Fairness in maximal covering location problems
Online Supplement

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Contents

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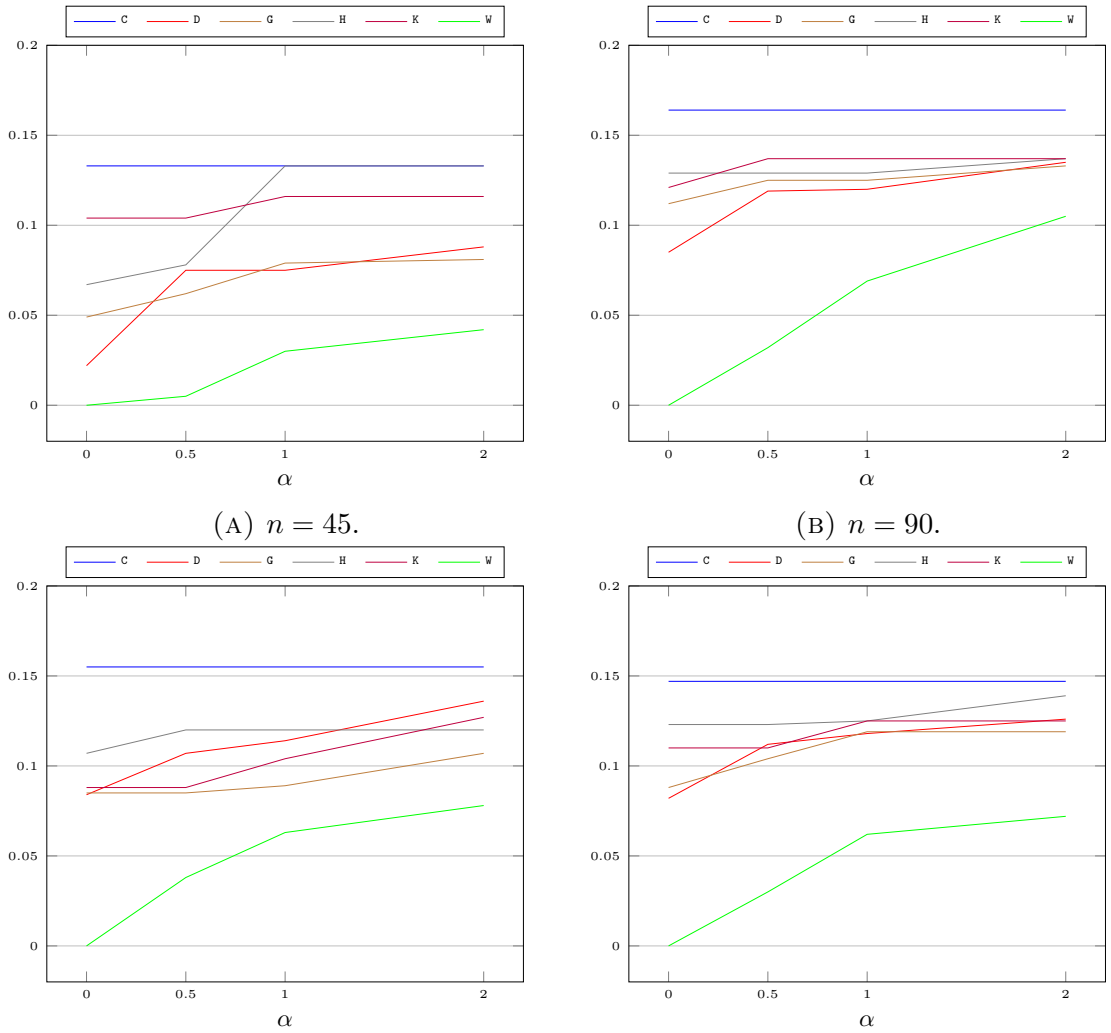
Price of Fairness by size of the instances and OWA criterion: Discrete domain



(A) $n = 45$.

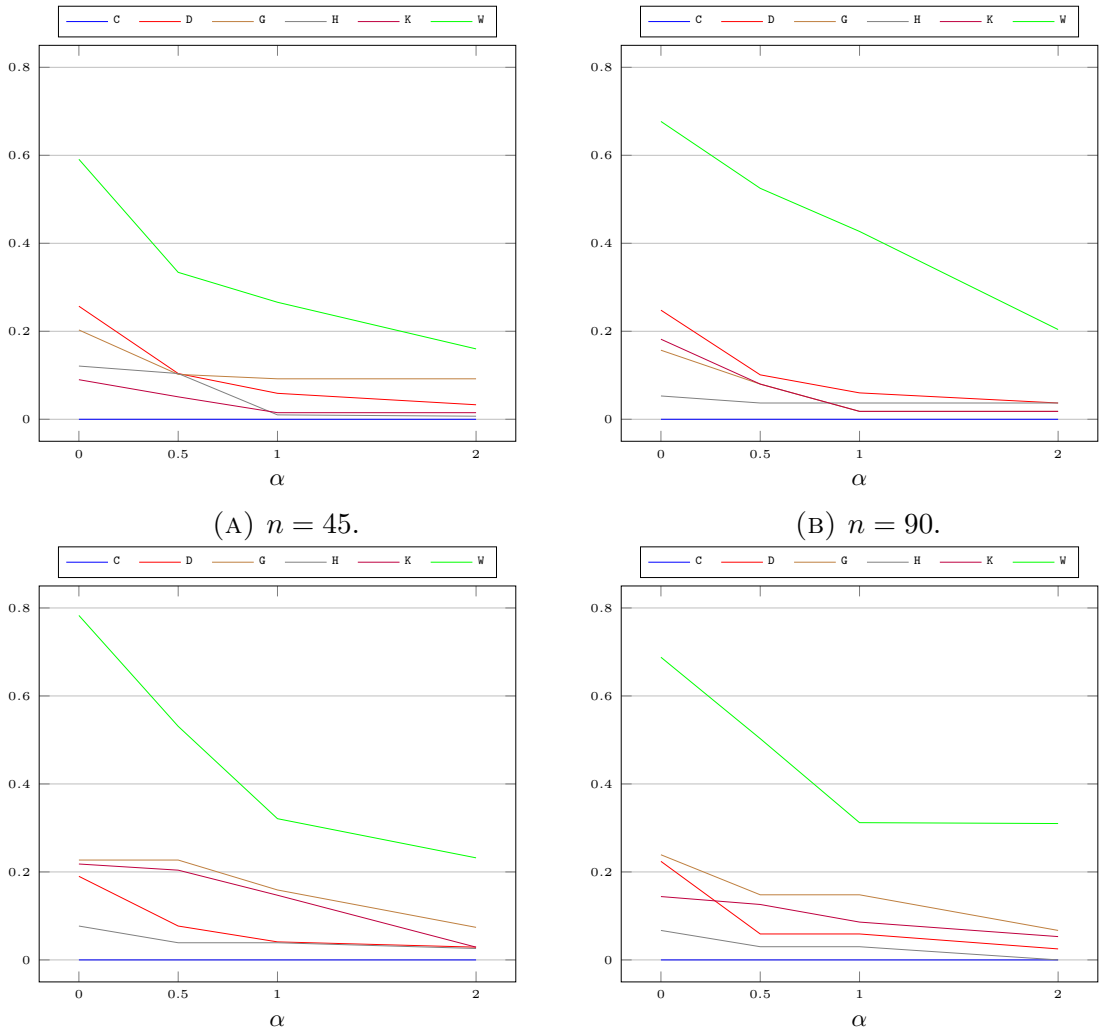
(B) $n = 90$.

(C) $n = 120$.

(D) $n = 179$.

Figure 1. Price of fairness averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $n \in \{45, 90, 120, 179\}$ `Discrete` location problem.

Price of Efficiency by size of the instances and OWA criterion: Discrete domain



(A) $n = 45$.

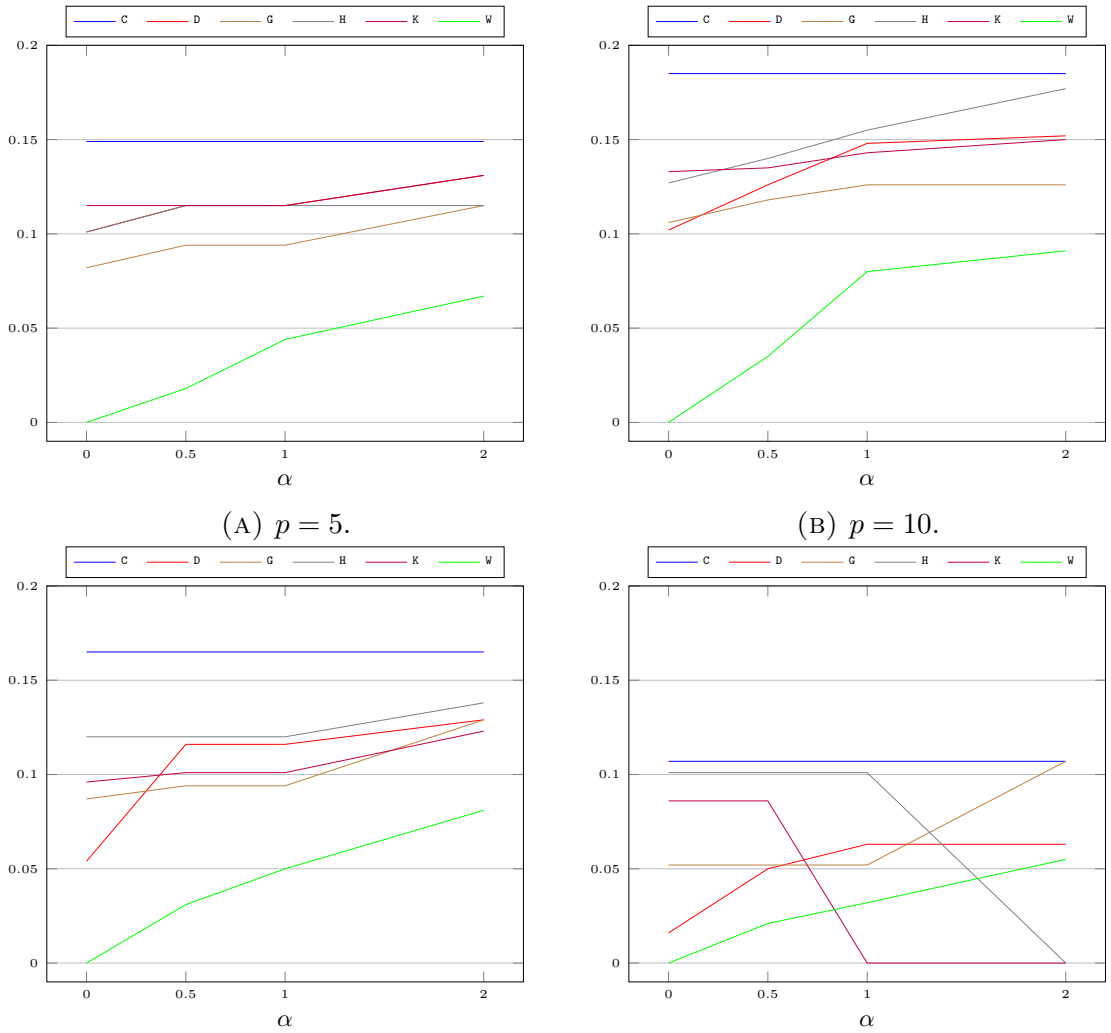
(B) $n = 90$.

(C) $n = 120$.

(D) $n = 179$.

Figure 2. Price of efficiency averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $n \in \{45, 90, 120, 179\}$ for `Discrete` location problem.

PRICE OF FAIRNESS BY NUMBER OF SERVICES AND OWA CRITERION: DISCRETE DOMAIN



(A) $p = 5$.

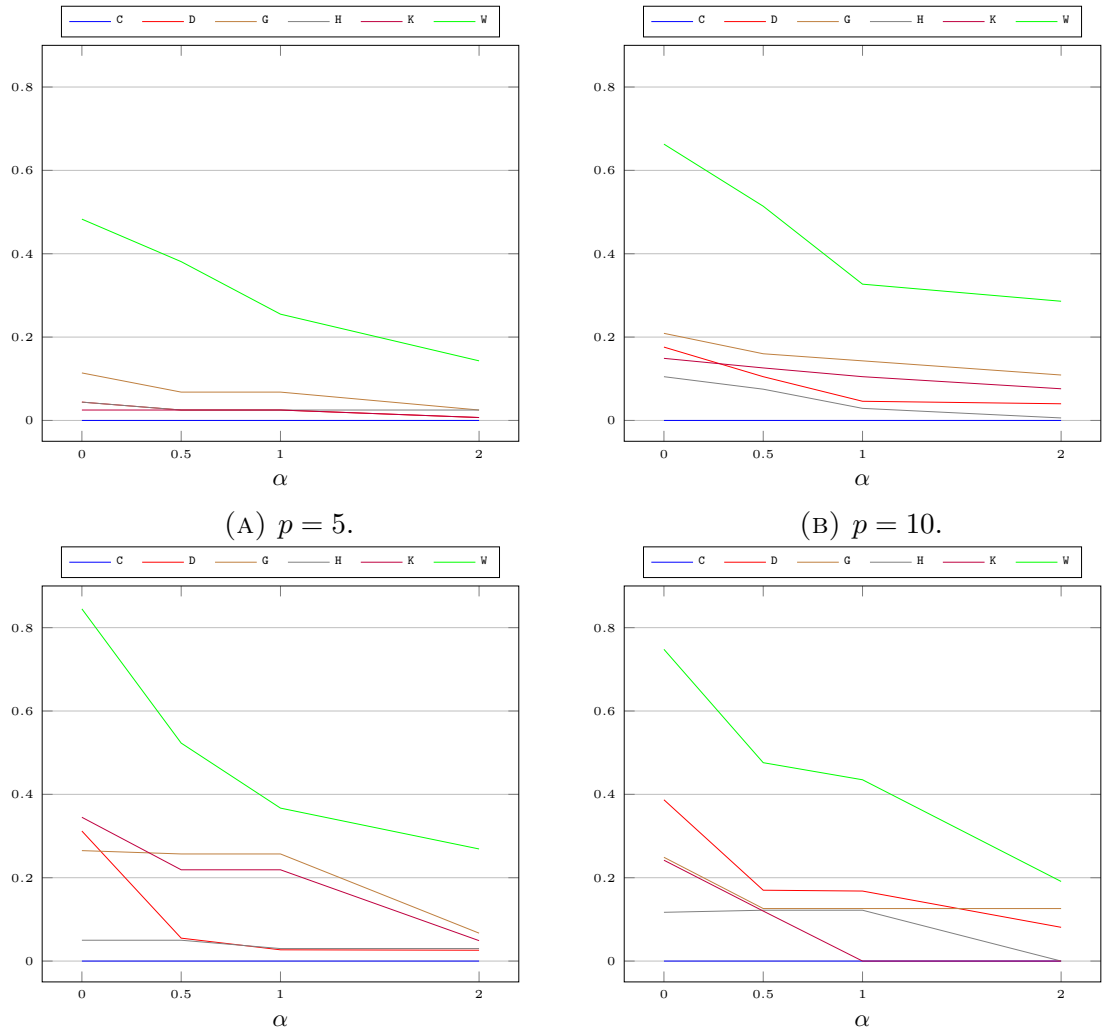
(B) $p = 10$.

(C) $p = 15$.

(D) $p = 20$.

FIGURE 3. Price of fairness averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $p \in \{5, 10, 15, 20\}$ `Discrete` location problem.

Price of Efficiency by number of services and OWA criterion: Discrete domain



(A) $p = 5$.

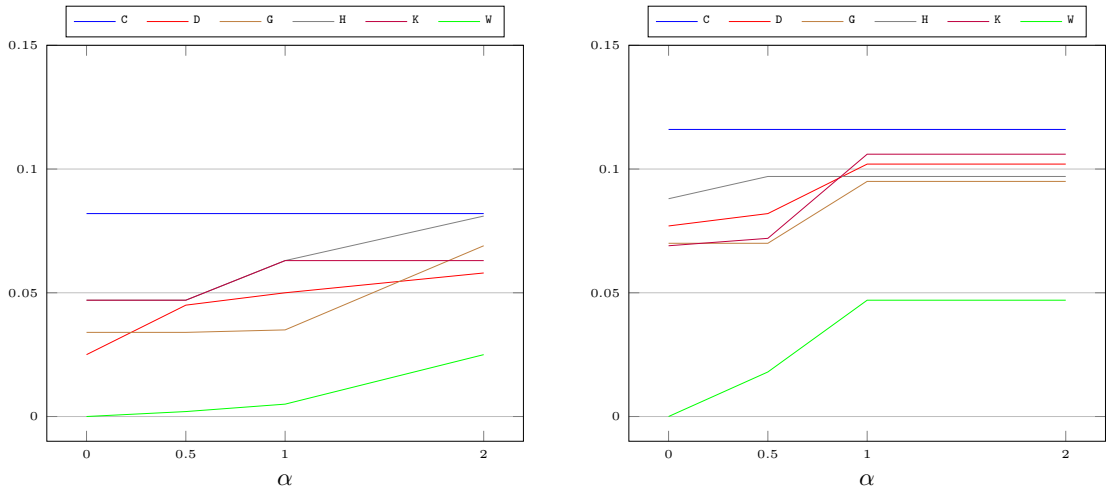
(B) $p = 10$.

(C) $p = 15$.

(D) $p = 20$.

Figure 4. Price of efficiency averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $p \in \{5, 10, 15, 20\}$ for `Discrete` location problem.

PRICE OF FAIRNESS BY SIZE OF THE INSTANCES AND OWA CRITERION: CONTINUOUS DOMAIN



(A) $n = 45$.

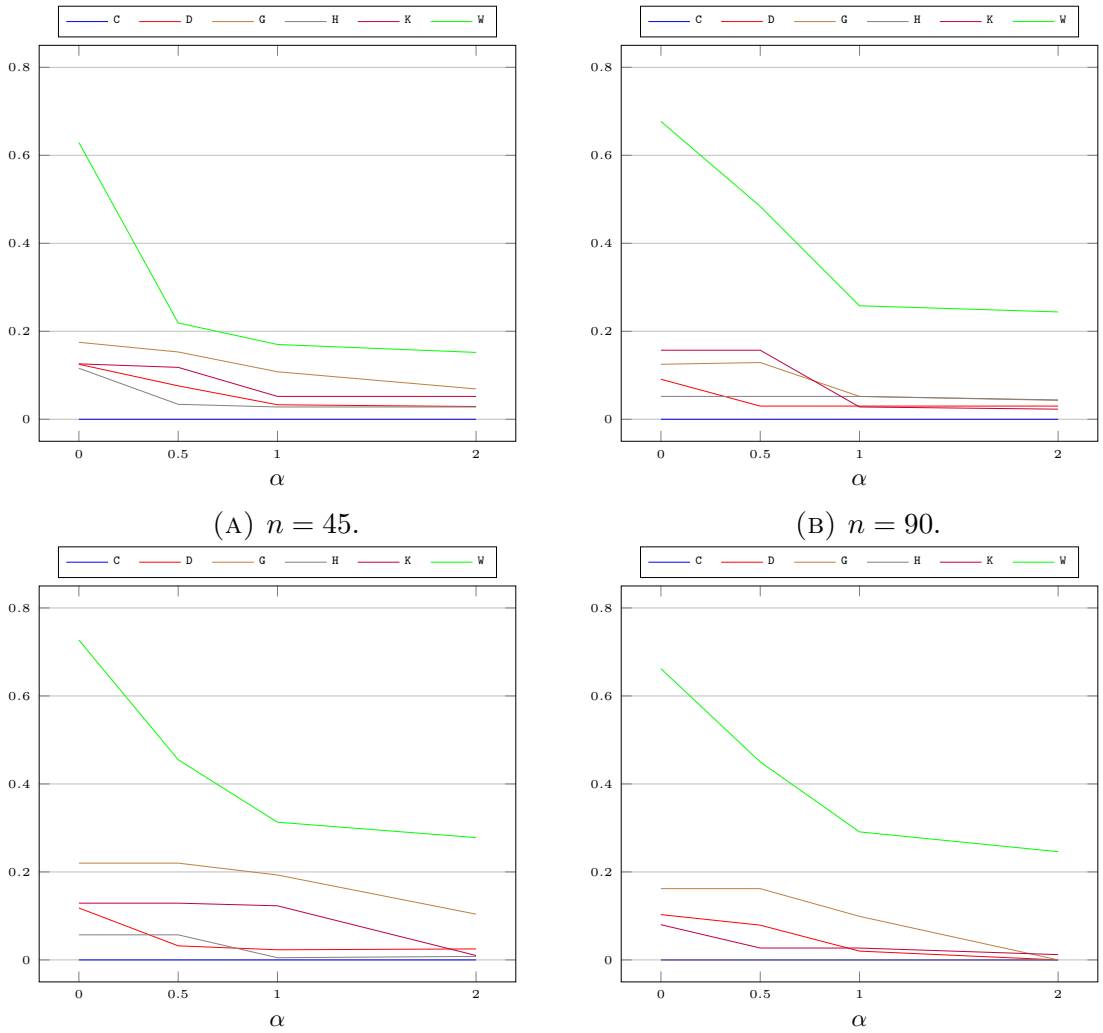
(B) $n = 90$.

(C) $n = 120$.

(D) $n = 179$.

FIGURE 5. Price of fairness averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $n \in \{45, 90, 120, 179\}$ `Continuous` location problem.

Price of Efficiency by size of the instances and OWA criterion: Continuous domain



(A) $n = 45$.

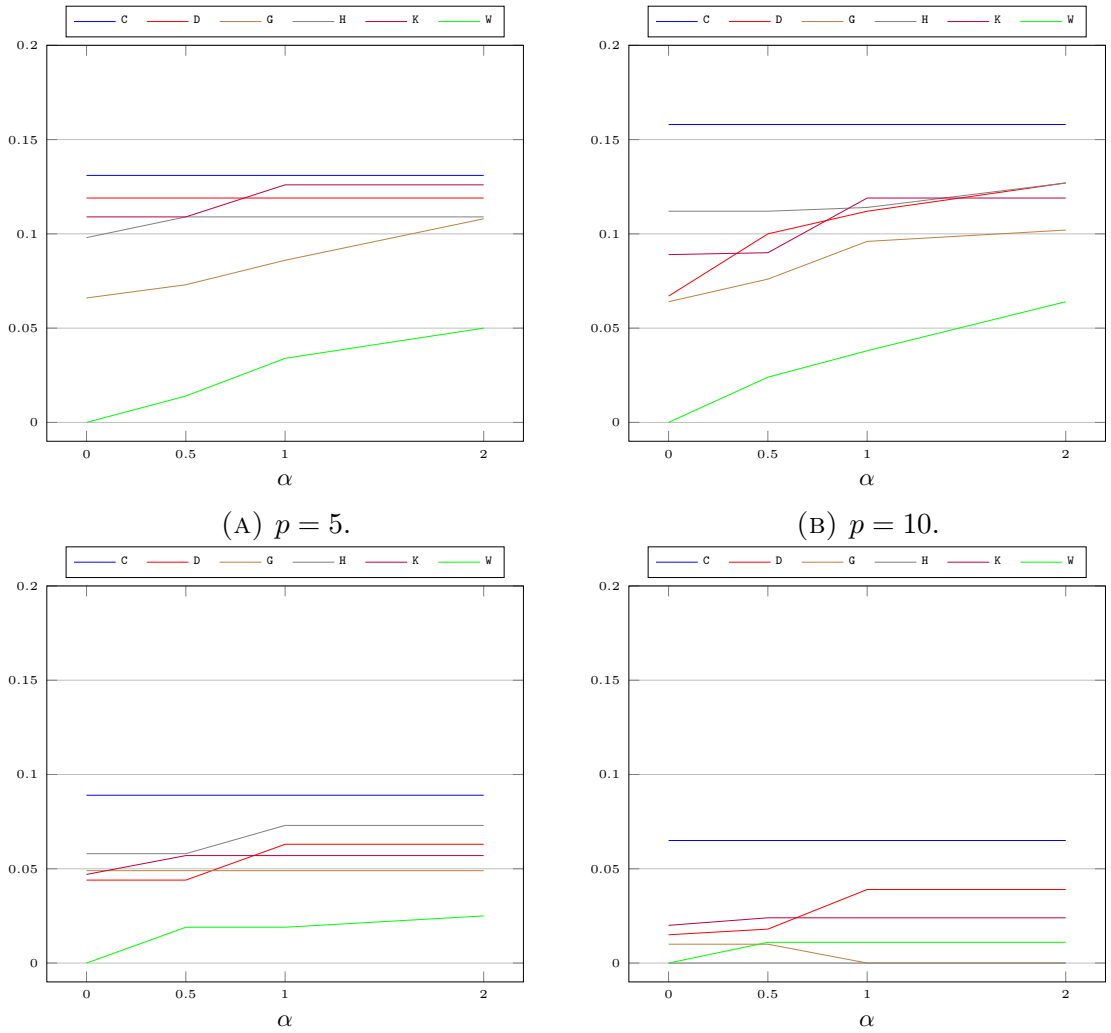
(B) $n = 90$.

(C) $n = 120$.

(D) $n = 179$.

Figure 6. Price of efficiency averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $n \in \{45, 90, 120, 179\}$ for `Continuous` location problem.

PRICE OF FAIRNESS BY NUMBER OF SERVICES AND OWA CRITERION: CONTINUOUS DOMAIN



(A) $p = 5$.

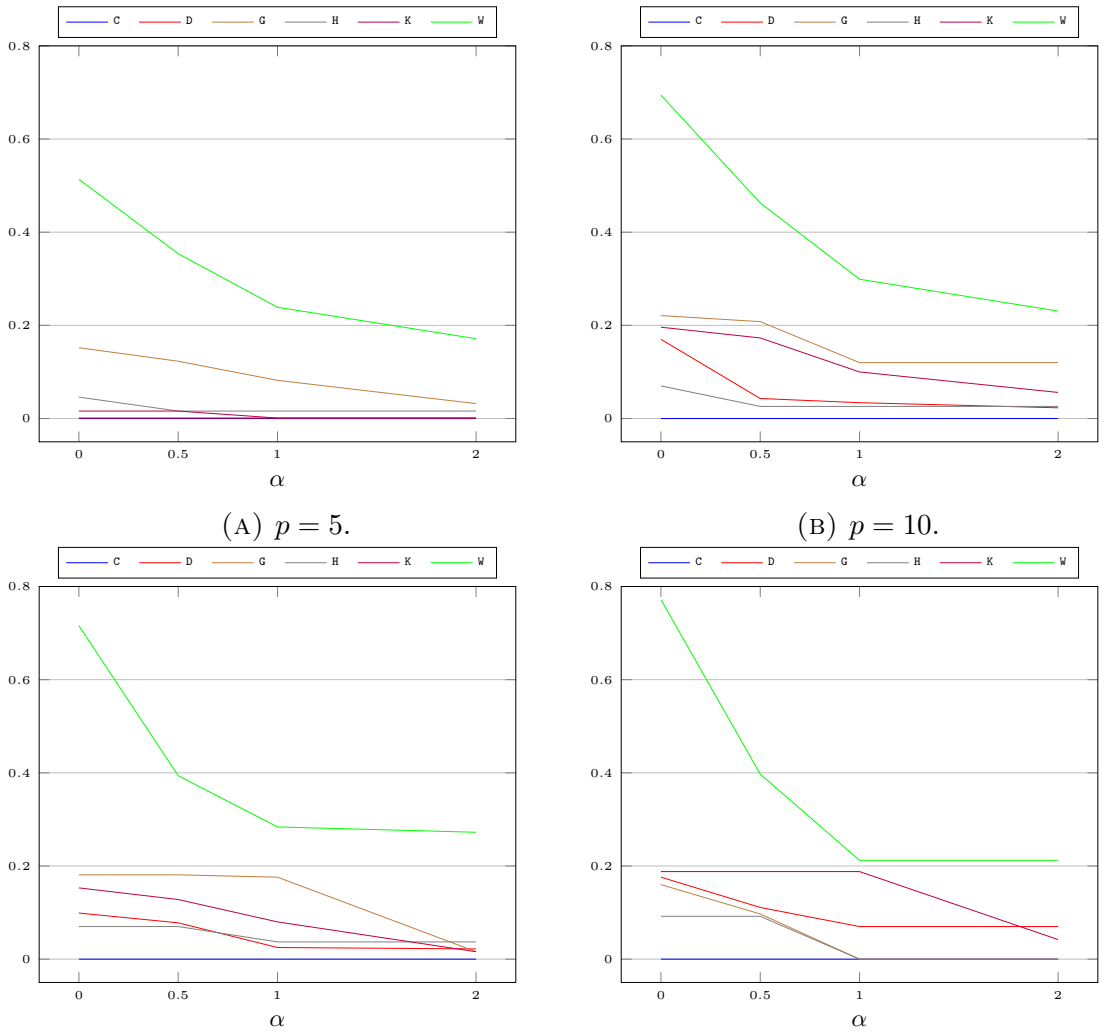
(B) $p = 10$.

(C) $p = 15$.

(D) $p = 20$.

FIGURE 7. Price of fairness averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $p \in \{5, 10, 15, 20\}$ `Continuous` location problem.

Price of Efficiency by number of services and OWA criterion: Continuous domain



(A) $p = 5$.

(B) $p = 10$.

(C) $p = 15$.

(D) $p = 20$.

Figure 8. Price of efficiency averaged by $\alpha \in \{0, 0.5, 1, 2\}$ and $p \in \{5, 10, 15, 20\}$ for `Continuous` location problem.