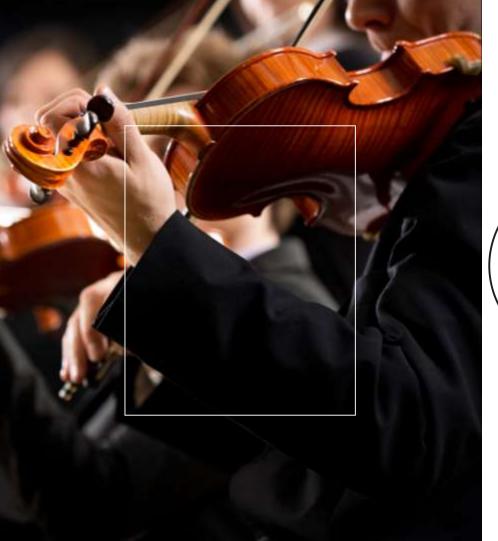
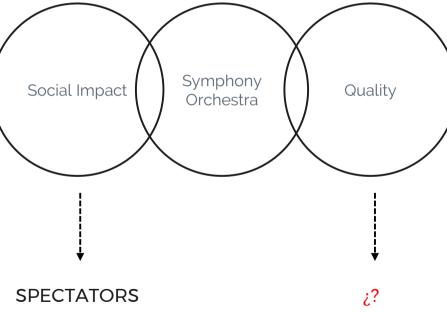
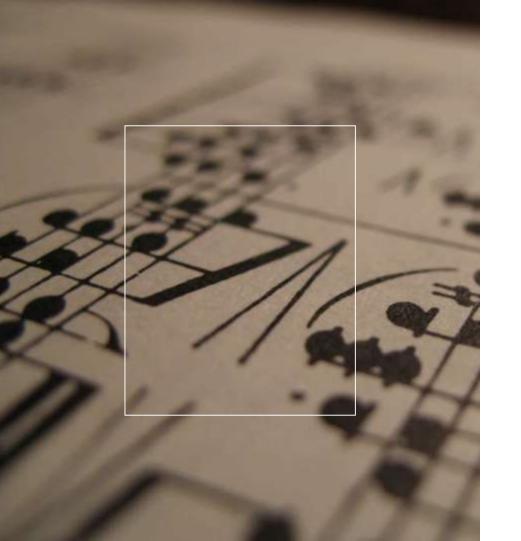
Measuring emotion through quality: evaluating the musical repertoires of Spanish symphonic orchestras

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Objectives pursued by symphony orchestras





Comparable indicators based on the characteristics of the repertoire

Management tool

Cultural policy implications

Efficiency and excellence incentives

Models used when reviewing references

DiMaggio and Stenberg (1985) Ito and Domian (1987) Pierce (2000) O'Hagan and Neligan (2005) Pompe et al. (2011) Bertaux et al. (2015)

Index of Conventionality Index of best known composers; Index of Contemporaneity Index of Risk Index of Conventionality Index of Conventionality

Index of Modernity



Methodological approach

OBJETIVE

Evaluate the quality of the repertoire of Spanish symphonic orchestras and to analyze the impact of external variables on their programming strategy

SAMPLE

20 Spanish symphonic orchestras. 3 seasons of subscription (2014/205, 2015/2016: 2016/2017)







Methodological approach

1. Three repertoire's partial indicators

2. Synthetic Index of quality (DEA)

3. Determinant factors (regression analysis)

Descriptive Analysis

No. of orchestras: 20 No. of seasons: 3 No. of concerts: 1,894 No. of works in the repertoire: 2,808 No. of composers: 462 No. of nationalities: 51 (German 24%; Austrian 14.5%; Russian 13.5%; Spanish 12.3%)

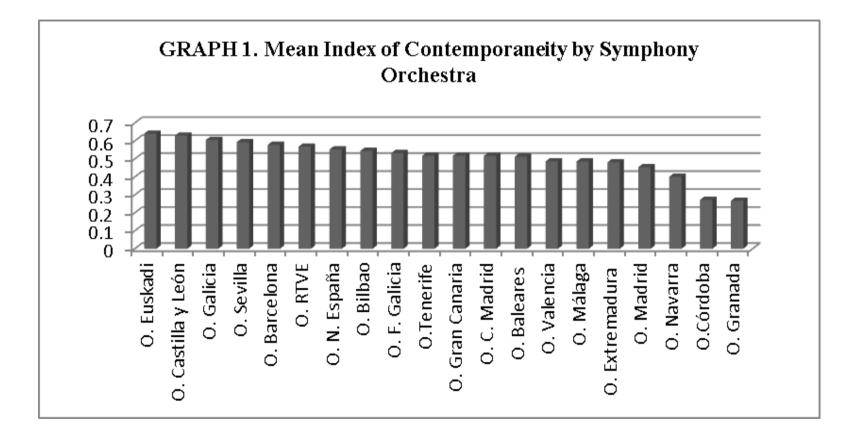
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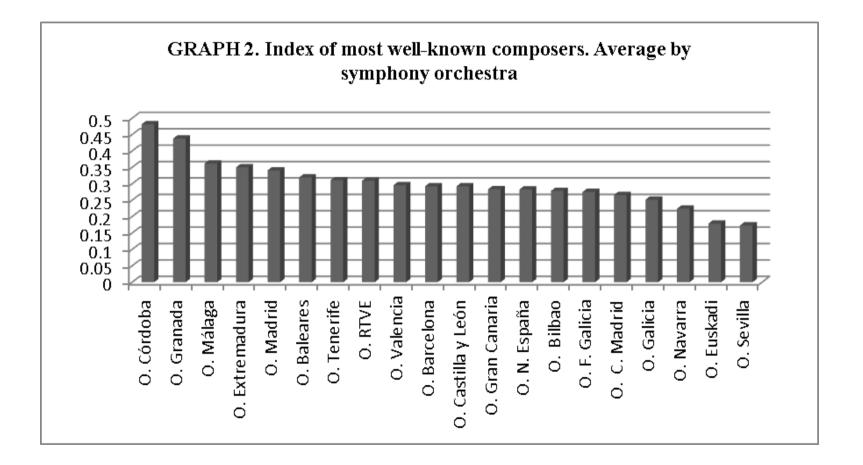
TOP 5 COMPOSERS

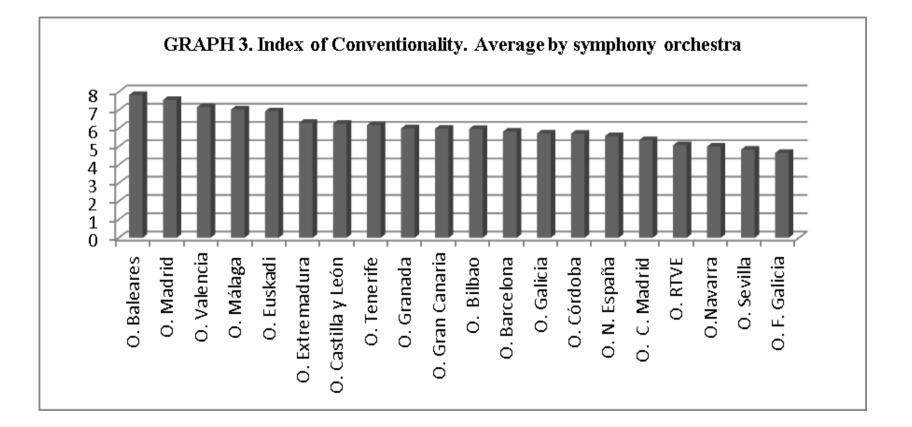
Beethoven 165 works (5.88%) Mozart 144 works (5.13%) Brahms 117 works (4,17%) Tchaikovsky 87 works (3,10%) Ravel 82 works (2.92%)



Index of Contemporaneity TechnicalQuality and Innovation I.Cont =W.Cont/W.Total **Best-Knowns Index** Prestige I.BK = W.BK/W.Total **Index of Conventionality** - Risk $CI_{it} = \frac{\sum_{i=1}^{n} P_{it}}{n_t}$











SYNTHETIC INDEX OF QUALITY -DATA ENVELOPMENT ANALISYS

PRODUCTION FUNCTION TO BE MAXIMISED:

Outputs: The parcial indicators

Input: Variable of the unit value por each observation

The resulting composite indicator corresponds to the best possible lineal combination of outputs



SYNTHETIC INDEX OF QUALITY

DATA ENVELOPMENT ANALISYS

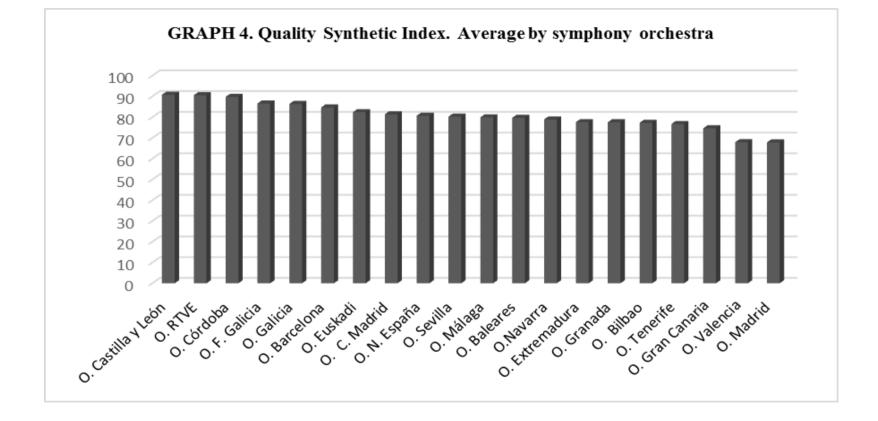
$$I_{c} = max_{w_{c,i}} \sum_{i=1}^{m} w_{c,i} * y_{c,i}$$

Subjet to:

$$\sum_{i=1}^{m} w_{c,i} * y_{j,i} \leq 1 \quad \forall j \in \{1, \dots n\}$$

 $w_{c,i} \geq 0 \quad \forall i \epsilon \{1, \dots m\}$

 $0,1 \le w_{c,i} \le 0,5 \ \forall i \in \{1, ..., m\}$



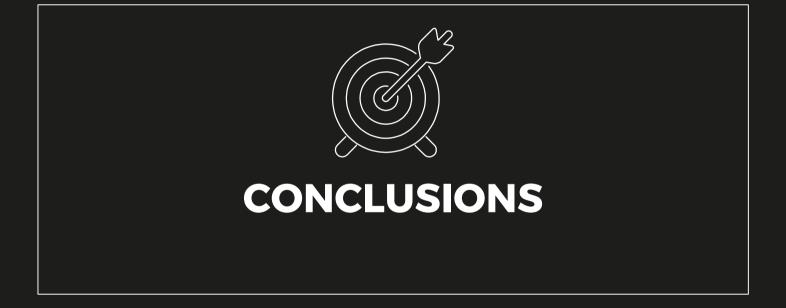


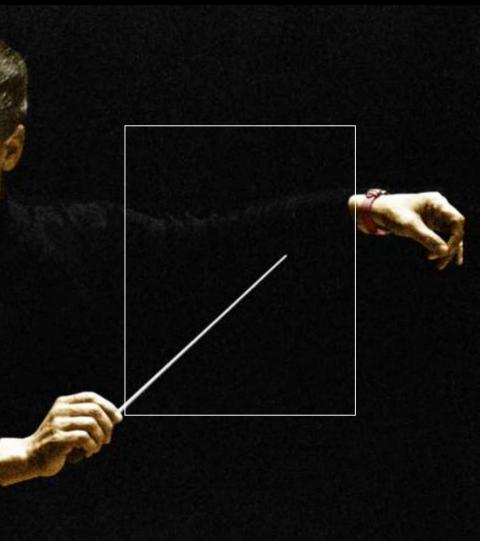


Index of Quality:

External variables: Capacity •Years in existence oGuest performers •No. of concerts oTicket price oCultural consumption oHuman capital • Population density o Madrid • Mean age olncome per inhabitant

Regression results (MCO)		
Variables	Synthetic Indicator of Quality	
	Basic Model	Refined Model
Capacity	-0.268 (0.217)	-0.346*** (0.196)
Years in existence	-0.012* (0.004)	-0.009* (0.003)
Guest performers	-0.29 (0.201)	-
No. of concerts	0.012*** (0.007)	0.010*** (0.005)
Ticket price	0.0428** (0.02)	0.044** (0.017)
Cultural consumption	-1.54E-7 (1.035E-7)	-1.721E-7** (7.113E-8)
Human capital	1.571 (6.013)	-
Population density	-0.001 (0.001)	-
Madrid	0.739 (0.554)	0.753** (0.298)
Mean age	-0.055 (0.087)	-
Inhabitants' income	0.655 (1.466)	-
С	2.098 (3.585)	0.532***(0.318)





We have proposed, based on the reference literature, a synthetic measure in which we address three aspects that can be interpreted as quality

The results obtained indicate that although quality can be considered one of the main goals to be achieved, maximising it is not always within managers' reach the artistic directors of symphony orchestras cannot compile their repertoires oblivious to the environment in which they are located, since another of their objectives is to secure the highest possible number of spectators

There are different variables that contribute to ensuring a higher quality, such as a longer season, the price of the ticket or that is located in the capital of the country. The years the orchestra has been in existence, a larger capacity concert hall and greater cultural consumption in the reference region have a negative impact on the quality of the symphony orchestras.

