Global Retail Development Index. Year &Area. 2004- 2019

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Abstract

The following article has the purpose to estimate the effect of country and time on the attractiveness of retail. To achieve this, a database Global Retail Development Index from 2004 to 2019 is used. This index was made by AT Kearney, UK consulting firm. The final Index judges the attractiveness score for each country and each year; and the attractiveness position of the country are obtained. This index includes four principals: Temporary pressure, Market Saturation, Attractiveness, Country Risk. The index and their components punctuation change in economic, social and political basis. Therefore, the effect of the temporal variable over scores is identified using categorical linear regression models by: Country and Year. This effect over score components was estimated. It is found that from 2004 to 2019 the variable time has decreased its explanation power and country variable has increased it.

Keywords
Global Retail Development Index, Colombia, Strategic Planning, Market Perception, Neuromanagement

1. Introduction
Retail trade has been a pertinent and relevant part of the world's economic activity. This trade has been monitored worldwide by AT Kearney an UK Consulting firm, it identifies the attractiveness of retail markets to multiple countries scoring in a composite index, with open data since 2004 to 2019. The attractiveness score of the retail indices was obtained by 4 independent components: Time Pressure, Saturation, Attractiveness and Country Risk. From there, two main variables are obtained for comparison: attractiveness score and attractiveness position of the country, they are inverse, the lower the position, the higher the country's attractiveness score. Using linear regression models with categorical variables, temporal and country estimated weight was estimated to identify each National Market effect.

1.1 Objectives
Estimate the systematic effect of each country and each year in every component, score and position in the attractiveness of each retail store using categorical linear regression model, statistical techniques.

2. Literature Review

Mou et all (Mou et al., 2018) review the current state of research and practices in storage in retail warehouses in 229 academic investigations. The focus of his work was on: inventory management, readiness and exposure at the sale site, perishability and product availability, and the transition from use of physical storage space to redistribution caused by the availability of multiple sales channels.

The "digital transformation", implies the orientation towards data as a customer service technology or where the forecast of customer behavior is matched with the supplier offer guided by the technology;

It implies a lot of retail warehouse changes, known as "4.0 revolution" or "digital transformation" (Gawankar et al., 2020).These transformations have as a clear objective: the search for profitability and control of the business.

For example: India uses the blockchain for the payment chain , it is used and cash in Malaysia (Miraz et al., 2020); the study of mobile payment methods and their study of times and movements (Liao & Yang, 2020), The empowerment of the buyer as the most active part of the supply chain (Mishra & Vishvas, 2019); the understanding of the psychic, neuronal and sociological world of consumers in the market, (Adapa et al., 2020), (Satpathy I, 2014), (Helm et al., 2020), (Quintero Arango & Martínez Gómez, 2018) the effect of the purchase in the logistics and transport chains and these with the environment (Zhou et al., 2017)

In other emerging countries, trends in customer service and operation are characterized in different ways and have evolved in different ways. Caro in Peru identifies trends for retail (Caro et al., 2020); (ComexPerú, 2017); in Colombia (Rincón Moreno et al., 2017). Also, and as an example, countries are compared in their potential in retail Colombia and Brazil are compared in their market evolution and the background and future trends regarding retail (Baena & Cerviño, 2011); (Diallo & Siqueira, 2017). In markets with broad or traditional interest in retail, such as Russia, (Kozinova, 2020), (Demkina et al., 2020), Vientnam (Anh & Anh, 2020) or China (Xing, 2017),

Thus, ultimately these aspects seem relevant in the search for sustainability or the best profitability of the capital invested in the operation of the retail warehouse, (Castro et al., 2019) for which the additive effects model is usable (Valencia et al., 2019).

3. Methods

The general linear model is used, which has categorical variables to obtain the estimation of the score differences for each year and country. For each component of the index, a linear regression model has been constructed with each year and country as categorical variables. The base year and the base country have zero effect. The base year is 2019, so any positive effect indicates that this variable has a higher level than the value for 2019 and being negative implies that they have less value compared to that year. The base country is the last one on this list: Pakistan and compared to that country is the positive or negative sign. The interpretation of the value in each index depends on the variable studied.

4. Data Collection

The consulting firm AT Kearney measured, recorded and systematized the data referring to the retail trade index score, total position, made up of 4 components: Score, Time Pressure, Saturation, Attractiveness and Country Risk; between the years 2004 to 2019 (except the data for the years 2009 and 2018) and for 66 countries. Based on these data, records and countries are first selected.

The higher the attractiveness score, the greater the interest for the global investor. The variable "Time Pressure" is an index of urgency or urgency in the reform or in accessing this specific retail market. A higher value in the variable "Saturation" implies a greater interest in less market saturation, that is, a better opportunity due to non-saturation. A greater attractiveness for the variable "Country Risk" indicates a greater attractiveness, that is, a lower value of risk of political, legal and social instability in that country.

Table 1 shows the first 18 countries with10 or more evaluations. This is the reference set for this analysis because 40 countries have 6 or less evaluations. Every country have dissimilar circumstances or times to in or out in this analysis. The reference set includes: Russia, Angola, Malaysia, India, China, Turkey, Indonesia Brazil, Morocco, Peru, UAE, Chile, Colombia, Filipinas, Vietnam, México, Tunes. Their conjoint in population overpasses 4.100M. There have near of 53% of world total population for 2020; and 30% of world GNP for 2029 with 24.574.000 M USD. Table 2 shows the first 18 countries with 10 or more evaluations. By Country Risk for each Year and Country. In the same way is possible to obtain 4 more tables, each one by indicator in AT Kearney database. Table 3 resumes some world statistics. Table 4 shows countries proportional participation respect to the world. Selected countries represent 53,5% of world population; 28,3% of global GNP; and 29,8% of marine Traffic to 2018.

Table 1. Global Retail Development Index Score. Selected Countries. 2004- 2019

Country/ Year	2004	2005	2006	2007	2008	2010	2011	2012	2013	2014	2015	2016	2017	2019
India	88	100	100	92	80	62	63	61	55	45	51	71	72	69
China	86	83	82	86	67	64	61	64	66	64	65	73	70	70
Russia	100	99	85	89	72	53	52	46	49	52	49	42	43	44
Turkey	75	78	66	62	58	47	58	53	63	53	54	54	60	44
Malaysia	66	67	62	68	53	47	47	57	55	53	57	60	61	62
Angola	65	64	59	64	62	58	60	53	54	49	50	52	4	55
Chile	72	76	71	69	60	58	65	65	67	65	62			
Brazil		49	49	56	50	58	72	74	70	60	58	43	39	47
Vietnam	76	79	84	74	88	50	44			39		51	56	50
Indonesia	54	53		52	53	49	51	53	52	49	52	56	56	59
Morocco		60	48	60	66	50	51	45	46	41		50	56	50
U.A.E.			60	57		58	58	61	64	61	58	54	59	25
Peru				55	55	55	58	57	57	51	51	52	54	50
Mexico	61	61	57	64	57	42	46	44	49	42	44			
Colombia			47	47		40	85	48	52	44	49	49	54	51
Philipp.	63	57		54		45	49	43		43	47	48	47	45
Tunisia	70	71	65	64		53	49	43				39	43	42

Table 2. Country Risk Global Retail Development Index. Selected Countries. 2004- 2019

Country Risk	2004	2005	2006	2007	2008	2010	2011	2012	2013	2014	2015	2016	2017	2019
Russia	56	52	43	62	31	55	49	54	44	38	28	27	28	36
India	62	62	55	67	29	51	60	67	59	39	40	54	59	61
China	71	68	58	75	36	86	77	73	68	53	56	61	65	73
Vietnam	52	54	43	57	57	49	35			22		25	25	25
Turkey	50	51	46	52	20	53	66	69	84	50	48	46	60	58
Chile	73	73	67	80	44	92	100	100	100	100	100			
Tunisia	63	66	58	60		77	75	55				35	42	34
Malaysia	70	70	66	70	40	68	64	98	96	69	69	83	87	88
Angola	66	59	53	65	49	87	81	82	79	67	64	65	63	69
Filipinas	51	43		41		36	54	55		33	36	43	41	38
México	69	61	54	83	38	70	68	70	75	54	56			
Indonesia	45	43		36	13	47	53	62	50	33	36	39	46	50
UAE			78	100		100	89	94	95	82	84	100	100	86
Brazil		52	46	53	23	74	79	85	86	60	60	66	64	67
Morocco		56	45	59	26	61	73	58	61	36		51	55	54
Colombia			39	44		44	54	70	74	43	49	64	71	72
Peru				42	17	55	62	56	60	43	44	53	62	63

Table 3. Country profile. Selected Countries. 2018

Country Name	Population, total	Urban Population	Total Area Sq Km	GNP, Current USD 2011	Mari. container traf. TEU 20 ft
Angola	30.809.762	20.184.707	1.246.700	101.353.230.785	774.225
Brazil	209.469.333	181.335.507	8.515.770	1.885.482.534.238	10.340.130
Chile	18.729.160	16.400.002	756.700	298.258.019.275	4.662.910
China	1.392.730.000	823.827.650	9.600.013	13.894.817.549.374	233.201.600
Colombia	49.661.056	40.115.208	1.141.750	333.568.923.004	4.574.300
UAE	9.630.959	8.332.898	98.648	422.215.043.585	19.054.000
Russia	144.477.860	107.539.205	17.098.250	1.669.583.089.323	5.059.700
Philippines	106.651.922	50.027.217	300.000	346.841.896.890	8.653.720
India	1.352.617.328	460.295.677	3.287.259	2.713.165.057.513	16.946.200
Indonesia	267.663.435	148.084.795	1.916.862	1.042.240.309.413	14.060.600
Malaysia	31.528.585	23.973.075	330.345	358.715.057.124	24.956.000
Morocco	36.029.138	22.501.278	446.550	118.096.227.400	4.711.200
Mexico	126.190.788	101.149.488	1.964.375	1.222.348.807.283	6.980.300
Peru	31.989.256	24.921.870	1.285.220	222.044.970.486	2.668.000
Turkey	82.319.724	61.857.510	785.350	778.381.859.841	10.887.700
Viet Nam	95.540.395	34.317.154	331.230	245.213.686.369	13.008.500
World	7.479.945.271	4.119.156.468	133.750.704	86.125.423.191.636	791.915.716

Table 4. Country profile percentage respect to world. Selected Countries. 2018

Country Name	Population, total	Urban Population	Total Area Sq Km	GNP, Current USD 2011	Mari. container traf. TEU 20 ft
Angola	0,41	0,48	0,93	0,94	0,12
Brazil	2,76	4,32	6,33	6,91	2,18
Chile	0,25	0,39	0,56	0,25	0,35
China	18,34	19,64	7,14	2,99	16,07
Colombia	0,65	0,96	0,85	0,82	0,39
UAE	0,13	0,20	0,07	0,00	0,49
Russia	1,90	2,56	12,71	11,29	1,93
Philippines	1,40	1,19	0,22	0,10	0,40
India	17,82	10,97	2,44	0,99	3,14
Indonesia	3,53	3,53	1,42	1,29	1,21
Malaysia	0,42	0,57	0,25	0,27	0,41
Morocco	0,47	0,54	0,33	0,08	0,14
Mexico	1,66	2,41	1,46	0,91	1,41
Peru	0,42	0,59	0,96	1,01	0,26
Turkey	1,08	1,47	0,58	0,30	0,90
Viet Nam	1,26	0,82	0,25	0,20	0,28
% to World	52,50	50,65	36,50	28,36	29,68

5. Results and Discussion

5.1 Numerical Results

Table 5 identifies the leading countries in the retail market or with highest valuation from 2004 to 2019. There it is identified: the year of registration, better position country score in: country risk, market attractiveness, market saturation, pressure temporal or urgency. Table 6 shows descriptive statistics about aspects on AT Kearney Report. Table 7 identifies the statistical results of the use of the linear regression model with categorical variables for each year, with standard and non-standard coefficients. Note the effect of the year on the value of each score variables.

Table 5. Countries with Highest Development Retail Index position from 2004 to 2019

Year	Country	Country risk	Market appeal	Market Saturation	Pressure Temporal	Punctuation
2004	Russia	56	56	77	100	100
2005	India	62	34	91	80	100
2006	India	55	34	89	76	100
2007	India	67	42	80	74	92
2008	Vietnam	57	34	67	99	88
2010	China	86	51	33	87	64
2011	Brazil	79	100	43	64	72
2012	Brazil	85	100	48	62	74
2013	Brazil	86	100	43	48	70
2014	Chile	100	100	13	47	65
2015	China	56	67	42	97	65
2016	China	61	100	36	93	73
2017	India	59	63	76	89	72
2019	China	73	100	19	88	70

Table 6. Countries with the highest Retail Trade Index position from 2004 to 2019

Stat./ Language	Position	Punctuation	Pressure Temporal	Mar ket Saturation	Market Appeal	Country Risk
Mod	100	34	43	100	64	1
Max	100,00	100,00	100,00	100,00	100,00	30,00
Min	-	-	-	-	3,60	1,00
Mean	53,70	48,96	53,74	51,74	55,80	15,17
Std. Dev.	22,01	22,65	25,25	22,53	12,61	8,66
M/Std. Dev.	2,44	2,16	2,13	2,30	4,42	1,75
CV	0,41	0,46	0,47	0,44	0,23	0,57
Pears. C.C.(t)	-0,23	0,07	-0,08	-0,08	-0,57	0,03
Kurtosis C.	-0,26	-0,34	-0,85	-0,48	1,52	-1,21
Assimetry C.	-0,13	0,40	-0,19	0,20	0,72	0,05

Table 7. Countries with the highest Retail Trade Index position from 2004 to 2019

	No Standardized Coefficient						Standardized Coefficient					
Year	Position	Puntuaction	Press. Temp	Market Saturation	Market Appeal	Country Risk	Position	Puntuaction	Press. Temp	Market Saturation	Market Appeal	Country Risk
2.004	1,1	**22,3**	-2,6	35,9	**-11,8**	**5,5**	0,03	0,46	-0,03	0,37	-0,14	0,07
2.005	1,1	**22,8**	-3,3	34,8	**-14,4**	2,4	0,03	0,47	-0,04	0,36	-0,16	0,03
2.006	2,3	**13,7**	**-7,6**	27,3	**-14,8**	-4,5	0,07	0,29	-0,09	0,28	-0,17	-0,05
2.007	2,1	**12,7**	**-8,7**	15,8	**-18,3**	**5,4**	0,06	0,26	-0,10	0,16	-0,21	0,06
2.008	-3,9	**11,9**	**9,9**	21,8	**-14,9**	**-22,6**	-0,08	0,18	0,08	0,16	-0,12	-0,19
2.010	0,2	2,1	**-7,8**	5,4	**-8,4**	**7,4**	0,01	0,04	-0,09	0,06	-0,10	0,09
2.011	1,0	**5,2**	-1,7	6,5	**-7,6**	**7,2**	0,03	0,11	-0,02	0,07	-0,09	0,09
2.012	2,6	4,1	-4,0	1,2	-4,6	**13,8**	0,08	0,09	-0,05	0,01	-0,05	0,17
2.013	2,8	**5,1**	-5,6	0,3	3,2	**12,6**	0,09	0,11	-0,07	0,00	0,04	0,15
2.014	2,2	0,2	**-7,3**	5,0	-0,2	**-6,0**	0,07	0,00	-0,09	0,05	0,00	-0,07
2.015	2,8	2,3	-2,6	2,3	5,1	**-5,4**	0,09	0,05	-0,03	0,02	0,06	-0,06
2.016	-0,6	1,4	-2,5	-1,9	2,7	-3,0	-0,02	0,03	-0,03	-0,02	0,03	-0,04
2.017	-1,0	1,5	3,7	-1,7	3,6	-0,7	-0,03	0,03	0,04	-0,02	0,04	-0,01

Table 8 and Table 9 have the significant effects at 95% confidence from the statistical point of view using the linear regression model with categorical variables for each country and each variable, as follows: for each of the variables has constructed a linear regression with a categorical variable for each year and each country. The base year and the base country have zero effect: Pakistan.
The identifications of significant values are highlighted by underlining the bold text of the value in the table relative to the variable and the country. The interpretation of the value in each index depends on the variable studied. The higher the attractiveness score, the greater the interest for the global investor. The variable "Time Pressure" is an index of urgency or urgency in the reform or in accessing this specific retail market. A higher value in the variable "Saturation" implies a greater interest in less market saturation, that is, a better opportunity due to non-saturation. A greater attractiveness for the variable "Country Risk" indicates a greater attractiveness, that is, a lower value of risk of political, legal and social instability in that country

5.2 Graphical Results

Figure 1 contains the evolution of the coefficients without standardization for each variable each year. The tendencies around a zero valor indicates that the punctuation tends to be homogenous with no differences based in the year.
Figure 2 and Figure 3 shows specifically differences by each country based on table 6 and table 7. Each line us a variable, each name is a country. Each estimator was calculated using categorical Lineal regression by the county in each one in 4 aspects and position and punctuation. This profiles show statistical consistence. Therefore it resumes country tendency in each variable independently of the year. Is a synthesis of their actions and circumstances and action style. This could be used with another information to forecast a specific market I a specific time. Figure 3, Figure 4, and Figure 5 and table 4 includes 19 countries profiles each one with original scores in each variable

5.4 Validation

The validation tests are associated with table 8 in which the assumptions of the regression model are verified. Table 8 has the statistics for each of the six selected variables: Pearson´s coefficient of determination or R^2; coefficient determination coefficient corrected, or R^2 Adj., for degrees of freedom; the mean square error, MEC; the root mean square error, RMSE; the index of statistical independence of serial correlation, Durbin, Watson, DW; the information criteria of Aikake, AIC; and the Bayesian information criterion, SBC.
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Table 8. Significant statistical coefficients, alphabetically ordered countries 1 to 47, AT-Kearney, in the Retail Trade Index from 2004 to 2019. First Table.

Country	Non Standarized Coefficient						Standarized Coefficient					
	Position	Puntuaction	Press. Temp	Mark. Sat	Mark. App.	Cou, R.	Position	Puntuaction	Press. Temp	Mark. Sat	Mark. App.	Cou, R.
Albania	-9,5	**19,5**	**38,3**	18,0	-10,6	-11,6	-0,11	0,15	0,17	0,07	-0,05	-0,05
Algeria	-9,2	**18,3**	**37,0**	**28,1**	-8,0	**-24,3**	-0,12	0,16	0,18	0,12	-0,04	-0,12
Angola	-0,7	16,6	30,4	**40,9**	-24,1	**-27,0**	0,00	0,07	0,07	0,08	-0,05	-0,06
Arabia	**-16,2**	**20,8**	19,8	**-22,0**	**29,2**	**25,3**	-0,34	0,30	0,16	-0,16	0,24	0,21
Argentina	-2,4	12,1	**34,2**	-23,8	**26,8**	-19,1	-0,02	0,07	0,11	-0,07	0,08	-0,06
Armenia	**-21,8**	**29,3**	**53,4**	**27,0**	-12,7	3,3	-0,22	0,20	0,20	0,09	-0,05	0,01
Azerbaijan	-7,7	**18,8**	26,4	**28,3**	-13,6	-14,4	-0,12	0,20	0,15	0,15	-0,08	-0,09
Bolivia	1,2	12,9	12,5	**38,9**	-20,5	**-34,1**	0,01	0,05	0,03	0,08	-0,05	-0,08
Bosnia	-4,4	13,3	**68,1**	-21,6	-7,8	-11,0	-0,04	0,09	0,26	-0,07	-0,03	-0,04
Botswana	-8,2	**19,1**	27,7	**-22,7**	-2,6	**27,9**	-0,09	0,15	0,12	-0,09	-0,01	0,13
Brazil	**-15,7**	**24,1**	17,0	**-20,3**	**42,8**	**20,7**	-0,32	0,34	0,13	-0,14	0,33	0,17
Bulgaria	-11,1	**19,8**	**47,6**	**-35,4**	13,1	11,5	-0,17	0,21	0,28	-0,18	0,08	0,07
Czech	0,0	4,6	**50,4**	**-77,1**	**30,4**	24,9	0,00	0,02	0,11	-0,15	0,07	0,06
Chile	**-23,7**	**31,9**	**33,2**	**-36,2**	**40,0**	**41,4**	-0,45	0,41	0,24	-0,23	0,29	0,31
China	**-25,9**	**38,9**	**76,8**	**-27,3**	**25,9**	**23,0**	-0,55	0,56	0,63	-0,20	0,21	0,19
Colombia	-8,6	**21,9**	22,8	-14,0	11,4	12,6	-0,16	0,28	0,17	-0,09	0,08	0,09
Corea	**-15,7**	**23,6**	**34,2**	**-55,2**	**46,9**	**29,2**	-0,16	0,16	0,13	-0,19	0,18	0,11
Costa Rica	-4,4	17,4	11,0	-20,3	20,7	11,6	-0,04	0,10	0,03	-0,06	0,06	0,04
Ivory C,	-8,1	19,1	**51,3**	**43,7**	**-38,0**	**-30,9**	-0,07	0,11	0,16	0,12	-0,12	-0,10
Croatia	**-19,5**	**28,5**	**73,8**	**-49,1**	20,9	19,7	-0,22	0,22	0,33	-0,19	0,09	0,09
Egypt	-9,9	**19,2**	**30,9**	8,9	-1,0	-5,2	-0,17	0,23	0,20	0,05	-0,01	-0,03
E Salvador	-1,1	12,3	6,4	-6,3	10,8	-5,9	-0,01	0,05	0,01	-0,01	0,02	-0,01
UAE	**-20,6**	**26,1**	21,1	**-39,3**	**45,1**	**47,5**	-0,39	0,34	0,15	-0,25	0,33	0,35
Slovakia	**-17,1**	**24,9**	**76,6**	**-58,5**	22,6	**24,9**	-0,17	0,17	0,29	-0,20	0,09	0,10
Slovenia	**-24,0**	**34,0**	**54,0**	**-48,0**	25,0	**39,0**	-0,14	0,13	0,12	-0,09	0,06	0,09
Filipinas	-6,9	**17,3**	**40,9**	-9,3	-1,7	-1,3	-0,13	0,22	0,30	-0,06	-0,01	-0,01
Georgia	**-23,7**	**31,0**	**56,1**	**25,2**	-9,1	5,7	-0,27	0,24	0,25	0,10	-0,04	0,03
Ghana	-11,6	11,7	29,2	**43,0**	**-31,3**	-4,7	-0,09	0,07	0,09	0,12	-0,10	-0,02
Guatemala	1,5	9,6	12,2	9,4	-6,6	**-26,6**	0,01	0,05	0,04	0,03	-0,02	-0,09
Hong K,	-4,0	14,6	-10,6	**-51,1**	**51,4**	**38,9**	-0,02	0,06	-0,02	-0,10	0,11	0,09
Hungry	-8,5	17,0	**57,0**	**-62,6**	19,9	**32,9**	-0,10	0,13	0,25	-0,25	0,09	0,15
India	**-23,6**	**39,4**	**65,6**	7,4	3,6	12,2	-0,50	0,57	0,53	0,05	0,03	0,10
Indonesia	-12,8	**20,7**	**40,2**	-5,4	9,7	-0,5	-0,26	0,29	0,32	-0,04	0,08	0,00
Irán	0,6	5,2	16,4	4,7	2,6	**-23,3**	0,00	0,03	0,05	0,01	0,01	-0,07
Jordan	-11,8	**22,1**	16,9	10,2	7,0	8,4	-0,18	0,23	0,10	0,05	0,04	0,05
Kenya	-0,1	11,8	49,5	21,5	-36,0	-37,9	0,00	0,07	0,15	0,06	-0,11	-0,12
Kuwait	**-19,3**	**28,1**	8,5	-17,6	**41,5**	**35,3**	-0,27	0,27	0,05	-0,08	0,22	0,19
Latvia	**-23,1**	**32,4**	**76,4**	**-45,3**	**24,4**	18,9	-0,2	0,2	0,2	-0,1	0,1	0,1
Lebanon	-11,0	**19,8**	**35,3**	-7,2	**25,2**	-17,5	-0,1	0,1	0,1	0,0	0,1	-0,1
Lithuania	-12,7	**21,3**	**52,6**	**-45,4**	18,4	**24,0**	-0,2	0,2	0,3	-0,2	0,1	0,1
Macedonia	-9,7	**19,4**	**46,7**	-3,3	2,4	-12,0	-0,1	0,2	0,2	0,0	0,0	-0,1
Malaysia	**-17,3**	**25,5**	**35,5**	**-33,8**	**24,3**	**31,6**	-0,4	0,4	0,3	-0,2	0,2	0,3
Morocco	-10,7	**20,4**	**33,9**	-0,3	-5,3	10,0	-0,2	0,3	0,2	0,0	0,0	0,1
Mexico	-7,5	**17,1**	18,3	**-46,1**	**36,9**	**20,4**	-0,1	0,2	0,1	-0,3	0,3	0,2
Mongolia	**-23,6**	**30,7**	**77,3**	**39,3**	**-27,1**	-11,6	-0,2	0,2	0,3	0,1	-0,1	0,0
Nigeria	-4,9	16,4	**35,3**	**34,6**	**-21,9**	**-32,0**	-0,1	0,1	0,2	0,2	-0,1	-0,2
Oman	-13,5	**23,8**	12,7	**-38,2**	**32,0**	**42,7**	-0,2	0,2	0,1	-0,2	0,1	0,2

Table 9. Significant statistical coefficients, alphabetically ordered countries 48 to 72, AT-Kearney, in the Retail Trade Index from 2004 to 2019. Last Table.

Country	No Standarized Coefficient						Standarized Coefficient					
	Position	Puntuaction	Press. Temp.	Mark. Sat	Mark. App.	Cou, R.	Position	Puntuaction	Press. Temp.	Mark. Sat.	Mark. App.	Cou, R.
Panama	-8,9	**18,5**	20,8	-14,0	12,7	10,0	-0,1	0,2	0,1	-0,1	0,1	0,1
Paraguay	-5,7	17,1	**32,8**	**32,2**	**-23,7**	**-24,8**	-0,1	0,1	0,1	0,1	-0,1	-0,1
Peru	**-16,3**	**24,6**	**37,7**	2,5	5,7	8,1	-0,3	0,3	0,3	0,0	0,0	0,1
Poland	-2,0	12,6	**39,4**	**-58,1**	33,4	20,9	0,0	0,0	0,1	-0,1	0,1	0,0
Qatar	**-26,7**	**31,7**	-1,8	-24,2	**53,5**	**53,2**	-0,2	0,1	0,0	0,0	0,1	0,1
Rep. D	-8,8	**18,5**	**36,5**	8,3	9,7	**-28,2**	-0,1	0,2	0,2	0,0	0,0	-0,1
Rumania	-4,8	14,3	**52,5**	**-46,9**	11,8	8,3	-0,1	0,1	0,3	-0,2	0,1	0,0
Russia	**-15,7**	**29,8**	**51,2**	**-33,4**	**37,8**	0,6	-0,3	0,4	0,4	-0,2	0,3	0,0
Senegal	**-21,9**	**30,4**	**81,9**	**35,2**	**-34,1**	-17,3	-0,1	0,1	0,2	0,1	-0,1	0,0
Serbia	-0,9	14,6	31,6	**-43,2**	10,6	3,7	0,0	0,1	0,1	-0,1	0,0	0,0
Slovenia	**-17,6**	**24,6**	**49,4**	**-58,7**	17,7	**46,9**	-0,1	0,1	0,2	-0,2	0,1	0,2
Sri Lanka	**-13,6**	**22,6**	**43,8**	**21,0**	**-24,5**	2,5	-0,2	0,2	0,3	0,1	-0,2	0,0
South A.	-2,0	12,5	4,7	**-44,4**	12,7	**30,9**	0,0	0,1	0,0	-0,2	0,1	0,1
Taiwan	-6,6	14,9	-5,1	**-50,8**	**45,9**	**43,4**	-0,1	0,1	0,0	-0,1	0,1	0,1
Tanzania	-2,9	16,0	31,8	**42,6**	**-43,2**	-22,5	0,0	0,1	0,1	0,1	-0,1	-0,1
Thailand	-11,5	**21,3**	**49,3**	**-39,2**	10,4	17,4	-0,2	0,2	0,3	-0,2	0,1	0,1
Tunisia	-10,1	**20,0**	13,1	4,1	2,2	11,6	-0,2	0,2	0,1	0,0	0,0	0,1
Turkey	**-21,0**	**27,6**	**50,4**	-25,1	**28,4**	2,9	-0,1	0,1	0,1	0,0	0,1	0,0
Ukraine	**-23,8**	**35,0**	**72,8**	-13,4	9,9	-0,8	-0,3	0,3	0,3	-0,1	0,0	0,0
Uruguay	**-23,7**	**32,8**	**28,9**	1,0	**42,5**	14,9	-0,4	0,3	0,2	0,0	0,2	0,1
Vietnam	**-17,7**	**29,2**	**65,2**	1,6	-11,5	-0,4	-0,3	0,4	0,5	0,0	-0,1	0,0
Zambia	-4,3	15,0	**47,2**	**30,1**	**-44,1**	-18,5	0,0	0,1	0,1	0,1	-0,1	0,0
Slovenia	**-25,0**	**36,6**	**61,4**	**-49,1**	**30,4**	**35,9**	-0,1	0,1	0,1	-0,1	0,1	0,1
Namibia	-2,9	14,2	**55,2**	**-39,0**	**-28,1**	22,6	0,0	0,1	0,2	-0,1	-0,1	0,1
Pakistan	It is Reference Country all their coefficients are in "0,0" value. For others countries positive coefficient is above "0,02 reference; for negative coefficients these are below Pakistan level											

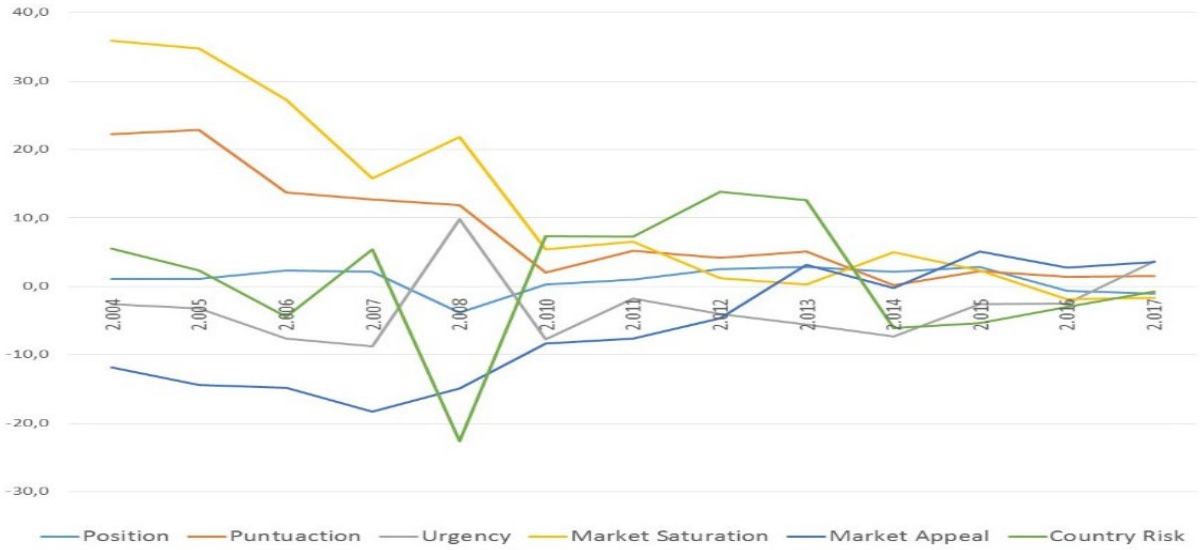

Figure 1. AT Kearney Retail Market Report Year profile

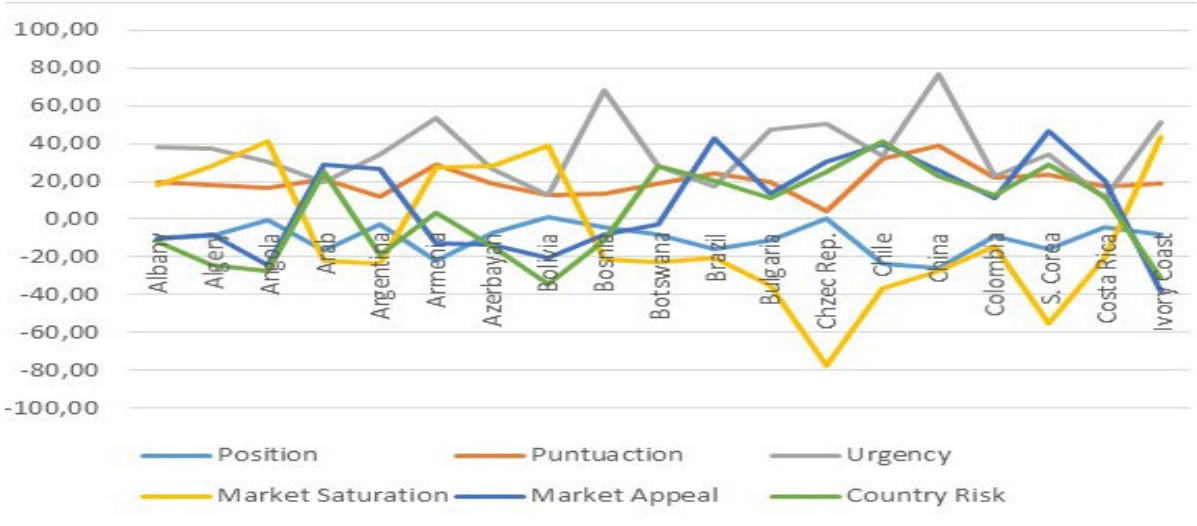

Figure 2. AT Kearney Retail Market Report Country profile

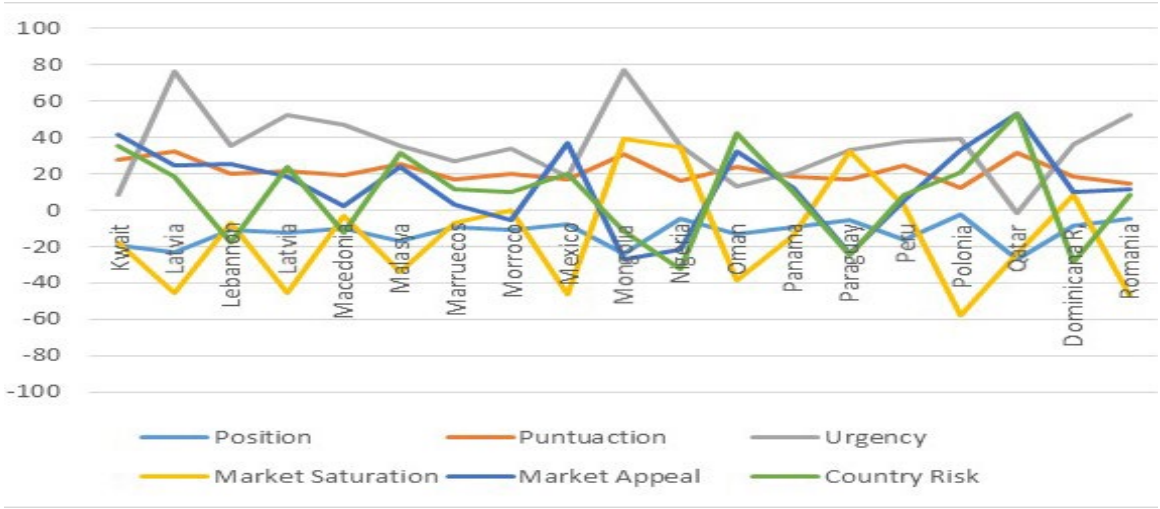

Figure 3. AT Kearney Retail Market Report Country profile

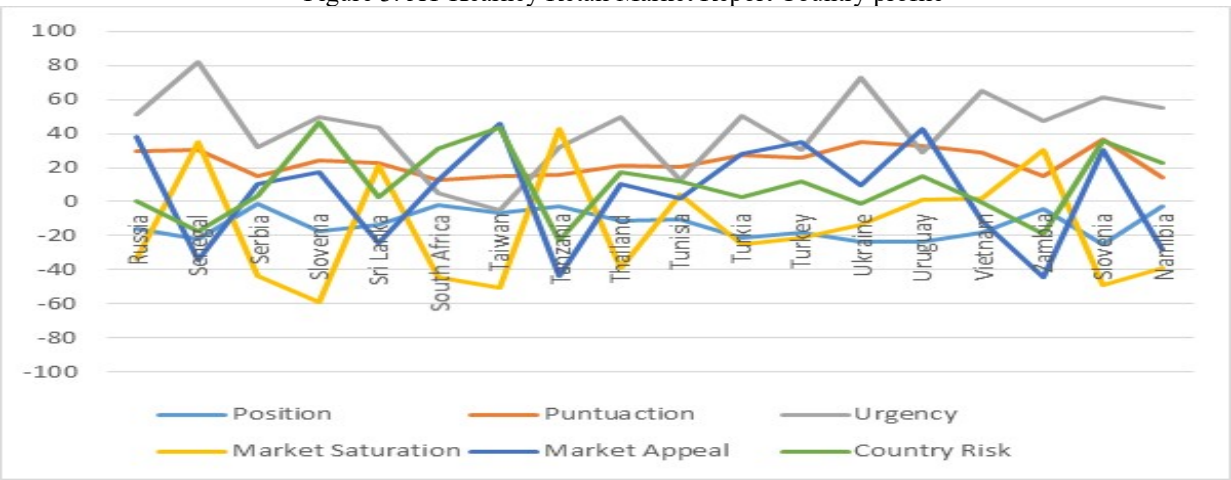

Figure 4. AT Kearney Retail Market Report Country profie

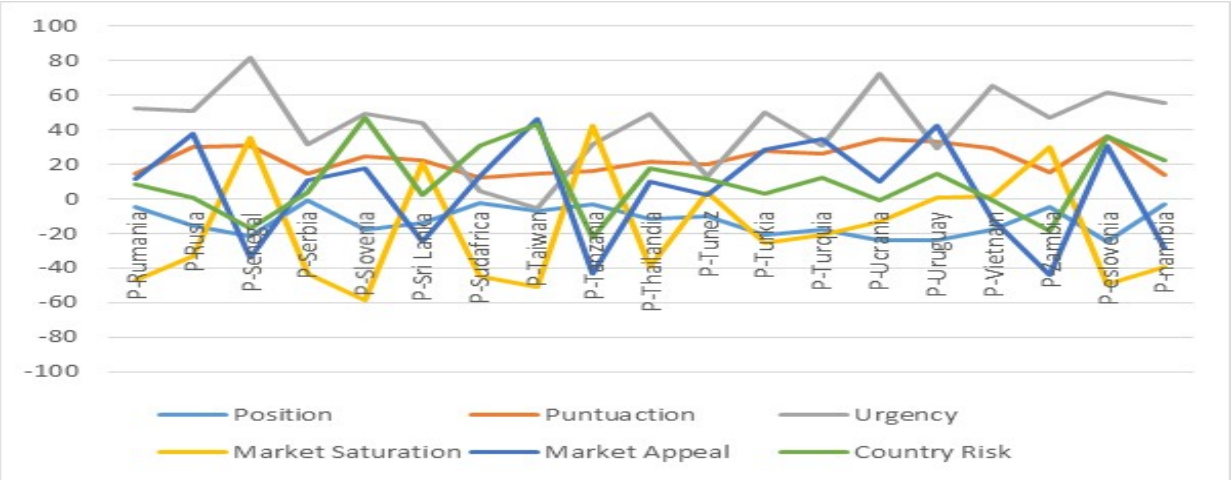

Figure 5. AT Kearney Retail Market Report Country profile

Table 8. Descriptive statistics for the Retail Trade Index Models based on Year &Area. 2004- 2019

Variables / Statistics	Position	Puntuation	Temporary pressure	Market Saturation	Atractiveness	Country Risk
R^2	0,58	0,69	0,73	0,88	0,85	0,86
R^2 Adj.	0,47	0,60	0,65	0,85	0,81	0,82
MEC	39,75	63,05	175,59	93,74	95,53	85,30
RMSE	6,30	7,94	13,25	9,68	9,77	9,24
DW	1,89	1,61	1,78	1,95	1,75	1,90

Table 8 identifies in the DW statistic the independence of the data from the point of view of the database as a time series for all variables. The RMSE describes the average degree of dispersion of the data and is directly linked to the MEC. In all cases, a higher score is observed in the SBC statistic with respect to the AIC, indicating an adequate fit of the model.The same table has: R^2 or coefficient of determination, without and with adjustment to the degrees of freedom, this index identifies the proportion of information that explains the proposed regression model with respect to the available data, thus indicating that they are explained in the next percentages: Score 47%, Time Pressure 60%, Market Saturation 65%, Attractiveness 81%, and Country Risk 82%.Therefore, it is identified that the components are directly associated with at least one of the included variables: the period of time measurement or the specific country, this in a systematic and non-random way.
The Table 9 resume the contrast of hypothesis for each modeled variable. I all cases the model significance is below p=0, 05.In any case the determination coefficient is over 0,58

Table 9. P- Values statistics for the Retail Trade Index Models

Variable	R^2	R^2 Adj	F	P(f)
Position	0,58	0,47	5,01	1,59478E-26
Punctuation	0,69	0,60	7,96	1,25738E-43
Urgency	0,73	0,65	9,59	1,07442E-51
Market Saturation	0,88	0,85	27,48	6,4754E-107
Market Appeal	0,85	0,81	20,91	2,78639E-91
Country Risk	0,86	0,82	22,31	6,31734E-95

6. Conclusion

From the resulting coefficients of variable time (year) it is important to note that grater the year, lower the coefficient, that means that at the beginning of the calculation of the index the most of the measurements were not too much dependent of the nature of the countries, but in the last years the countries become more different and its own characteristics determinates their attractiveness.

Each of the variables has a different model for each year, each country and each variable in obtaining the measurement of the "Global Retail Development Index", prepared by ATKearney to obtain the attractiveness of the retail trade market in each territory

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