

Corso di

Statistica

Il boxplot

Lezione cinque

Cristina Davino

cdavino@unimc.it



Il boxplot (o diagramma a scatola e baffi)

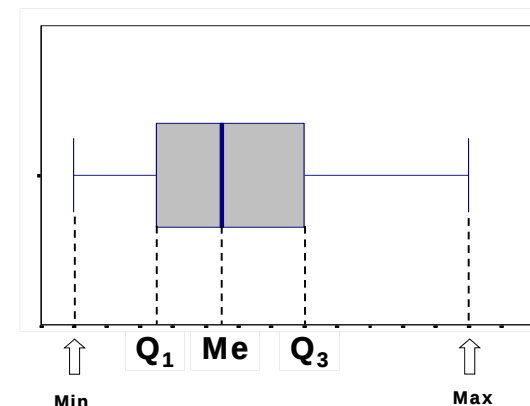
xmin ; Q1 ; Q2=Me ; Q3 ; xmax

❶ costruzione della “scatola”

❷ definizione dei “baffi”

Distribuzioni simmetriche:

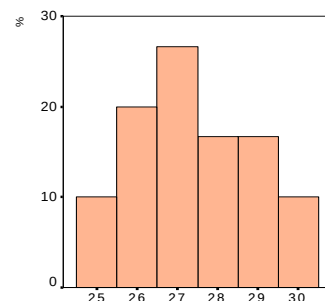
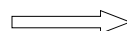
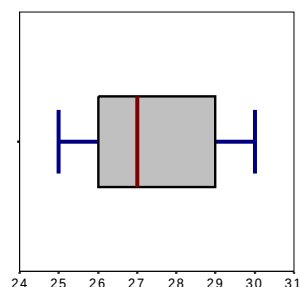
- $Q_3 - Q_2 = Q_2 - Q_1$
- $x_{\max} - Q_3 = Q_1 - x_{\min}$



Boxplot e Istogramma

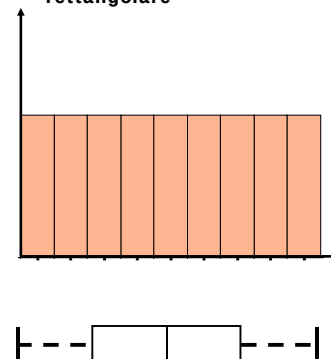
Età studenti del Corso	Frequenze assolute (n _i)
25	3
26	6
27	8
28	5
29	5
30	3
	30

$Q_1 = 26$
 $Med = 27$
 $Q_3 = 29$
 $Q_3 - Q_1 = 29 - 26 = 3$

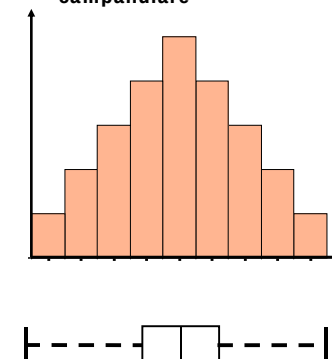


Boxplot e Istogramma

Distribuzione simmetrica
rettangolare

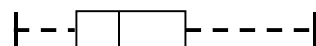
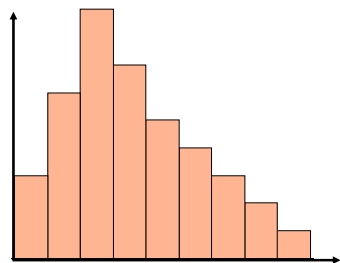


Distribuzione simmetrica
campanulare



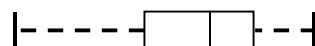
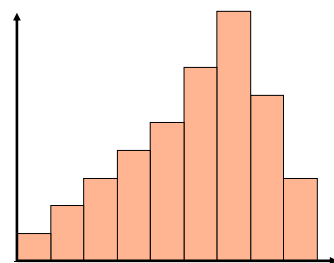
Boxplot e Istogramma

Distribuzione asimmetrica positiva



$$Me - Q1 < Q3 - Me$$

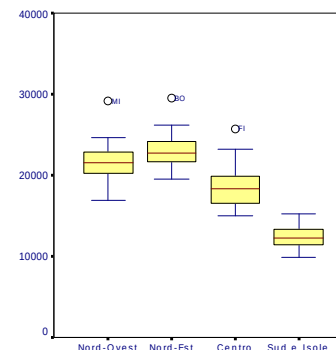
Distribuzione asimmetrica negativa



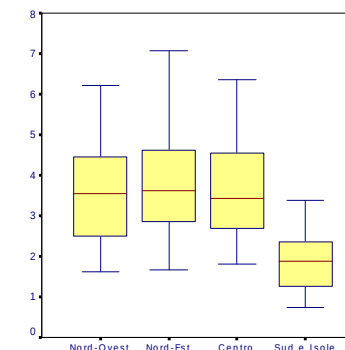
$$Me - Q1 > Q3 - Me$$

Boxplot multipli

Reddito p.c.
(in €)

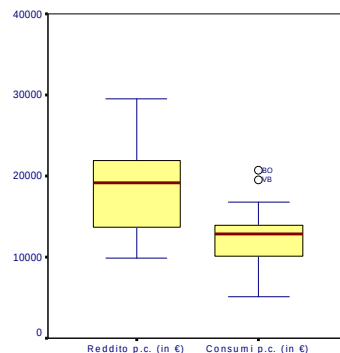


Num. sale cinematografiche
(per 100mila ab.)

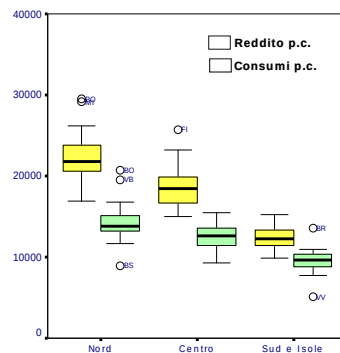


Boxplot multipli

Reddito p.c. e Consumi p.c.
(in €)



Reddito p.c. e Consumi p.c.
(in €, per Zona geografica)



Dove e come studiare

- Libro di testo: D. Piccolo (2004) – Statistica per le decisioni – Il Mulino.
Cap. 5 (escluso paragrafi 5.4, 5.5, 5.6)



- Libro di testo: S. Borra, A. Di Ciccio (2008) – Statistica – Metodologie per le scienze economiche e sociali – McGraw-Hill.
Cap. 4 (escluso paragrafi 4.4)



File “esercizi indici sintetici.pdf”

- Esercizio n. 1 – punto 6
- Esercizio n. 6 – punto a
- Esercizio n. 7 – punto a
- Esercizio n. 9
- Esercizio n. 11 – punto b

T2: Test di autovalutazione
(domande 29, 30)