

Basic Data Analysis

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Business Administration and Public Policy

Lecture 4:

Abstract

- CDFs 3
 - “ ”
 - ” ”
 - CDF
- - ” ”
 -
- () Mode Median () Mean

()

• “ ” “ ”

• or values “ ” $m = \arg \max f(x)$

f

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• “ ” “ ” “ ”

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-
- 20 “ ” all-or-nothing 2 1
- 20 20 0–20, 21–40, 41–60, 61–80, 81–100 ” ”
1 3 5 7 4 61–80
- 21-40 3 40 1
40

• CDF $1 / 2$

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• $1 / 2$

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$1 / 2$

$1 / 2$

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• CDF

/

Grade AM Class PM Class

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| | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|
| AM Class | B | C | A | A | A | B | A | C |
| PM Class | A | B | C | B | B | C | A | B |

•

“ ”

| | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|
| AM Class | C | C | B | B | A | A | A | A |
| PM Class | C | C | B | B | B | B | A | A |

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| | | | | |
|----------|---|---|---|---|
| Grade | D | C | B | A |
| AM Class | 0 | 2 | 2 | 4 |
| PM Class | 0 | 2 | 4 | 2 |

CDF

- CDFs Grade AM Class PM Class

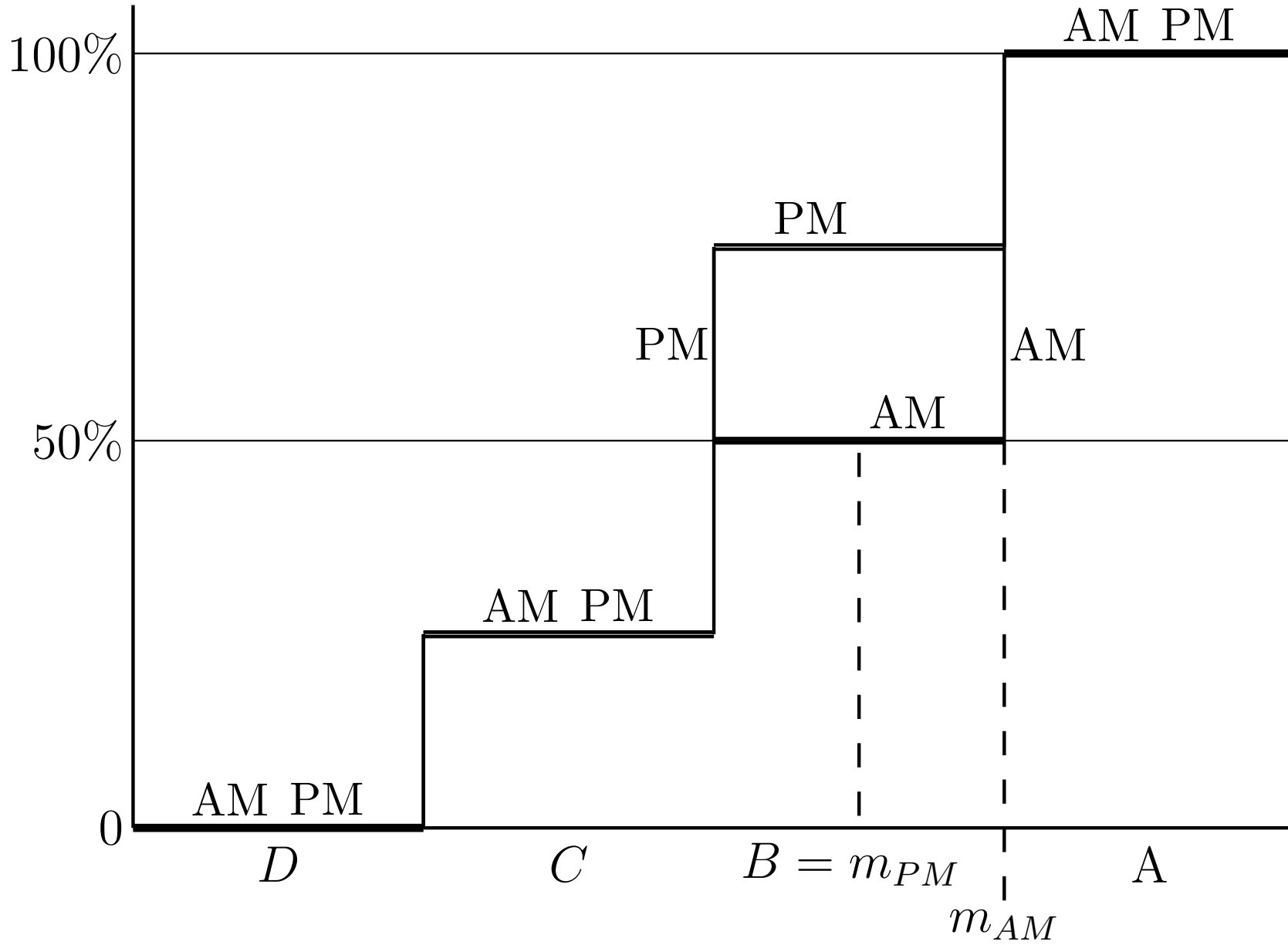
| Grade | D | C | B | A |
|----------|---|---|---|---|
| AM Class | 0 | 2 | 4 | 8 |
| PM Class | 0 | 2 | 6 | 8 |

- CDFs

| Grade | D | C | B | A |
|----------|------|------|------|------|
| AM Class | 0.00 | 0.25 | 0.50 | 1.00 |
| PM Class | 0.00 | 0.25 | 0.75 | 1.00 |

- A B

CDF



• or

•

• 10 10 10 99

•

- $F(x) = 1/2$ F
- “1/2,” 0 1
- $1/4$ or 4 1 $1/10$ or
- $r = F(x)$ r x or

- “ 80 ” 80 “
- 80 ”
- 50 2 or
- 2 10
- — 2 “ ”

-
-
- mean

- or

$$\bar{x} = \frac{\sum_{x \in X} x f(x)}{\sum_{x \in X} f(x)}$$

- X

—

- $X \quad 0 \leq x \leq 100$
 $X = \{4, 3, 2, 1\}$

$$X = \{A, B, C, D\},$$

- ϕ f

$$\bar{x} = \sum_{x \in X} \phi(x) f(x)$$

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