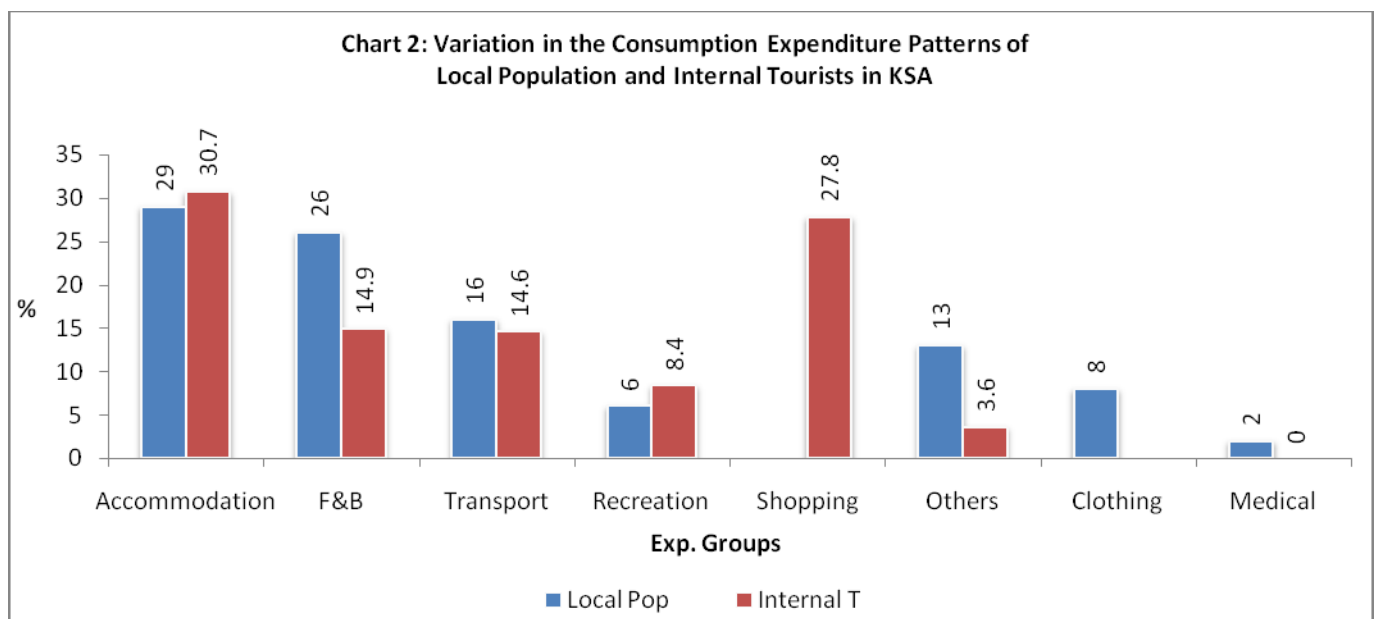
Consumption Expenditure Patterns of Tourists

It is observed that the consumption expenditure patterns of internal (domestic & inbound) tourists and that of local population of Saudi Arabia [5] are different. The variation in consumption patterns is noticed in Table 1 as follows:

Table 1: Consumption Expenditure Patterns of Tourists vs. Local Population

Description	CDS&I – CES, 1999 (Local Population of KSA)	MAS – IVS & DOTS, 2007 (Internal Tourists of KSA)
Accommodation	29.0%	30.7%
Food & Beverages	26.0%	14.9%
Transportation (Domestic)	16.0%	14.6%
Recreation	6.0%	8.4%
Shopping		27.8%
Others	13.0%	3.6%
Clothing & Footwear	8.0%	
Medical Care	2.0%	
Total	100.0%	100.0%

Sources: 1. CDS&I (Consumer Expenditure Survey for Urban Households, 1999).
 2. MAS Center, SCTA, International Visitor Survey (IVS), 2007.
 3. MAS Center, SCTA, Domestic and Outbound Tourism Survey (DOTS), 2007.



Statistical Table 1 reveals the following:

- A relatively higher proportion, 88% of the total expenditure, was made by the internal tourists on four categories: Accommodation, Food & Beverages, Transport and Shopping compared to 71% of the total expenditures made by the local population on the same categories, mainly attributed to higher expenditures on shopping and transportation (domestic).
- Local households spent 26% on Food & Beverages, while internal tourists spent relatively less, around 15%.
- Internal tourists (domestic & inbound) spent almost 28% of the total expenditures on shopping while the local population did not spend on this category, and in general their spending would have been relatively much less than that of tourists.
- Both types of consumers spent more or less the same proportion of the total expenditure (15-16%) on transportation (domestic).

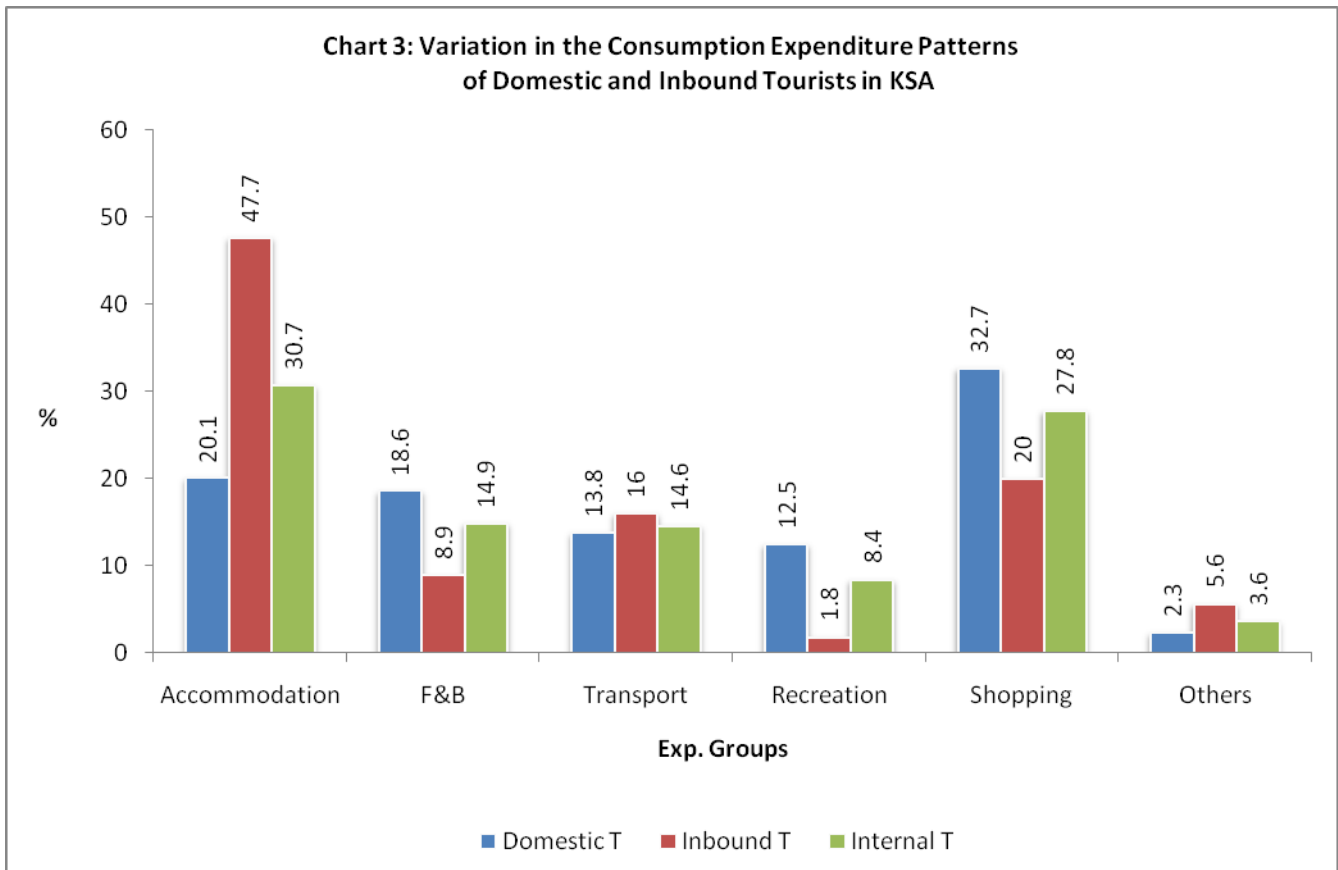
Statistical Table 2 notes that there is a variation in the consumption expenditure patterns of two types of tourists, domestic and inbound, as follows:

Table 2: Variation in the Consumption Expenditure Patterns of Domestic & Inbound Tourists in Saudi Arabia

Relative Composition (%) of Tourist Expenditures in 2007 for			
DESCRIPTION	Domestic Tourists	Inbound Tourists	Internal Tourists
Accommodation	20.10%	47.70%	30.70%
Food & Beverages	18.60%	8.90%	14.90%
Transportation (Domestic)	13.80%	16.00%	14.60%
Travel Agencies & Reservation Services			
Cultural Activities (Recreation)	12.50%	1.80%	8.40%
Shopping - Personal Goods	32.70%	20.00%	27.80%
Others -other expenses & ser.	2.30%	5.60%	3.60%
All Sectors (CLI-CDSI)	100.00%	100.00%	100.00%

Source: MAS Center, SCTA, IVS and DOTS, 2007

- A relative proportion of consumption expenditure made by the inbound tourists on the top four components was higher than the expenditures made by domestic tourists [6]. For inbound tourists, Accommodation, Food & Beverages, Transport and Shopping accounted for 92.6% of the total compared to 85.2% of the total by the domestic tourists in 2007.
- Inbound tourists in Saudi Arabia spent almost 47.7% of the total expenditures on accommodation, which was more than twice as much as spent by domestic tourists, 20.1%.
- On the other hand, domestic tourists spent 18.6% of the total expenditures on food & beverages, more than twice as much as spent by the inbound tourists, 8.9% [7].
- Another important variation is that domestic tourists spent 32.7% of their total expenditures on shopping compared to 20% of the total spent by inbound tourists, as shown in the table.



METHODOLOGY

Classification of Tourism Expenditure

One of the most important requirements of tourism expenditure data is a breakdown of the expenditure by main item groups. This is done (a) to evaluate and analyze the influence of tourism on various sectors; and (b) to establish a weighting base (or tourist 'market basket') to prepare a Travel, Transport and Tourism Price Index (TTPI). The UNWTO recommends that data on tourism expenditures should be collected and presented by at least the seven primary groups [4]:

1. Package travel, package holidays and package tours
2. Accommodation
3. Food and drinks
4. Transport
5. Recreation, culture and sporting activities
6. Shopping
7. Other

Price indices on tourism can be divided into the following two main categories:

- a) Price Indices from the demand side;
- b) Price Indices from the supply side.

Price Indices on tourism from the demand side measure changes in prices over time of a given pattern of tourist expenditure made by all visitors (residents and non-residents) in the economic territory of a country (region, area). The structure of tourism expenditure, reflecting the relative importance of individual goods and services or groups of them within total or average tourism expenditure, can be analyzed using information obtained from tourism demand surveys on expenditure. Tourism price statistics (demand side) refer to the prices of goods and services consumed by visitors. The consumption of visitors is a part of the final consumption of households. Many goods & services consumed by visitors are also consumed by non-visitors. All goods & services of households' final consumption are therefore to be carefully combined with the activity classification, following which products and services are exclusively or partially consumed by visitors (inbound and domestic) are to be identified.

The results of tourism expenditure surveys, broken down by categories according to the visitors' place of residence (residents, non-residents) and purpose of traveling as well as by type of expenditures, are necessary for the calculation of the weighting scheme of tourism price indices. Tourism expenditures and tourism price indices are interconnected variables. The price level and its change, measured by price index, influences tourism demand. The weighting pattern provides the multipliers by which the prices, or price relatives, are combined for the calculation, therefore recommended to refer to the methodology developed by international bodies in the field of price statistics and to the survey of prices of household consumer goods and services.

Price indices on tourism from the supply side measure changes over time in the cost of tourist production and of gross fixed capital formation due to changes in the prices of relative goods and services and changes in the remuneration of production factors. In this study, the focus will be on price indices from the demand side.

A Link of TTPI with Other Statistics

Tourism price indices from the demand side are linked with the following statistics:

- a. Consumer price index (CPI), which refers to the average price level of goods and services of household consumption, a part of which is the consumption of resident visitors. Therefore, some goods and services included in the CPI are related to tourism consumption, and their price indices can be used in the calculation of the Travel, Transport & Tourism Price Index (TTPI);
- b. Family budget surveys cover all the expenses of households, some of which are related to the expenditures of the resident visitors;
- c. Survey of "Purchasing Power Parities" covers, among other things, private consumption, part of which refers to tourism consumption. Consequently, it includes some goods and services linked to tourism, the prices of which can be used in the calculation of price indices on tourism.

The Selection of Goods & Services for the TTPI

This will be done from within each class or sub-class of the classification system used, and will be based on the following criteria:

- (i) the economic importance of each item in relation to the class to which it belongs;
- (ii) its quantitative and qualitative stability over time, and;
- (iii) representativeness of the selected items against the total items belonging to a given class.

Choice of the Base period

Duration of the base period could be a month, a quarter or a year. In case of TTPI a calendar year is ideal. Logically, the ideal base year would be the one for which tourist expenditure details in terms of individual commodities and services, and related price data are available. The advantage of using a period of one year as a base is that the averaged prices are free from seasonal variation.

Calculation of Indices (Indexes)

From a practical point of view, it is recommended to use the same Laspeyres formula, which is used for constructing CPI, because it does not require the continuous recalculation of the weights. The formula can be expressed as a weighted mean of price relatives between the base period and the period under consideration. The Laspeyres formula as a weighted aggregative Index is as below:

$$I = \left(\frac{\sum P_t \cdot Q_o}{\sum P_o \cdot Q_o} \right) * 100 \quad \text{or}$$

$$I = \left\{ \frac{\sum (P_t/P_o) * W}{\sum W} \right\} * 100$$

Where P_t is the price of the individual items in the current period under consideration, P_o and Q_o are respectively the price and quantity of the individual items in the base period.

W is the weight assigned to the individual item, $W = (P_o \cdot Q_o / \sum P_o \cdot Q_o)$.

Frequency of the Publication

The TTPI could be calculated and published every month or quarter of a year depending upon the need and the cost involved. The biannual or annual publication would not show the seasonal fluctuations, which are strong on tourism.

Revision Policy of Indices

The weights and the composition of price indices calculated by using the Laspeyres formula are kept constant depending on the nature of these indices; a five years revision is regarded as sufficient.

Usefulness of the TTPI

- As a tourism indicator, it is a good measure of inflation in the tourism sector. It will be helpful for foreign tourists to know about the rate of inflation they are confronted with in a foreign (destination) country;
- This could be used as an indicator of the effectiveness of the government tourism policy and to determine whether the tourism policies need to be continued or modified;
- A lower TTPI – inflation (like CPI-inflation), will make the KSA a relatively more attractive destination in terms of cost due to better purchasing power of the tourists. Price competitiveness is one of the most important factors in the overall tourism competitiveness of a country or a destination;
- This will be useful as a deflator of the Tourism Gross Domestic Product (GDP), Tourism (Gross Domestic Fixed Capital Formation (GDFCF) and Tourism Investment Expenditure to estimate tourism macro variables in real terms (constant prices);
- This indicator will be useful in tourism research, especially empirical research in the short-term and long-term at national, regional and international levels.

PRICE INDICES AND TOURISM CONSUMPTION IN THE FRAMEWORK OF THE TOURISM SATELLITE ACCOUNT (TSA)

In the framework of the TSA, the following considerations are important:

- The TSA fully incorporates territorial or geographic criteria into tourism statistics.
- There are various issues such as the real prices that are actually encountered by different groups of visitors (outbound, inbound and domestic).
- How well the weighting structure reflects the actual situation of the tourism sector.
- The coverage given by the proposed index to tourism product prices.

The Price Indices and their Role in the TSA

The prices and quantities are the components of economic data. When data on levels of tourism consumption are collected for the TSA, monetary magnitudes rather than physical magnitudes are obtained. Thus, price trends are implicit within consumption data at any given point in time. Therefore, to work with real magnitudes, or to be able to deflate the information contained in the TSA, there must be a set of indices tracking the time trends in the prices for the products concerned [8].

Possibility of Using Implicit Price Index for Tourism GDP

The implicit price index is the first of the indices presented naturally. In national accounts, the implicit GDP deflator is simply an index constructed on the basis of changes in the aggregate (GDP) and thus provides a reflection of the overall trend for each and every one of the prices making up that aggregate. Similarly, in the framework of the TSA, the possibility of calculating an implicit index for such aggregates as implicit tourism GDP deflator can be intuited. Such an index has the following shortcomings:

- The indices of this type take all prices into account and hence are not appropriate for measuring change in a specific group of prices, for instance, the prices of the products that account for tourism consumption.
- The situation becomes much more problematical when trying to increase the level of disaggregation and thus measure prices for such magnitudes as outbound tourism, inbound tourism, or domestic tourism.

Possibility of Using Other Indices for Tourism

The other indices which could be used are: The Tourism Component of the Consumer Price Indices (CPIs), The Hotel Price Indices (HPIs), and Hotel Revenue Indices (HRIs). These indices suffer from some drawbacks as below:

- Indices like the HPIs and HRIs suffer from a basic drawback in that they measure prices from the supply side.
- These indices do not exist in a large majority of countries.
- They have not been harmonized among those countries that do prepare them.
- For indices of this type, it is the supply component but not the demand component that provides the price information.
- Furthermore, when approaching the problem from a supply-side perspective, these indices do not adequately mirror trends in the real prices actually paid by visitors, because they do not contain the prices for all the products consumed by visitors, but instead only some for the main characteristic products, only those relating to accommodation.

In the case of general consumption, the Consumer Price Index (CPI) is the most widely used index. This type of index is constructed on the basis of data provided by the Household Budget Surveys (HBSs) and is closely linked to this statistical procedure. In the case of tourism consumption, the price index to be used should measure changes in the prices of tourism consumption products.

Besides deflation of the monetary values, the other basic application of price indices in general, and hence also in the framework of the TSA, is to serve as cyclical indicators. The existence of an index which measures trends in tourism consumer prices has numerous applications in cyclical analysis. Thus, having an index of this kind available means being able to compare changes in tourism prices in a given time period (inter-temporal analysis) and variations in prices among different regions making up the economy (interregional analysis) or even between one economy and other economies. [9]. This type of information is vital to the development of cyclical policies aimed at improving external competitiveness of the economy in the scope of international tourism.

Tourism consumption under the TSA is arranged in three principal categories, namely, domestic tourism, outbound tourism, and inbound tourism. The question revolves around the kind of the price index to use for each of these categories and whether there is one capable of encompassing tourism consumption as a whole all at once.

Domestic Tourism:

Domestic tourism has the following features:

- Domestic tourism includes a set of products equal to the set of all products. This is particularly the case for tourism in the form of vacationing at second homes.
- Consumers transfer their consumption patterns to the destination venue, thereby converting their consumption into tourism consumption by virtue of being away from their usual environment.
- In the case of travel within the territory of the compiling economy carried out by residents other than to second homes, the pattern of consumption will be more similar to that of outbound tourism.
- The inclusion of second homes for vacationing automatically broadens the spectrum of goods and services for domestic tourism consumption to the entire set of all goods and services. This category also includes all expenditures affected by travelers going to another country until they have crossed the border and upon their return from abroad.

This type of consumption is affected wholly by visitors who are residents in the compiling economy. For this reason, the CPI would appear to be an index potentially useful for this category of tourism consumption.

Outbound Tourism:

This type of tourism has the following features:

- The group of consumers for outbound tourism is the same as for domestic tourism, i.e., residents, but there is a difference in respect of the products involved. In this case the consumption spectrum comprises products specific to tourism – characteristic and connected products – purchased within the compiling economy before and after the trip.
- In addition to those products, that portion of package tours that is consumed within the outbound economy should be added.
- The CPI could have great potential, basically due to the resident nature of the visitors.

Inbound Tourism:

Inbound tourism's features include:

- Inbound tourism is performed by non-residents who have traveled to the compiling economy.
- The products for this type of tourism are those specific to tourism during the trip, plus that portion of package tours that is consumed in the receiving economy.
- When the visitors are not residents, the use of the CPI poses certain difficulties, because it is an index that measures changes in prices paid by resident households. This makes it necessary to turn to other indices constructed on the basis of special surveys targeting inbound tourism or tourism modules contained in the procedures underlying the CPI.

Use of the Consumer Price Indices (CPIs) in the framework of the TSA

In this context, the CPIs have the following uses:

- CPIs have the core objective to measure changes over time in the prices for the set of goods and services consumed by the resident population occupying family dwellings within a given economic territory.
- To what extent indices of this type can be useful in the framework of the TSA and how the information they provide should be used. Basically, the indices are calculated from the data supplied on Household Budget Surveys (HBSs) or Consumer Budget Surveys (CBSs), so that the indices will be wholly consistent with these surveys. Since the HBSs are considered as a major source of information in the TSA implementation process (10), it makes complete sense to examine to what extent the price indices calculated based on those surveys are useful to the TSA.
- The basis for developing the TSA is estimation of the final segment of demand by visitors in the compiling economy. That is why attention is focused on the real prices paid by visitors.
- Whether it is possible to arrive at a Tourism Price Index (TPI), that is, a general indicator of the overall trend for the prices for all the products contributing to tourism consumption. This means analyzing the "tourism shopping basket", i.e., establishing the reference products included in the basket. These will be the products that are particularly meaningful in representing trends in the set of prices being monitored. The final outcome of this analysis should lead to one of the following two conclusions:

1. A single index (TPI) for measuring changes in the set of prices for all the products accounting for tourism consumption can be established.
2. A single index cannot be established, and instead a specific price index needs to be calculated for each form of tourism (domestic, outbound and inbound).

In either of these cases, it will be necessary to establish the applicability of the CPIs and the methodology on which they are based in calculating the preceding price indices.

Structure of the CPI

CPIs have the same basic structure in nearly all the economies in which they are implemented. This is the case in the area of the European Union, and in fact in recent years procedures have been harmonized with a view to setting up a single index uniformly measuring price changes in all the economies in the area, Harmonized Consumer Price Index (HCPI) for the European Union. To compute the index for a time period t , the following expansion of the Laspeyres index is used:

$$I_t = 100 \sum_i W_i I_{it} = 100 \sum_i W_i \frac{P_{it}}{P_{i0}}$$

Where:

- I_t Price index for the time period t
- W_i Corresponding weight for product i
- I_{it} Price index for product i in time period t
- P_{it} Price level for product i in time period t
- P_{i0} Price level for product i in the base year.

The index structure is based on two main components:

- Weighting of product i (W_i) according to the proportion of expenditure on this product within the total household expenditure.
- The price ratio $P_{it} : P_{i0}$, which yields the rate of change in the prices recorded for product i since the base year.

The population base for selecting the reference products and calculating the weights for those products is the set of the resident population occupying family households in the compiling economy.

The scope of consumption covers all expenditure for consumption made by the households in the population. Only actual expenses are taken into account, such that all types of imputed expenditure, e.g., self-consumption, self-supply, imputed rent, salaries in kind, and subsidized consumption, are excluded.

From the stand point of tourism accounts, the design involves a series of points that require detailed analysis:

- Determination of the real prices actually paid by different visitor categories (outbound, inbound and domestic).
- Adjustment of the weighting structure to actual circumstances in the tourism sector.
- Price coverage for the set of tourism products by the indices established.

Real Prices

The real prices actually paid by visitors need to be analyzed. It is the visitors who are the subjects in the case of tourism activity, where the basic characteristic of a visitor is that he is outside his usual environment. This implies that persons residing within a given geographic area will only marginally be visitors within that same area. On the other hand, the usual environment need not be the same as place of residence, and the geographic boundaries for these two categories may differ considerably. For that reason, it may be that, depending on how the geographic areas are defined for purposes of statistical procedures, some residents of those areas may in certain cases be classified as visitors within those same areas.

The main point is that the CPI measures changes in consumer prices that affect the residents in a geographic area. Therefore, for tourism products, it will measure changes in the prices actually charged in that area. Consequently, it needs to take into account the fact - who has to pay those prices, namely:

- Visitors within that geographic area who come from that same geographic area (domestic tourism).
- Visitors to that geographic area from other geographic areas within the economy (domestic tourism) or from other economies (inbound tourism).

Also, the real prices actually paid by visitors from a given geographic area are:

- The prices in that geographic area, provided that they are paid in a visitor capacity within that area (domestic tourism).
- The prices in other geographic areas, national (domestic tourism) or foreign (outbound tourism).

The following points should be noted in relation to these general findings:

- When calculating real prices, both the volume of visitors between areas and the travel arrangements are important. Indeed, if most travel is arranged in the form of package tours, it will be necessary to distinguish between the portion paid at the source. In this case, visitors will only have to pay prices in the inbound tourism receiving area for those expenditure not included in the package.
- Visitors will also have to pay prices in the areas in which they are residents for pre and post-travel expenditure.
- On a supranational level, any approach will be complicated to the extent that changes in exchange rates also generate price differentials.

Weighting

Any analysis should also verify the suitability of the weighting formula used in the price index within the framework of the TSA. In this case, two basic issues need to be addressed:

- Classification of the products on which the index is based. In fact, the Household Budget Surveys (HBSs) on which the price indices are based are themselves erected on product classifications arranged on the basis of the nature of the products.
- Analysis of possible bias in the weights assigned as a consequence of the geographic component intrinsic to the TSA.

The weight of products directly related to tourism increases when the dis-aggregation is employed as a result of applying the geographic component contained in the TSA.

Coverage of Tourism Product Prices

Another important issue is the coverage by different price indices of the prices of the products making up tourism consumption. The following considerations are important:

- As the CPI measures changes in all consumer products, the products making up the consumer's shopping basket are selected on the basis of the HBS data, and different weights are assigned.
- From the perspective of the TSA, the problem is that within the scope of tourism consumption an individual product is not included or excluded on the basis of its nature but rather on the basis of whether or not it is consumed by a visitor. Nevertheless, specific (characteristic and connected) products can be differentiated from other products.
- The case of tourism characteristic products is not a problem, but the case of connected products is not so clear, and therefore the portion of the consumption of these products effected by visitors has to be assessed for each product in each compiling economy.

- The main problem arises for the other kinds of products, where a classification based on the nature of the products would not disclose any portion as constituting tourism consumption. Yet tourism consumption will exist in fact and may be of considerable importance.
- There is indeed a clear need to use price indices that include the set of tourism consumption products.
- The CPI may be a good tool when suitable correction factors are applied, which could be applicable to the case of domestic tourism.
- Whether the use of a single index for all types of tourism is possible in the framework of the TSA or whether different indices designed to measure changes in the corresponding prices are needed.
- In the case of outbound and inbound tourism, the set of products to be used to measure price trends comprises those products that have been consumed inside the compiling economy.
- The CPIs, as presently constructed, will be the basic starting point for deriving demand-side price indices that can be used in the TSA. They can be used to try to achieve both a general index called Tourism Consumer Price Index (TCPI), and specific indices for domestic and outbound tourism.

DERIVATION OF TRAVEL, TRANSPORT AND TOURISM PRICE INDEX (TTPI) FROM THE CDS&I COST OF LIVING INDEX (CLI-AH) FOR SAUDI ARABIA

The Central Department of Statistics and Information (CDS&I) publishes a monthly "Cost of Living Index" for All Population for Saudi Arabia (CLI-AP). It reflects price changes in a fixed market basket of goods and services over a fixed period of time. CLI-AP is a key comprehensive index that is representative of all categories of the population of Saudi Arabia. CLI-AP was first issued in 1979. Several improvements were made to enhance its quality and further develop CLI-AP. A sample items for the cost of living index for all population were taken from data for the consumer expenditure survey in urban areas in the Kingdom, which was conducted by CDS&I in 1999 covering 12000 households over the duration of one year. The survey covered 16 cities from where prices were collected. These were Riyadh, Makkah, Madina, Jeddah, Taif, Hofuf, Dammam, Tabuk, Abha, Buraida, Hail, Arar, Sakakah, Al Baha, Jizan and Najran. In 2001, CDS&I conducted the point of sale (retail establishments) survey, in order to establish a sampling framework. Out of this framework, a representative sample was taken for establishments in the 16 cities covered by the survey of the cost of living index for all population.

Sample Size and Item Specifications

The current item basket was selected by the CDS&I through application of the probability method commensurate with the size of goods and services. This method showed a relative weight equal to or over the statistical threshold of 0.03%, which is double the number of items of the previous basket. A total of 406 items were selected to build the index, accounting for 100% increase in the number of goods and services selected previously. Moreover, the scope of regional coverage was expanded, with a rise of 60% in regional coverage, making the index more representative of all administrative regions of the Kingdom. Once item sample was selected, detailed specifications of individual items were written, in order to price the same type and quality of items in all parts of the Kingdom. The specifications covered the key price factors, which affect the item price, such as type, size, brand, model number, country of origin, etc. Updating the cost-population weights is the most significant advantage resulting from modification of the cost of living index for all population. The new cost weights reflect the latest household expenditure patterns, which feature on-going movement. In fact these patterns keep changing every month with the price movements of selected items. The cost-population-weights were calculated by multiplying average per month expenditure of selected items within each corresponding initial sampling unit in the relative population figure, by the initial sampling unit compared with the rest of the initial sampling units. Moreover, an accurate revision was made of the technical methods and techniques. This included enhanced field work and data processing with increased efficiency. The CDS&I used Laspeyres formula for calculating index, which is used in most countries.

For deriving TTPI, a list of 89 tourism-related products and services as recommended by UNWTO based on international standard classification of tourism products & services (Appendix A) was reviewed to come up with a tentative list of 62 tourism characteristic products/services - subject to revision, which has a significant relevance to Saudi Arabia (Appendix B). After reviewing 406 items covered in the CDS&I, CLI-AH, the price relatives for the selected tourism-related commodities and services were identified. Only 21 tourism-characteristic products/services were found out of 62 items proposed for the MAS Center – Travel, Transport and Tourism Price Index (TTPI). It is noteworthy that 21 items according to the international classification are almost equivalent to 41 products/services listed in the CLI-AH (CDS&I), June 2009.

The derived tourism characteristic products and services from the CDS&I were grouped into seven categories as shown in the Appendix E. The price indices (price relatives) of individual items were obtained for June 2009, May 2009, March 2009 and June 2008. In the absence of relative weights for individual products/services, simple averages (rather than weighted averages) were calculated for the components. The relative expenditure weights were available for six components from the MAS Center's International Visitor Survey (IVS) and the Domestic and Outbound Tourism Survey (DOTS). Overall three composite Travel, Transport and Tourism Price indices (TTPIs) were estimated for the domestic tourists, inbound (foreign) tourists and internal tourists by calculating the weighted averages of the price relatives for individual groups. A comparison of overall (MAS TTPI-DT, TTPI-FT, TTPI-IT) and (CDS&I CLI-AH) is shown in Statistical Table 3 below:

Table 3: Overall Travel & Tourism Price Indices (TTPI) vs. Saudi Cost of Living Index (CLI), 1999=100

Description	Type of Indices	Monthly Indices				Rate of Changes (%) in June 2009		
		Jun-09	May-09	Mar-09	Jun-08	Monthly	Quarterly	Yearly
TOURISTS	TTPI - Domestic	146.6	146.6	146.8	141.8	0.0	-0.2	3.4
TOURISTS	TTPI - Inbound	139.3	139.3	139.6	133.2	0.0	-0.2	4.6
TOURISTS	TTPI - Internal	143.8	143.8	144.0	138.4	0.0	-0.2	3.8
LOCAL POPULATION	CLI - Overall	121.5	121.3	121.0	115.5	0.2	0.4	5.2

Sources: Derived from CDS&I Cost of Living Index for June 2009.



Chart 4: Travel, Transport and Tourism Price Index (1999=100) for Domestic, Inbound and Internal Tourists

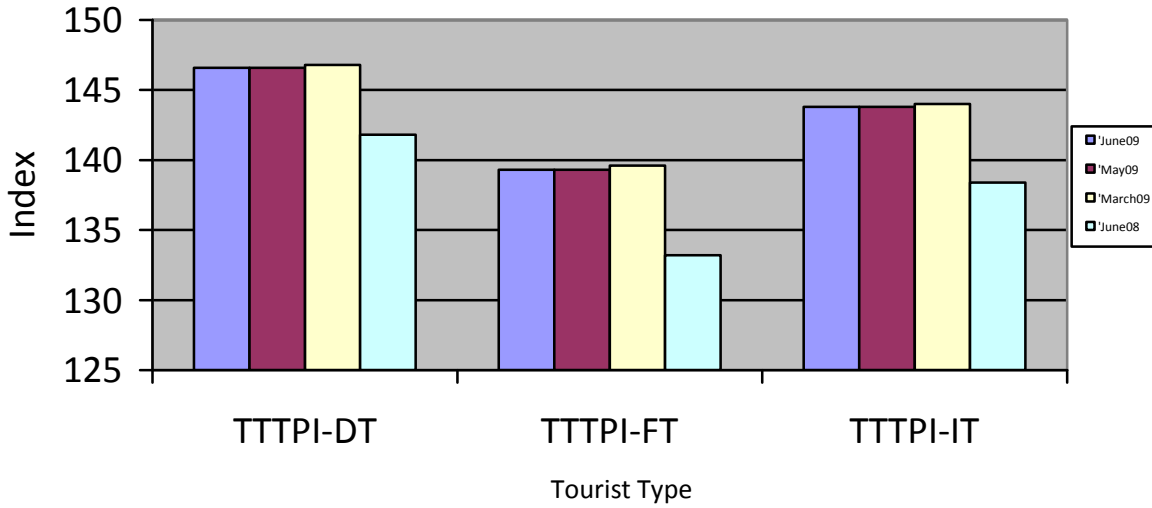
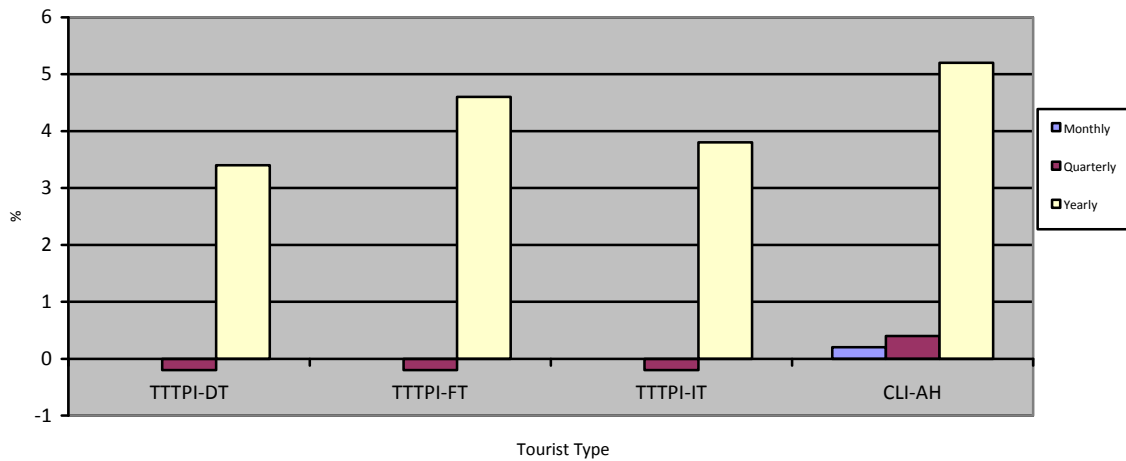


Chart 5: (%) Changes - Travel, Transport and Tourism Price Indices vs. CLI



MAS Center - SCTA has made an attempt to estimate and develop a TTPI based on incomplete data about observed expenditure patterns of inbound tourists and the existing CDS&I cost of living index of Saudi Arabia. The results are quite interesting as follows:

- The internal tourists were less affected by inflation than the local population of Saudi Arabia. The annual CLI (Inflation) in June 2009 was 5.2% for local population; while the annual TTPI (Inflation) for internal tourists was 3.8%.
- A comparison between Inbound & domestic tourists of Saudi Arabia shows that the annual rate of inflation faced by the inbound tourists (TTPI) was higher at 4.6% compared to domestic tourists at 3.4%.
- On a quarterly basis, the inflation rate for the internal tourists was less than zero; while it was +0.4% for the local population. On a monthly basis the inflation rate for the internal tourists was zero; while it was +0.2% for the local population.

INTERNATIONAL BEST PRACTICES

The Travel & Tourism Competitiveness

The travel and tourism competitiveness index (TTCI) has been developed within the context of the World Economic Forum's (WEF) industry partnership program in 2009. It aims to measure the factors and policies that make it attractive to develop the travel and tourism sector in different countries. It is built on the basis of 14 pillars of TTCI. These are:

1. Policy rules and regulations
2. Environmental sustainability
3. Safety and security
4. Health and hygiene
5. Prioritization of Travel & Tourism
6. Air transport infrastructure
7. Ground transport infrastructure
8. Tourism infrastructure
9. ICT infrastructure
10. Price competitiveness in the T&T industry
11. Human resources
12. Affinity for Travel & Tourism
13. Natural resources
14. Cultural resources

Each of the pillars is, in turn, made up of a number of individual variables. The dataset includes both hard data and Survey data from the World Economic Forum's annual Executive Opinion Survey. The hard data were obtained from publicly available sources, international organizations, and Travel & Tourism institutions and experts. The TTCI is the most competitive indicator of tourism price competitiveness. It measures only prices that enter the tourism basket, and thus highly reflective of tourism. It enables cross-country comparison at a point of time and can be calculated over time to indicate trends. With appropriate weights, it can be used to develop an indicator of changes in a country's overall tourism competitiveness [11].

In terms of the overall travel and tourism competitiveness index (TTCI) 2009, Switzerland was ranked first out of the 133 countries, followed by Austria and Germany, the same top three countries for the past three years. This is attributable to their relative strengths in rich cultural resources, tourism and ICT infrastructure, environmental sustainability, ground transport infrastructure, safety and security, quality of human resource and policy, rules and regulations in tourism industry. Malaysia was ranked 32nd overall, while Saudi Arabia was ranked 71st overall in TTCI 2009. Among the GCC countries, the most competitive country in terms of Travel & Tourism Competitiveness - 2009 was UAE, followed by Qatar, Bahrain, Oman, KSA and Kuwait.

Price Competitiveness in the T&T Industry

While the TTCI is a good measure of general price levels in different countries it is not tourism-specific. To address this lack, related price data for four key tourism-related products are provided – these are: ticket taxes and airport charges, national purchasing power parity prices, fuel price levels, and hotel price index. By aggregating all these indicators, a more tourism-specific index of prices in different countries is obtained from up-to-date price indicators. In their destination choice decision, tourists consider the price (cost of living) at the destination relative to the costs of living at the origin and substitute destinations. Thus, two types of prices have to be considered in estimating the price competitiveness of a destination. The first one is the relative price between the receiving and the origin country; the second is the relative price between different competing destinations, which generates the substitution price effect. Price competitiveness is one of the most important factors in the overall tourism competitiveness of a country or a destination. Tourism prices are one of the most important factors in decisions about whether, and where, to undertake trips. This is reflected in 10th pillar of the overall Travel & Tourism Competitiveness Index (TTCI), which covers four key tourism-related products, as shown above.

World Comparison

According to the WEF, world ranking of 133 countries (covered in the study) in terms of travel and tourism price competitiveness in 2009 revealed that Egypt was ranked as the world's most Travel & Tourism price competitive country, followed by Brunei, Indonesia, Malaysia, Syria, Bahrain, Tunisia, KSA, Botswana and Nepal. Egypt achieved the number 1 competitive position in the world in 2009, offering excellent price competitiveness with its low comparative hotel, fuel prices and excellent purchasing power parity. Brunei was ranked as the 2nd most price competitive country. Indonesia and Malaysia were the third and fourth most price competitive countries, respectively, because of their relatively lower hotel prices, fuel price levels, ticket taxes and airport charges. Saudi Arabia was ranked as the 8th most price competitive country in the world for travel and tourism in 2009, offering excellent price competitiveness with its low fuel prices, less ticket taxes and airport charges, plus a favorable tax regime.

Regional Comparison

In general, the GCC region (with the exception of UAE) enjoys better price competitiveness in travel and tourism due to favorable tax regimes, lower ticket taxes & airport charges and low fuel price levels. Bahrain was the most price competitive country in travel & tourism, followed by KSA, Oman, Kuwait, Qatar and UAE. **Bahrain, KSA and Oman were the top three most price competitive countries in the GCC region for travel and tourism in 2009**, offering excellent price competitiveness with their low comparative fuel price levels, low ticket taxes and airport charges plus favorable tax regimes.

Table 4: Ranking of the World Top 10 Countries out of 133 Surveyed by the WEF in Terms of Price Competitiveness in Travel and Tourism Industry

Country	Overall World Rank	Ticket Taxes & Airport Charges	Purchasing Power Parity	Extent & Effect of Taxation	Fuel Price Levels	Hotel Price Index
Egypt	1	34	4	34	3	4
Brunei	2	3	76	10	n/a	n/a
Indonesia	3	12	50	16	16	7
Malaysia	4	13	46	20	14	6
Syria	5	45	21	29	4	17
Bahrain	6	7	94	2	4	95
Tunisia	7	51	31	21	28	11
KSA	8	16	88	9	2	81
Botswana	9	15	37	19	49	n/a
Nepal	10	40	14	49	47	2

Source: WEF, World Travel & Tourism Competitiveness Report, 2009

Table 5: Ranking of the GCC Countries out of 133 Countries Surveyed by the WEF In Terms of Price Competitiveness in Travel and Tourism Industry

Country	GCC Rank	Overall World Rank	Ticket Taxes & Airport Charges	Purchasing Power Parity	Extent & Effect of Taxation	Fuel Price Levels	Hotel Price Index
Bahrain	1	6	7	94	2	4	95
KSA	2	8	16	88	9	2	81
Oman	3	17	11	80	7	12	91
Kuwait	4	24	4	103	6	9	105
Qatar	5	39	10	105	4	7	110
UAE	6	50	8	113	1	23	104

Source: WEF, World Travel & Tourism Competitiveness Report 2009

Regarding international best practices, **Curacao's** TPI [12] is only very marginally more efficient than the CPI. For this country, the exchange rate appears to have more significance than either TPI or CPI. **The British Virgin Island** [4] publishes quarterly TPI. According to their findings, the Christmas/New Years season and the first quarter (Winter) is the high season and the prices especially of hotel rooms and packages are at their maximum. It drops in the spring and summer (2nd and 3rd quarters). The tourist arrivals are also low during the Hurricane season, which extends from May to November. The arrivals as well as prices pick up in the last quarter. Their TPI reflects the same. **Macao** [13] is also constructing a quarterly tourism price index based on 89 products/services, prices of which are collected from 125 selected outlets.

RECOMMENDATIONS

MAS Center of the SCTA has derived TTPI from the CDS&I – CLI based on 21 tourism-characteristic items selected from the basket of 406 items. The MAS Center needs data for 62 tourism-related items as per international standards to construct TTPI on a regular basis, therefore the following recommendations are made:

I SEEK COOPERATION FROM THE CDS&I

1. The CDS&I have been conducting regular consumer price surveys for over two decades to construct Cost of Living Index for all households (CLI-AH) of Saudi Arabia. They use a consumer basket of 406 items. To construct the TTPI, tourism-characteristic product weights have to be established and the prices for 62 items need to be collected on a regular basis. If the CDS&I agree to cooperate with the MAS Center and collects data for TTPI, we may have the price quotations for 62 items on a regular basis from them. But to establish relative weights for 62 items, a separate tourism expenditure survey for 62 items needs to be conducted (annually or biannually). Once the relative weights are established for 62 items, and monthly prices are collected for those items, TTPI could be constructed either by the CDS or by the MAS Center (SCTA).
2. A copy of the TTPI report of the MAS Center could be sent to the CDS&I for their feed back.

II CONSTRUCTING AN INDEX (TTPI) THROUGH THE MAS CENTER'S RESOURCES

If the decision is made to use MAS Center's resources to construct the TTPI, the two surveys will have to be commissioned to the Consultants/Firms.

Tourism Expenditure Survey (annual/biannual) for the selected 62 items to establish weights for the TTPI.

Regular price surveys will be conducted on a monthly/bimonthly basis to estimate the price relatives for constructing the TTPI.

III SEEK GUIDANCE FROM THE UNWTO FOR CONSTRUCTING TTPI

As the UNWTO is the main authority in the field of tourism, an advice and opinion could be sought from them by sending them a copy of the TTPI report of Saudi Arabia. Is it really worth doing it at this stage keeping in view the limitation of resources at the disposal of the MAS Center? Moreover, how useful it would be and what should be the future policies for establishing this index?

CONCLUSION

We conclude that the Travel, Transport and Tourism Price Index (TTPI) for Saudi Arabia is needed parallel to CDS&I Cost of Living Index, as the consumption patterns of local population and the internal (inbound & domestic) tourists are different. The TTPI could be a helpful indicator of the effectiveness of the government tourism policy. This indicator will be useful in the future tourism research, especially empirical research in the short-term as well as long-term at the national, regional and international levels. The potential use of indices like the CPI in the framework of the TSA can give rise to bias that can seriously skew the results obtained in the context of the TSA. The principal difficulties observed are as follows:

- CPIs are based on household budget surveys (HBSs), which collect data on the basis of place of residence. This gives rise to a problem in monitoring the real prices actually paid by consumers when there is a geographic dislocation between the place of consumption and the place of residence.
- CPIs include a weighting structure based on the content of the consumer's shopping basket. Determining the content of the visitor's shopping basket involves setting aside the consideration of the nature of the goods employed in the product classifications. It is necessary to address the problem of establishing which products and which quantities correspond to tourism consumption (domestic, outbound, and inbound).
- If the portion of total consumption carried out by residents in their capacity as visitors is taken into account, the weighting structure can be seen to change substantially in favor of specific products, to the detriment of all other products.

In their present form CPIs are tools that hold out great potential in the framework of the TSA, although they do entail problems that will be difficult to overcome in the case of inbound tourism. To construct these indices, the statistical procedures currently in use by the national statistical offices will have to address at least the following issues:

- Exploring the outcome of including the territorial component intrinsic to the TSA.
- Performing additional studies to supplement statistical procedures that will make it possible to establish the composition of the resident's shopping basket inside and outside the usual environment and the resulting weighting structure of the indices.
- Expanding procedures to implement specific modules for compiling the real prices actually paid by non-resident visitors in the economy in question.

A general index of tourism prices can be developed on the basis of the CPIs, making the necessary changes in procedures to offset the problems mentioned above. Nevertheless, that index will not be suitable for deflation or for cyclical analysis of each of the segments comprising tourism consumption (domestic, outbound, and inbound). It will be necessary to develop specific indices based on the CPI in the case of outbound and domestic tourism and based on specific statistical procedures in the case of inbound tourism and which take into account the special features of each of these forms of tourism. It has been observed that Cost of Living Index (CLI) of all households by the Central Department of Statistics & Information (CDS&I) could serve as a guideline for constructing a TTPI for Saudi Arabia. Out of their 406 items - basket only 41 items were extracted for inclusion in TTPI (which are equivalent to almost 21 items as per international standard classification of tourism products and services). However, some of the items do not match 100% with international classification. Therefore, it is proposed to start work at the beginning by taking a sample size of 40 to 50 items, which could be increased at a later stage. But items have to be redefined clearly commensurate with international standard classification of tourism products and services. Detailed specifications of individual items need to be written, in order to price the same type and quality of items every month/quarter in all parts of the Kingdom.

1. A special sample survey needs to be conducted on detailed expenditure of internal tourists (inbound and domestic) on 62 items selected as per international classification shown in Appendix B of this report. This detailed spending could be included in the IVS and DOTS by increasing the scope of the surveys.
2. A request could be made to the CDS&I to include a tourism dimension in their future Consumer Expenditure Surveys to get the tourist's spending on 62 items.
3. Monthly/quarterly price surveys will be needed to get the prices of 62 selected commodities/ services (Appendix B). This could be done through surveys by the MAS Center, SCTA or by requesting the CDS&I to include tourism-related commodities/services in their monthly CLI. They could in fact construct two separate indices: (a) CLI (All Population) and (b) CLI (Tourists).

Appendix A

A list of 89 Products by International Standard Classification of Tourism Products & Services (ISCTPS)

As recommended by the World Tourism Organization (UNWTO) to be adopted.

To give digital symbols of the different items, symbols consisting of six digits were used with a point between the fifth and sixth digits. The first five digits represent the symbol of central classification of products, and the sixth digit is used specifically for this list. If the sixth digit is zero, it means that this item is the same mentioned in the central classification of products. For example, the symbol 63110.0 "Hotel Services" matches the symbol of central classification of products. Whereas the symbol 63199.1 "caravans..." matches partly the symbol of central classification of products 63199.

1. Accommodation Services:

1 – 1: Hotel and Other Accommodations services:

Code	International Standard Classification	Relevant to KSA	Available from CDSI - CLI
63110.0	Hotel Services	X	X
63191.0	Vacation Centers and Lodges Services	X	X
63192.0	Furnished Unit Rental Services	X	X
63193.0	Youth Hostel Services	X	
63194.0	Services of Training and Vacation Camps for Children		
63195.0	Camp site and Caravan Services		
63199.1	Caravans Services and Similar Services in Other Transport Means, Student Dormitories		

1 – 2: The Other Houses Services on the Visitor Cost or Free

This branch category includes the rental of other owned houses or free houses and the furnished units to which the Timeshare system applies. There is no symbol of this information stated in the central classification of products.

72211.1	Support Services for Timeshare Activities in Real Estate Units	X	X
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2. Food and Beverage Services

63210.0	Food Serving Services at Full Service Restaurants	X	X
63220.0	Food Serving Services at Self Service Facilities	X	X
63290.0	Other Food Serving Services	X	X
63300.0	Beverage Serving Services at the Location	X	x

3. Passenger Transport Services

3 – 1: Transport Services by Train between the cities

64111.1	Services of Passenger Transport by Train (Scheduled Trips)	X	X
64111.2	Services of Passenger Transport by Train (Not Scheduled Trips)		

3 - 2: Transport Services on Roads

64213.0	Services of Scheduled Passenger Transport on Roads between Cities	X	X
64214.0	Services of Scheduled Passenger Transport on Roads between Cities for Special Purposes	X	X
64219.0	Scheduled Transport Services to Hills for Ice Skating		
64219.2	Monorail and tram services		
64221.0	Taxi Services	X	X
64222.0	Services of Car Rental with a Driver	X	X
64223.0	Services of Bus Rental with a Driver	X	

3 – 3: Water Transport Services

65111.0	Services of Coast Water Transport and across Oceans for Travelers by Ferries		
65119.1	Other Services of Coast Water Transport and across Oceans for Ferry Passengers		
65119.2	Non-Scheduled Other Services of Coast Water Transport and across Oceans		
65119.3	Tourism Ship Services		
65130.1	Boats Rental Services of Coast Water Transport and across Oceans with a Pilot		
65211.0	Internal Water Transport Services for Ferry Passengers		
65219.1	Scheduled Passenger Services	X	
65219.2	Sea Tourism Trip Services	X	
65230.0	Boat Rental Services of Internal Water Transport with a Pilot	X	

3 – 4: Air Transport Services

66110.0	Scheduled Air Transport Services for Passengers	X	X
66120.1	Non-Scheduled Air Transport Services for Passengers	X	
66120.2	Sightseeing Tour Services by Using Airplanes or Helicopters		
66400.0	Airplane Rental Services with a Pilot	X	

3 – 5: Support Passenger Transport Services

67300.0	Navigation Assistance Services	X	
67400.0	Support Services for Transport by Train	X	
67510.0	Bus Station Services	X	
67530.1	Transport Means Parking in the Final Passenger Stations		
67610.0	Harbour and Water Channel Services (with the exception of goods Transport)	X	
67790.0	Other Support Services of Air or Space Transport	X	

3 – 6: Passenger Transport Means Rentals

73111.0	Services of Car and Light Vehicle Rental without a Driver	X	x
73114.1	Services of Trailer Rental without a Driver		
73115.1	Services of Vehicle Rental without a Driver	X	X
73116.1	Services of Airplane Rental without a Pilot		

3 – 7: Maintenance Services for Passenger Transport Means

87143.0	Maintenance Services of Trailers, Semi-Trailers, and Other Vehicles	X	
87149.1	Maintenance Services of Recreation Boats for Personal Use	X	
87149.0	Maintenance Services of Recreation Airplanes for Personal Use	X	

4. Services of Travel Agencies, Tour Operators, and Tour Guides**4 -1: Travel Agency Services**

67811.0	Travel Agency Services	X	
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4 – 2: Tour Operator Services

67812.0	Tour Operator Services	X	
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4 - 3: Tourism Information and Tour Guide Services

67813.0	Tourism Information Services	X	
67820.0	Tour Guides Services	X	

5. Cultural Services**5 - 1: Theatre Arts**

96230.0	Performing arts event production and presentation services	X	X
96310.0	Services of performing artists	X	X

5 - 2: Museum and Preservation Services

96411.0	Museum Services, except for historical sites and Buildings	X	
96412.0	Preservation services of historical sites Buildings	X	
96421.0	Botanical and zoological garden services		
96422.0	Nature Reserve Services, including wildlife preservation services		

6. Other Recreation Services

6 - 1: Sport Services and Other Recreation Sport Services

96510.0	Services of Promoting and Organizing Sport Contests and Recreation Sport Occasions	X	
96520.1	Golf Course Services	X	
96520.2	Air Sport		
96520.3	Tracks		
96520.5	Amusement Park and Beach Services	X	X
96590.1	Adventure and Risky Sport	X	

6 - 2: Other Recreation Services

96910.1	Park Services	X	
96910.2	Amusement City Services	X	
96910.3	Charity Market and Festival Services	X	

7. Miscellaneous Tourism Services

7 -1: Financial and Insurance Services

71100.1	Travel Card Services	X	
71100.2	Travel Loan Services	X	
71311.1	Insurance Services during Travel	X	
71320.1	Accident Insurance Services during Travel	X	
71320.2	Health Insurance Services during Travel	X	
71334.1	Insurance Services on Personal Use Airplanes		
71334.2	Insurance Services on Personal Use Boats		
71339.1	Travel-Related Insurance Services	X	
71552.0	Currency Exchange Services	X	

7 -2: Services of Other Equipment Rental

73240.1	Rental Services of Not-Provided Land Transport Equipment		
73240.2	Rental Services of Winter Sport Equipment		
73240.3	Rental Services of Air Transport Equipment that are not Provided with Engines		
73240.4	Rental Services of Water Sport Equipment and Beach Apparatus		
73240.5	Services of Tent Equipment Rental	X	
73290.1	Camera Rental Services		

7 -3: Other Tourism Services

85970.0	Services for Organizing Markets and Commercial Exhibitions	X	
97230.4	Spa Services	X	
91131.1	Fishing Licensing Services	X	
91131.2	Hunting Licensing Services	X	
91210.1	Passport Issuing Services	X	X
91210.2	Visa Issuance Services	X	X
96620.2	Guide Services (in Mountain, Fishing)	X	
97910.0	Accompanying Services	X	

Appendix B

A list of (62) Items relevant for Saudi Arabia for the construction of TTPI and for which monthly/quarterly prices are needed by MAS Center, SCTA.

1. Accommodation Services:

1 – 1: Hotel and Other Accommodations services:

Code	International Standard Classification	Relevant to KSA	Available from CDSI - CLI
63110.0	Hotel Services	X	X
63191.0	Vacation Centers and Lodges Services	X	X
63192.0	Furnished Unit Rental Services	X	X
63193.0	Youth Hostel Services	X	

1 – 2: The Other Houses Services on the Visitor Cost or Free

72211.1	Support Services for Timeshare Activities in Real Estate Units	X	X
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2. Food and Beverage Services

63210.0	Food Serving Services at Full Service Restaurants	X	X
63220.0	Food Serving Services at Self Service Facilities	X	X
63290.0	Other Food Serving Services	X	X
63300.0	Beverage Serving Services at the Location	X	x

3. Passenger Transport Services

3 – 1: Transport Services by Train between the cities

64111.1	Services of Passenger Transport by Train (Scheduled Trips)	X	X
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3 - 2: Transport Services on Roads

64213.0	Services of Scheduled Passenger Transport on Roads between Cities	X	X
64214.0	Services of Scheduled Passenger Transport on Roads between Cities for Special Purposes	X	X
64221.0	Taxi Services	X	X
64222.0	Services of Car Rental with a Driver	X	X
64223.0	Services of Bus Rental with a Driver	X	

3 – 3: Water Transport Services

65219.1	Scheduled Passenger Services	X	
65219.2	Sea Tourism Trip Services	X	
65230.0	Boat Rental Services of Internal Water Transport with a Pilot	X	

3 – 4: Air Transport Services

66110.0	Scheduled Air Transport Services for Passengers	X	X
66120.1	Non-Scheduled Air Transport Services for Passengers	X	
66400.0	Airplane Rental Services with a Pilot	X	

3 – 5: Support Passenger Transport Services

67300.0	Navigation Assistance Services	X	
67400.0	Support Services for Transport by Train	X	
67510.0	Bus Station Services	X	
67610.0	Harbour and Water Channel Services (with the exception of goods Transport)	X	
67790.0	Other Support Services of Air or Space Transport	X	

3 – 6: Passenger Transport Means Rentals

73111.0	Services of Car and Light Vehicle Rental without a Driver	X	X
73115.1	Services of Vehicle Rental without a Driver	X	X

3 – 7: Maintenance Services for Passenger Transport Means

87143.0	Maintenance Services of Trailers, Semi-Trailers, and Other Vehicles	X	
87149.1	Maintenance Services of Recreation Boats for Personal Use	X	
87149.0	Maintenance Services of Recreation Airplanes for Personal Use	X	

4. Services of Travel Agencies, Tour Operators, and Tour Guides**4 -1: Travel Agency Services**

67811.0	Travel Agency Services	X	
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4 – 2: Tour Operator Services

67812.0	Tour Operator Services	X	
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4 - 3: Tourism Information and Tour Guide Services

67813.0	Tourism Information Services	X	
67820.0	Tour Guides Services	X	

5. Cultural Services**5 - 1: Theatre Arts**

96230.0	Performing arts event production and presentation services	X	X
96310.0	Services of performing artists	X	X

5 - 2: Museum and Preservation Services

96411.0	Museum Services, except for historical sites and Buildings	X	
96412.0	Preservation services of historical sites Buildings	X	

6. Other Recreation Services**6 - 1: Sport Services and Other Recreation Sport Services**

96510.0	Services of Promoting and Organizing Sport Contests and Recreation Sport Occasions	X	
96520.1	Golf Course Services	X	
96520.5	Amusement Park and Beach Services	X	X
96590.1	Adventure and Risky Sport	X	

6 - 2: Other Recreation Services

96910.1	Park Services	X	
96910.2	Amusement City Services	X	
96910.3	Charity Market and Festival Services	X	

7. Miscellaneous Tourism Services**7 -1: Financial and Insurance Services**

71100.1	Travel Card Services	X	
71100.2	Travel Loan Services	X	
71311.1	Insurance Services during Travel	X	
71320.1	Accident Insurance Services during Travel	X	
71320.2	Health Insurance Services during Travel	X	
71339.1	Travel-Related Insurance Services	X	
71552.0	Currency Exchange Services	X	

7 -2: Services of Other Equipment Rental

73240.5	Services of Tent Equipment Rental	X	
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7 -3: Other Tourism Services

85970.0	Services for Organizing Markets and Commercial Exhibitions	X	
97230.4	Spa Services	X	
91131.1	Fishing Licensing Services	X	
91131.2	Hunting Licensing Services	X	
91210.1	Passport Issuing Services	X	X
91210.2	Visa Issuance Services	X	X
96620.2	Guide Services (in Mountain, Fishing)	X	
97910.0	Accompanying Services	X	

Appendix C

List of (41) Items for which monthly/quarterly prices are not available from the Cost of Living Index (CLI-AL), CDS&I, and are needed by MAS Center, SCTA

Code	International Standard Classification	Relevant to KSA	Available from CDSI - CLI
63193.0	Youth Hostel Services	X	
64223.0	Services of Bus Rental with a Driver	X	
67300.0	Navigation Assistance Services	X	
67400.0	Support Services for Transport by Train	X	
67510.0	Bus Station Services	X	

3 – 3: Water Transport Services

65219.1	Scheduled Passenger Services	X	
65219.2	Sea Tourism Trip Services	X	
65230.0	Boat Rental Services of Internal Water Transport with a Pilot	X	

3 – 4: Air Transport Services

66120.1	Non-Scheduled Air Transport Services for Passengers	X	
66400.0	Airplane Rental Services with a Pilot	X	

3 – 5: Support Passenger Transport Services

67610.0	Harbour and Water Channel Services (with the exception of goods Transport)	X	
67790.0	Other Support Services of Air or Space Transport	X	

3 – 7: Maintenance Services for Passenger Transport Means

87143.0	Maintenance Services of Trailers, Semi-Trailers, and Other Vehicles	X	
87149.1	Maintenance Services of Recreation Boats for Personal Use	X	
87149.0	Maintenance Services of Recreation Airplanes for Personal Use	X	

4 -1: Travel Agency Services

67811.0	Travel Agency Services	X	
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4 – 2: Tour Operator Services

67812.0	Tour Operator Services	X	
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4 - 3: Tourism Information and Tour Guide Services

67813.0	Tourism Information Services	X	
67820.0	Tour Guides Services	X	

5 - 2: Museum and Preservation Services

96412.0	Preservation services of historical sites Buildings	X	
96411.0	Museum Services, except for historical sites and Buildings	X	

6 - 1: Sport Services and Other Recreation Sport Services

96510.0	Services of Promoting and Organizing Sport Contests and Recreation Sport Occasions	X	
96520.1	Golf Course Services	X	
96590.1	Adventure and Risky Sport	X	

6 - 2: Other Recreation Services

96910.1	Park Services	X	
96910.2	Amusement City Services	X	
96910.3	Charity Market and Festival Services	X	

7 -1: Financial and Insurance Services

71100.1	Travel Card Services	X	
71100.2	Travel Loan Services	X	
71311.1	Insurance Services during Travel	X	
71320.1	Accident Insurance Services during Travel	X	
71320.2	Health Insurance Services during Travel	X	
71339.1	Travel-Related Insurance Services	X	
71552.0	Currency Exchange Services	X	

7 -2: Services of Other Equipment Rental

73240.5	Services of Tent Equipment Rental	X	
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7 -3: Other Tourism Services

85970.0	Services for Organizing Markets and Commercial Exhibitions	X	
97230.4	Spa Services	X	
91131.1	Fishing Licensing Services	X	
91131.2	Hunting Licensing Services	X	
96620.2	Guide Services (in Mountain, Fishing)	X	
97910.0	Accompanying Services	X	

Appendix D

List of (21) Items for which monthly prices are available from the CLI-AP, CDS&I, and have been used for the construction of TTPI for Saudi Arabia by MAS Center, SCTA

1. Accommodation Services:

1 – 1: Hotel and Other Accommodations services:

Code	International Standard Classification	Relevant to KSA	Available from CDSI - CLI
63110.0	Hotel Services	X	X
63191.0	Vacation Centers and Lodges Services	X	X
63192.0	Furnished Unit Rental Services	X	X

1 – 2: The Other Houses Services on the Visitor Cost or Free

72211.1	Support Services for Timeshare Activities in Real Estate Units	X	X
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2. Food and Beverage Services

63210.0	Food Serving Services at Full Service Restaurants	X	X
63220.0	Food Serving Services at Self Service Facilities	X	X
63290.0	Other Food Serving Services	X	X
63300.0	Beverage Serving Services at the Location	X	X

3. Passenger Transport Services

3 – 1: Transport Services by Train between the cities

64111.1	Services of Passenger Transport by Train (Scheduled Trips)	X	X
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3 - 2: Transport Services on Roads

64213.0	Services of Scheduled Passenger Transport on Roads between Cities	X	X
64214.0	Services of Scheduled Passenger Transport on Roads between Cities for Special Purposes	X	X
64221.0	Taxi Services	X	X
64222.0	Services of Car Rental with a Driver	X	X

3 – 3: Water Transport Services

3 – 4: Air Transport Services

66110.0	Scheduled Air Transport Services for Passengers	X	X
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3 – 5: Support Passenger Transport Services

3 – 6: Passenger Transport Means Rentals

73111.0	Services of Car and Light Vehicle Rental without a Driver	X	X
73114.1	Services of Trailer Rental without a Driver		
73115.1	Services of Vehicle Rental without a Driver	X	X

3 – 7: Maintenance Services for Passenger Transport Means**4. Services of Travel Agencies, Tour Operators, and Tour Guides****5. Cultural Services****5 - 1: Theatre Arts**

96230.0	Performing arts event production and presentation services	X	X
96310.0	Services of performing artists	X	X

5 - 2: Museum and Preservation Services**6. Other Recreation Services****6 - 1: Sport Services and Other Recreation Sport Services**

96520.5	Amusement Park and Beach Services	X	X
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6 - 2: Other Recreation Services**7. Miscellaneous Tourism Services****7 -1: Financial and Insurance Services****7 -2: Services of Other Equipment Rental****7 -3: Other Tourism Services**

91210.1	Passport Issuing Services	X	X
91210.2	Visa Issuance Services	X	X

Appendix E

Derivation of TTPI from the CLI-AP (CDS&I) from a list of 41 goods & services

Travel & Tourism Price Indexes (TTPI) Derived from the CDS&I Cost of Living Index (1999=100)

Description	Relative Weights for			Index June-09	Index May-09	Index Mar-09	Index June-08	Changes in June (%)		
	Domestic Tourists	Inbound Tourists	Internal Tourists					Monthly	Quarterly	Yearly
Accommodation	20.10%	47.70%	30.70%	131.8	131.8	132.1	120.8	0.00	-0.25	9.11
Cost of hotel stays				135.3	135.3	135.3	128.7	0.00	0.00	5.13
Cost of furnished flat rent				142.3	142.3	142.3	121.1	0.00	0.00	17.51
Cost of rest house rent				117.7	117.7	118.7	112.5	0.00	-0.84	4.62
Food & Beverages	18.60%	8.90%	14.90%	115.6	115.6	115.2	113.2	0.00	0.35	2.12
Out of home meals				115.6	115.6	115.2	113.2	0.00	0.35	2.12
Breakfast				109.1	109.1	109.4	107.8	0.00	-0.27	1.21
Lunch				119.9	119.9	119.9	116.8	0.00	0.00	2.65
Dinner				115.1	115.1	114.3	112.8	0.00	0.70	2.04
Fast food restaurants				111.9	111.9	111.9	112.9	0.00	0.00	-0.89
Chicken Shawarma				124.4	124.4	122.6	120.1	0.00	1.47	3.58
Meat Shawarma				105.0	105.0	102.5	103.9	0.00	2.44	1.06
Broasted Chicken				113.4	113.4	113.4	115.1	0.00	0.00	-1.48
Pizza				103.0	103.0	100.8	100.3	0.00	2.18	2.69
Misc. Pies, Local				119.9	119.9	119.2	111.2	0.00	0.59	7.82
Beef Burger				113.5	113.5	112.6	106.5	0.00	0.80	6.57
Foul Medammas, Lentils, M'asoub				109.0	109.0	109.0	108.5	0.00	0.00	0.46
Transportation (Domestic)	13.80%	16%	14.60%	105.7	105.7	105.9	101.7	0.00	-0.13	3.95
Transport Fees - Bus-Inside City				100.1	100.1	100.1	100.1	0.00	0.00	0.00
Transport Fees - Bus-Between Cities				101.1	101.1	101.1	100.3	0.00	0.00	0.80
Transport Fees - Taxi				118.9	118.9	118.9	118.2	0.00	0.00	0.59
Transport Fees - small car-Between Cities				103.7	103.7	103.7	103.7	0.00	0.00	0.00
Transport Fee - domestic air				124.5	124.5	124.5	102.6	0.00	0.00	21.35
Costs of car rent per day				86.0	86.0	86.8	85.3	0.00	-0.92	0.82
Travel Agencies & Other Reservation Ser.										
Cultural Activities (Recreation)	12.50%	1.80%	8.40%	112.7	112.7	112.7	95.4	0.00	0.00	18.13
Expenses for theme parks & clubs				117.7	117.7	117.7	96.6	0.00	0.00	21.84
Membership fees for clubs or cen				107.7	107.7	107.7	94.2	0.00	0.00	14.33
Shopping - Personal Goods	32.70%	20%	27.80%	206.2	206.3	206.9	208.1	-0.05	-0.34	-0.91
Personal photocopy machines				88.3	88.3	95.9	92.3	0.00	-7.92	-4.33
Men's wrist watch				107.6	107.6	107.4	105.9	0.00	0.19	1.61
Ladies' wrist watch				105.7	105.8	105.8	104.4	-0.09	-0.09	1.25
Jewelry, local				286.4	286.4	287.0	290.2	0.00	-0.21	-1.31
Sun glasses				67.7	68.7	68.4	70.0	-1.46	-1.02	-3.29
Suitcases				80.8	80.8	81.5	81.1	0.00	-0.86	-0.37
Ladies' satchels				87.3	87.3	87.3	84.1	0.00	0.00	3.80
Others - Expenses & Ser.	2.30%	5.60%	3.60%	107.2	106.8	106.5	105.2	0.37	0.66	1.90
Toilet soap, pieces				149.3	149.3	149.3	130.2	0.00	0.00	14.67
Toothbrush				116.5	116.3	116.3	117.7	0.17	0.17	-1.02
Toothpaste				109.8	109.8	109.5	106.2	0.00	0.27	3.39
Shaving blades				102.4	101.9	101.6	101.5	0.49	0.79	0.89
Perfumes				106.9	106.9	106.9	107.1	0.00	0.00	-0.19

Description	Relative Weights for			Index June- 09	Index May- 09	Index Mar- 09	Index June- 08	Changes in June (%)		
	Domestic Tourists	Inbound Tourists	Internal Tourists					Monthly	Quarterly	Yearly
Oud (Arabian frankincense)				97.9	96.9	97.5	98.0	1.03	0.41	-0.10
Oud oil				110.4	110.4	110.0	110.0	0.00	0.36	0.36
Facial cream				114.2	113.2	112.2	112.4	0.88	1.78	1.60
Women's make-up				90.5	90.5	89.4	93.6	0.00	1.23	-3.31
Hair shampoo				100.3	99.7	98.9	98.3	0.60	1.42	2.03
Hair oil				106.6	106.6	104.2	104.6	0.00	2.30	1.91
Sanitary napkins for ladies				104.5	99.2	99.0	102.4	5.34	5.56	2.05
All Sectors (CLI-CDSI)	100%	100%	100%	121.5	121.3	121.0	115.5	0.16	0.41	5.19
DERIVED Travel, Transport and Tourism Price Indexes (TTPI) for KSA (1999=100)										
TTPI for Domestic Tourists (Overall Index)				146.6	146.6	146.8	141.8	-0.02	-0.15	3.39
TTPI for Inbound Tourists (Overall Index)				139.3	139.3	139.6	133.2	0.00	-0.18	4.62
TTPI for Internal Tourists (Overall Index)				143.8	143.8	144.0	138.4	-0.01	-0.16	3.84

Sources: 1. Tourism Characteristic Products Derived from the CDSI Cost of Living Index, June 2009
 2. MAS - SCTA, Tourism expenditure survey, IVS & DOTS, 2007

Appendix F

Price Indices Developed by Famous Economists

Paasche and Laspeyres price indices

The two most basic formulas used to calculate price indices are the **Paasche index** (after the German economist Hermann Paasche) and the **Laspeyres index** (after the German economist Etienne Laspeyres).

The Paasche index is computed as

$$P_P = \frac{\sum(p_{c,t_n} \cdot q_{c,t_n})}{\sum(p_{c,t_0} \cdot q_{c,t_n})}$$

while the Laspeyres index is computed as

$$P_L = \frac{\sum(p_{c,t_n} \cdot q_{c,t_0})}{\sum(p_{c,t_0} \cdot q_{c,t_0})}$$

where P is the change in price level, t_0 is the base period (usually the first year), and t_n the period for which the index is computed.

Note that the only difference in the formulas is that the former uses period n quantities, whereas the latter uses base period (period 0) quantities.

When applied to bundles of individual consumers, a Laspeyres index of 1 would state that an agent in the current period can afford to buy the same bundle as he consumed in the previous period, given that income has not changed; a Paasche index of 1 would state that an agent could have consumed the same bundle in the base period as she is consuming in the current period, given that income has not changed.

Hence, one may think of the Paasche index as one where the numerator is the bundle of goods using base year prices but current quantities. Similarly, the Laspeyres index can be thought of as a price index taking the bundle of goods using current prices and current quantities as the numerator.

The Laspeyres index systematically overstates inflation, while the Paasche index understates it, because the indices do not account for the fact that consumers typically react to price changes by changing the



quantities that they buy. For example, if prices go up for good c then, quantities of that good should go down.

Fisher index and Marshall-Edgeworth index

A third index, the **Marshall-Edgeworth index** (named for economists Alfred Marshall and Francis Ysidro Edgeworth), tries to overcome these problems of under- and overstatement by using the arithmetic means of the quantities:

$$P_{ME} = \frac{\sum [p_{c,t_n} \cdot \frac{1}{2} \cdot (q_{c,t_0} + q_{c,t_n})]}{\sum [p_{c,t_0} \cdot \frac{1}{2} \cdot (q_{c,t_0} + q_{c,t_n})]} = \frac{\sum [p_{c,t_n} \cdot (q_{c,t_0} + q_{c,t_n})]}{\sum [p_{c,t_0} \cdot (q_{c,t_0} + q_{c,t_n})]}$$

A fourth, the **Fisher index** (after the American economist Irving Fisher), is calculated as the geometric mean of P_P and P_L :

$$P_F = \sqrt{P_P \cdot P_L}$$

Fisher's index is also known as the "ideal" price index.

However, there is no guarantee with either the Marshall-Edgeworth index or the Fisher index that the overstatement and understatement will thus exactly one cancel the other.

While these indices were introduced to provide overall measurement of relative prices, there is ultimately no way of measuring the imperfections of any of these indices (Paasche, Laspeyres, Fisher, or Marshall-Edgeworth) against reality.

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