The role of the tourism sector in economic development
Lessons from the Spanish experience

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Abstract

Tourism is one of the most important sectors in the world economy, and it is now considered as an efficient tool for promoting economic growth. In this respect, the experience of the Spanish economy is well known, actually, there is wide consensus in the idea of its role in enhancing the Spanish industrialisation process and that foreign currencies receipts from tourism contributed to finance the expansion of manufacturing by financing imports of capital goods. The objective of this paper is to assess the real role of the foreign currencies receipts from tourism in the Spanish economy from 1960 to nowadays. Policy issues that are derived from the results for the Spanish experience should be useful for other developing countries in similar situations, and reveal how the tourist activity in those economies can benefit the overall economy, helping growth in other sectors.

Keywords: international tourism, economic development, industrialization, Spanish experience

1. Introduction[1]

Despite its increasing importance, tourism has attracted relatively little attention in the literature on economic development. Analysis has tended to focus on the contributions of the agricultural and manufacturing sectors, rather than those of service activities as Sinclair (1998) explains in her survey.[2].

Nowadays, Spain is in the second position both in world's top tourism destination after France considering million of arrivals in absolute numbers and in world's top tourism earners after the United States considering international tourism receipts[3]. There is no doubt of the importance of tourism for the positive evolution of the economic development of the country for decades. International tourism in Spain began to play a relevant role in the economy particularly after 1959. At that moment, the Stabilization Plan (1959) and the end of autarchy, the beginning of the economic liberalization, the policy for stability of prices and the devaluation of almost fifty per cent of the exchange rate of the *peseta*, all these matters had repercussions on the positive evolution of the tourism development. The main purpose of the tourism policy since then was directed towards to attract the foreign tourism for increasing the foreign currencies receipts. Moreover, the expansion of tourism in the last four decades has been unstoppable and beneficial for the economy in different aspects[4]. Tourism allowed to finance machinery adn technology imports which were needed to foster the Spanish economy (Padilla, 1988).

The generation on foreign currencies and the economic growth based on 'new sectors' (with the consequently creation of new jobs) are the two most important potencial effects of the tourism sector development in an economy (Gibson, 1993; Morley, 1992; Brohman, 1996). In this matter, tourism receipts have played a key role in financing Spain's industrialization process (Bote Gómez, 1993).

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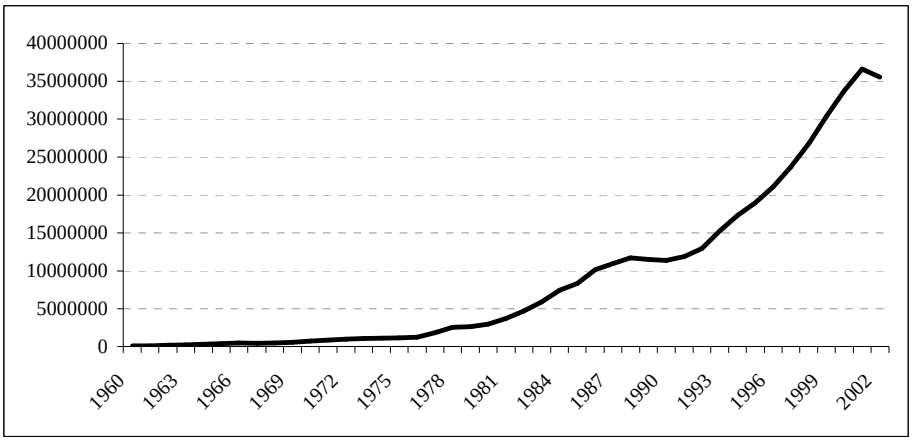
[1] Although domestic tourism is very important for Spanish economy, in this paper we only analyse the role of international tourism.

[2] From an economic point of view, tourism does not behave equal to other sectors of the industry, agriculture or services. Its features: heterogeneity of the offered products; strong movility of the demand; consume "in situ"; intense interdependence with large number of productive branches; sensitivity to all exchange rates, crisis or expansion, etc.; all theses things form tourism as a very complex activity, with difficulty in measuring its effects and there are a wide range of definitions and difficult entering of its results and products (Figuerola, 1996: 39).

[3] World Tourism Organization.

[4] Tourism receipts, measured by means of foreign currencies earnings, has been increasing without stopping since 1960 (see figure 1).

Figure 1. Evolution of foreign currencies receipts from tourism, 1960-2002



Source: INE[5]
Note: Thousands of euros

As in any process of economic change, a range of variables played a causal role. However, it is clear that the huge inflows of foreign currencies receipts from tourism were the distinguishing feature of the Spanish model (Sinclair and Bote Gómez, 1996). The table 2 show how tourism receipts have increased every five years during the period 1960-2002, the numbers show the positive evolution, except for the last period that it has been considered three years. It is relevant to bear in mind that fact, Spain is a consolidated destination and maintain large numbers every year with a lower growth rate than previous decades but there are every day more emerging destinations with low prices and high competitive features, it is also importante to have knowledge of the possible impact of international events[6].

Table 1. Foreign currencies receipts from tourism. Growth rate (%)

Subperiods	% growth rate
1960-1964	213.3
1965-1969	32.2
1970-1974	56.3
1975-1979	122.8
1980-1984	148.3
1985-1989	38.1
1990-1994	51.9
1995-1999	60.7
2000-2002	5.3

Source: Own elaboration from INE data.
Note: The subperiods are five-years except for the last period that it has been considered only three years.

[5] Instituto Nacional de Estadística. Statistical Yearbooks from 1960.
[6] Tourism is very sensitive to international events, as the wars or terrorist attacks or as Olympic Games. The annual growth rate (not showed in this paper) reveal a decreasing of 2.9% in the tourism receipts from 2001 to 2002, probably was due to the 11th September 2001 attack to the United States.

Scarce empirical studies on tourism in Spain have not reported information about its possible effect on the Spanish economic growth in the long run[7]. Tourism can be considered as exports for the economy but in a non-traditional way, since are the consumers who has to move to consume the good[8].If in a country most of its imports are capital goods and inputs which are basic to produce in several economic sectors, in this situation the role of the tourism receipts are essential in the economic development of such country. It can be said that earnings from international tourism are more important in economic development than at first sight. Moreover, it is reasonable to think that the non-tourist regions will be indirectly benefited from this situation. An analysis of the tourism-led growth hypothesis will allow examination as to the extent that the tourist promotion strategy should be considered as a relevant factor in the Spanish case.

Four decades of tourist expansion in Spain may probably represent sufficient time to examine whether or not international tourism receipts contributed to industrialisation of Spain in importing the necessary goods and materials. As Balaguer and Cantavella-Jordá (2002) say, it is very often taken for granted that the inflow foreign exhange for tourism would stimulate Spain's economic development in the long term. An econometric analysis to prove that this link really existed and if it is a long-run relationship or only a transitional. In this way, the main objective of this paper is to asses during the 1960-2002 period. The background on this question is referred to the literature of the export-led growth hypothesis and to recent theoretical models which only consider non-traded goods such as tourism, as well as looking the historical evidence of Spain. In a traditional sense it should be argued that tourism earnings from foreign currencies can be used to import capital goods in order to produce goods and services, leading in turn to economic growth (McKinnon, 1964). In other words, it is possible that tourists provide a remarkable part of the necessary financing for the country to import more than to export.

The paper is organized as follows. In part two the variables analysed and the data description are presented. Part three makes reference to the methodology used and discusses the results. The last section provides the main conclusions.

[7] See Balaguer and Cantavella-Jordá (2002).
[8] Tourism is the consumed good in this case.

2. Variables and data description

The variables used in this paper are two: earnings from international tourism and imports of produced goods. The empirical analysis considers annual data for the Spanish case from 1960 to 2002. Both variables are measured in thousand of euros.

First, tourism earnings are the foreign currencies receipts (TOUR). The source of this data are the annual statistical yearbooks from INE. In Spain, the contribution of the foreign tourism to the Spanish economy has been measured simply by the account A.5 called "Tourism and Travels" of the Balance of Payments (Ministry of Economy and Treasury). This account, identical to the register of the cash account drew by the Banco de España, which is the value of the national currencies changed in foreign currencies in that institution and the delegated banks by way of "Turismo y Viajes" from no-residents or from all types of Spanish establishments, that they have received from no residents charged to an identical concept. Moreover, in INE data this heading is "Earnings and Payments from tourism" which correspond exactly to account A.5 from the Banco de España. The data were in million of dollars, million of pesetas and thousand of euros (in different periods). They have been homogenized to thousand of euros, the exchange rate used is from the International Financial Statistics Yearbook[9].

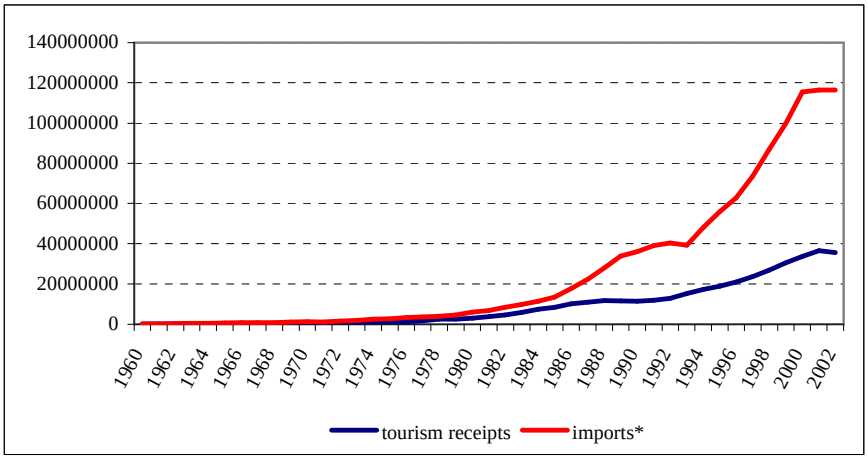
Second, the serie used for imports has been built, we needed the imports of producted goods since 1960. We found some complexity because there was a methodological change in the imports serie from INE in 1987, because Spain joined the European Community in 1986 and then the data began to be much more detailed.[10] The original source of these data is the Department of Customs. The objective is to have a serie with the inputs bought to be set aside for the industrialization process. So, for the period 1960-1986 manufactured products are considered and from 1987 to 2002 has been joined items from VII to XXI. [11]

Figure 2 shows both series that will be used in this study. Both series have a positive and unstoppable evolution but we can notice that both series are almost equal until around 1986, from that year on imports are in a higher level than tourism earnings. The reasons of this

[9] Exchange rate rf: the average during the period of the market exchange rates of te countries that priced in nacional currency units by dollars from United States (IFS).
[10] Table 6 shows the difference between the data given by INE after and before 1987.
[11] For the econometric study these series are transformed in natural logarithms.

matter can be different. One reason could be the union of Spain to the European Commision, probably from 1987 on the imports increased in a very high level. But, another reason that we can not reject is the way which the serie of imports has been built, perhaps in the period 1987-2002 we have joined more items than we had to do. So, the important thing is to analyse if there really existed a relationship between tourism and industry development so strong as historical texts assume.

Figure 2. Evolution of foreign currencies receipts from tourism and imports of manufactured goods



Source: own elaboration from INE data.
(*) See section 2 from this paper for the description of the data and the variables.

3. Methodology and results

The methodology employed to investigate the relationship between tourism and industrialization follows three steps and it is based on Thornton (1997) with some changes. First. Test the order of integration of LTOUR over the sample periods (Unit root tests: Augmented Dickey-Fuller test, standard Phillips-Perron test, Ng-Perron M test statistics and stationarity tests: KPSS). The strategy used is from General to Specific. Second. To test for cointegration between both variables using the Johansen (1988) maximum likelihood approach. Third. To carry out a standard Granger causality test.

The objective of this article, as was indicated before, is to evaluate the role of international tourism in the industrialization process. It is accepted the idea that the positive expansion of tourism in Spain allowed to import all the goods and inputs which were necessary to the

economic development, more concretely to the development and growth of the industrial sector. In this paper we want to analyse if both series are related in long term. In econometric terms the equation is as follows: $LIMP_t = \alpha + \beta\ LTOUR_t + u_t$, LTOUR is the natural logarithm of foreign currencies receipts from tourism, LIMP is the natural logarithm of imports of manufactured goods, u is the error term, t = 1960...2002.

Therefore, the first step, to test stationarity of time series, was investigated by employed the unit root tests developed by Dickey and Fuller (1979, 1981), Phillips and Perron (1988), Ng and Perron (2001) and it was also used the KPSS stationarity test from Kwiatkowski, Phillips, Schmidt and Shin (1992). Before this, unit root are sensitive to the presence of deterministic regressors, three models can be estimated, the most general model with a drift and time trend and restrictive models, with a drift and without drift or trend. In this way, we make a previous graphic analysis, we observe that the variable LTOUR (levels) and ΔLTOUR (first differences) (see figures 3 and 4) and we choose the restrictive model with a drift and without trend for the unit root tests, as well as this, at first sight it seems a I(1) process[12]. The same study is madre for the LIMP and ΔLIMP (see figure 5 and 6) and the results show the same as the other variable.

The strategy followed for this matter is from general to specific, in other words, the initial point is testing the null hypothesis of two units roots against the alternative of one or zero unit root (for KPSS test: null hypothesis of one or zero units roots against the alternative of two units roots). In all cases, we reject the null hypothesis (attending KPSS test, we do not reject the null hypothesis). The results of this first step are reported in table 2. The second step is testing the null hypothesis of one unit root against the alternative of stationarity, now we do not reject the null hypothesis (attending KPSS test, we reject the null hypothesis) so the final result is that both series, foreign currencies receipts from tourism and imports of manufactured goods, are I(1). The results of this second step are shown in table 3.[13] Consequently, the data generation process examination suggests that the use of cointegration techniques will be suitable to proceed with the long-run analysis.

[12] An I(n) variable means that the original series has been differenced n times to become stationary (n is called order of integration, in other words, the order of integration is the number of unit roots contained in the series, or the number of differencing operations it takes to make the series stationary). And in this case I(1) means that the variable is integrated of first order.

[13] Although, based on the graphic study, it has been chosen the model with drift and without trend as the best one, the estimation has been made with the three possible models and the results were the same.

The second step is to apply the cointegration tests. The finding that many macro time series may contain a unit root has spurred the development of the theory of non-stationary time series analysis. Engle and Granger (1987) pointed out that a linear combination of two or more non-stationary series may be stationary. If such a stationary linear combination exists, the non-stationary time series are said to be. The stationary linear combination is the cointegrating equation and may be interpreted as a long-run equilibrium relationship among the variables, on the contrary, the relationship between the variables is not a causal one, it would be spurious relationship.

At this point, Johansen's cointegration methodology[14] is applied. This approach estimates long-run or cointegration relationships between nonstationary variables using a maximum likelihood procedure which tests for the number of cointegrating relationships and estimates the parameters of those cointegrating relationships. We apply two likelihood ratio tests for the cointegration rank proposed by Johansen (1988), a maximum eigenvalue and a trace test.The results of both cointegration tests are shown in table 4. The two test statistics, maximum eigenvalue (λmax) and trace test are contrasted. For the first test, the null hypothesis is that there exists at most r cointegrating vectors against the alternative of exactly r+1 cointegrating relationships[15], while for the second one, the null hypothesis is that there exists at most r cointegrating vectors against the alternative of at least r+1 vectors. The number of lags for each variable included in order to capture the short-run dynamics of the model is one and two, because they are annual data. The main result is that there is a cointegrating relationship, it indicates that tourism earnings affects imports of manufactured goods in the long-term, see table 5. That is to say, the existing correlation between international tourism earnings and imports for industrialization is not spurious. There exist a cointegration relationship between the variables analysed, so, the shocks that have a permanent effect in the individual variables has a temporary effect in the linear relationship of both variables.

The last step is to analyse the causality in sens of Granger. The existence of a long-run relationship between earnings from international tourism and imports of manufactured goods which facilitated industrialization process means that both variables are causally related at least in one direction (Engle and Granger, 1987). But, in which direction? By intuition, we

[14] See Johansen (1988) and Johansen and Joselius (1990) for a description of estimating cointegrating vectors and testing hypothesis.

[15] In this case, the two possible null hypothesis are r=0 and r=1, against the alternative of r=1 and r=2, respectively.

could assume that it is the positive evolution of earnings from international tourism which cause the positive evolution of imports and not in the contrary, but we will see. The standard Granger (1969) causality test is applied[16]. Table 6 shows the results, it can be observed that precisely as we suspected, foreign currencies receipts from tourism affects unidirectionally to imports of manufactured products. These empirical results support, therefore, the idea that expansion of tourism permitted the industrialization process by means of imports of manufactured goods, moreover, the main contribution is that it was not a transitional situation from 1960 to around the eighties but it is a long-run stable relationship and not casual but causal.

4. Conclusions

In this paper we have analysed the role of international tourism in the economic development, specifically by means of the industrialization process. The period analysed is enough wide, from 1960 to 2002. The variables studied are foreign currencies receipts from tourism and imports of manufactured products, since both are nonstationary and have a unit root, the Johansen' cointegration methodology has been applied in order to prove if there exist a long-run relationship between both variables. The results provide evidence of the existence of a cointegrating vector and the existence of a long-run relationship, moreover, there is causality in Granger sense from tourism to imports.

It is well known the economic importance that the tourism activity has had in Spain in the sixties and the seventies and the idea of foreign currency receipts from tourism have provided an important means of economic development by financing imports of capital goods necessary for the growth of the manufacturing sector is accepted. In fact, as Sinclair and Bote Gómez (1996) explain, Spain is a prime example of a country whose transition to the ranks of the newly industrialising nations followed the path of a decline in agriculture and rise in tourism and construction activities, which financed the expansion of manufacturing. In this way, this paper contributes in confirm this strong relationship but, not only in the decades from sixties to eighties but the interesting point is that we have found a long-run relationship between earnings from international tourism and imports of manufactured goods. Tourism is undoubtable very important for the Spanish economy and it is able to become a key piece for

[16] Although some results are not reported here, regardless the number of lags introduced in the equation, a causality running from tourism earnings to imports of manufactured products.

many developing economies that can see tourism as a strategy of development of other sectors. International tourism has the advantage of providing considerable amounts of foreign currency to support the growth of manufacturing activities, and appropriately planned spatial expansion can ensure that the development of the two sectors is complementary. spain is a good example of how to make profit not only in monetary terms but in developing other sectors of the economy but, at the same time, it is important to be aware of some dangers as minimize the protection of natural and sociocultural resources or the construction of hotels without limit.

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Figure 3. Natural logarithm of foreign currencies receipts from tourism (in levels)

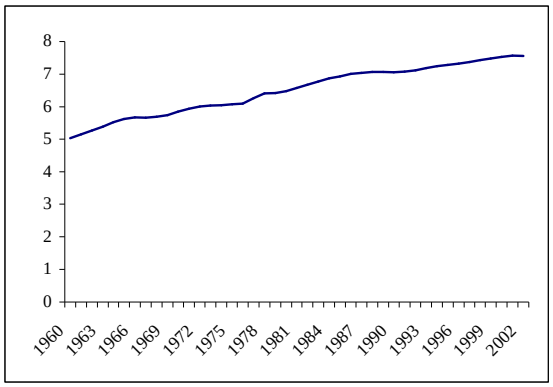

Figure 4. Natural logarithm of foreign currencies receipts from tourism (in first differences)

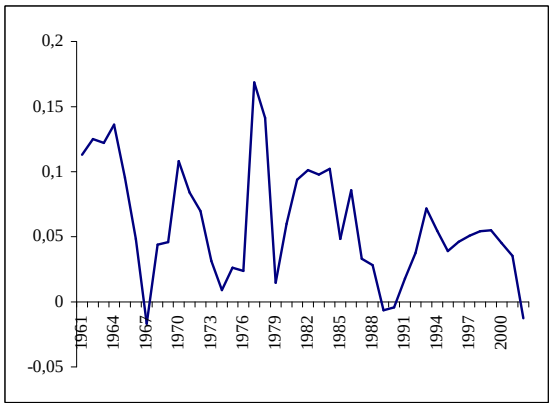

Figure 5. Natural logarithm of imports of produced goods (in levels)

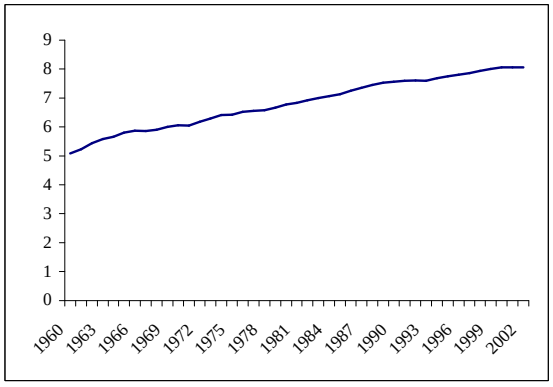

Figure 6. Natural logarithm of imports of produced goods (in first differences)

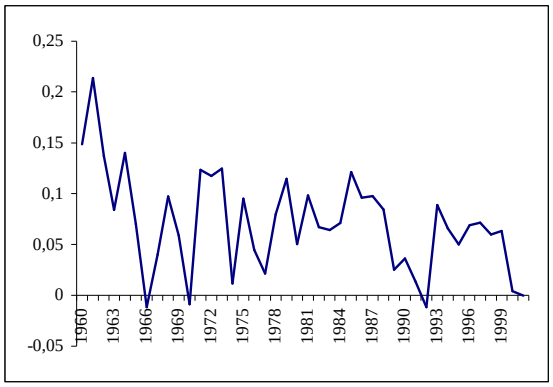

Table 2. Unit root tests and stationarity test (levels)

	LTOUR	LIMP	Critical values 95%
ADF	-3.66	-4.44	-2.93
PP	-21.87	-20.87	-8.35
MZ_α	-15.67	-10.80	-8.10
MZ_t	-2.80	-2.30	-1.98
KPSS	0.05	0.09	0.46

Note: For the unit root tests (ADF, PP, MZ_α, MZ_t) the null hypothesis is that the series are I(2) against the alternative that they are I(1) or I(0). But in the case of KPSS stationarity test the null hypothesis is that the series are I(1) or I(0) against the alternative that they are I(2). These tests have been carried out on Gauss 6.0.

Table 3. Unit root tests and stationarity test (first differences)

	ΔLTOUR	ΔLIMP	Critical values 95%
ADF	-1.76	-2.07	-2.93
PP	-7.91	-2.02	-17.30
MZ_α	-6.84	-0.03	-17.30
MZ_t	-1.65	-0.01	-2.91
KPSS	0.33	2.31	0.14

Note: For the unit root tests (ADF, PP, MZ_α, MZ_t) the null hypothesis is that the series are I(1) against the stationarity alternative. But KPSS test is a stationarity test and in this case the the null hypothesis is that the series are I(0) against the alternative that they are I(1). These tests have been carried out on Gauss 6.0.

Table 4. Johansen maximum likelihood cointegration tests

Number of cointegrating vectors (null hypothesis)	λ max	Trace
None*	23.10 (18.96)	29.08 (25.32)
At most one	5.97 (12.25)	5.97 (12.25)

Note: (*) denotes rejection of the null hypothesis at the 5% of significance.
Numbers in brackets are the critical values at 95%.
Trace test and max-eigenvalue indicate 1 cointegrating equation at the 5% level.
These tests have been carried out on Eviews 4.0.

Table 5. Granger Causality Test (1960-2002)

Null Hypothesis	F-Statistic
LTOUR does not Granger Cause LIMP	1.74 (0.189)
LIMP does not Granger Cause LTOUR	5.04 (0.011) **

Note: (**) indicate significance at the 5% level. In parentheses are the probability values.
This results are from 2 lags.
This test has been carried out on Eviews 4.0.

Table 6. Imports classification of INE

Until 1986. Classification of seven items	
- Foodstuffs	
- Drinks and tobacco	
- Fuels and mineral lubricants	
- Raw material (except lubricants)	
- Oils and goods of animal and vegetable origin	
- Manufactured products	
- Gold in paste and coin	
From 1987. Classification according to tariff departments, twenty-one items	
I.	Living animals and animal products
II.	Vegetable products
III.	Fats and oils, derived products, wax
IV.	Foodstuffs, drinks, tobacco
V.	Mineral products
VI.	Products from chemical industries
VII.	Plastic artificial materials: rubber and its manufactured products
VIII.	Leathers, furs and its manufactured products
IX.	Wood, its raw materials and manufactured products
X.	Paper, its raw materials and manufactured products
XI.	Textile materials and its manufactured products
XII.	Footwear; hats; umbrellas; artificial feathers
XIII.	Manufactured products from stone, concrete; pottery, glass
XIV.	Thin pearls, precious metals and stones
XV.	Ordinary metals and its manufactured products
XVI.	Machinery; electric material
XVII.	Transport material
XVIII.	Optics, photography and films, precision machinery
XIX.	Arms and ammunitions
XX.	Merchandise and various products
XXI.	Art products, for collections and antiques