**Homework 2: HTTP, TCP, and Wireshark**

**Part D:**

Objectives:

Fairness: All sources should be treated “fairly”.

Efficiency: Network resources should be well utilized.

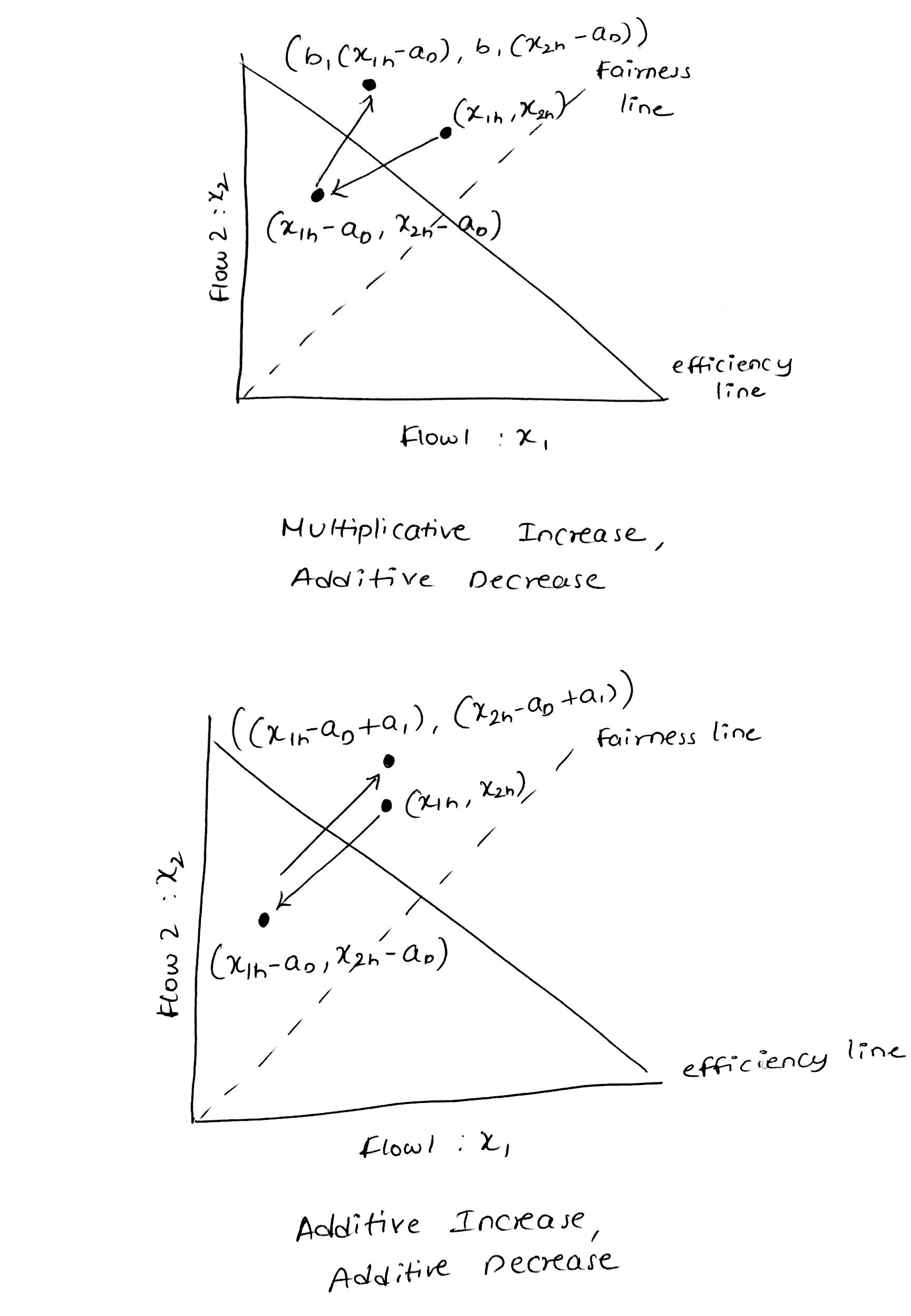
Convergence: Network should quickly converge to desired load level.

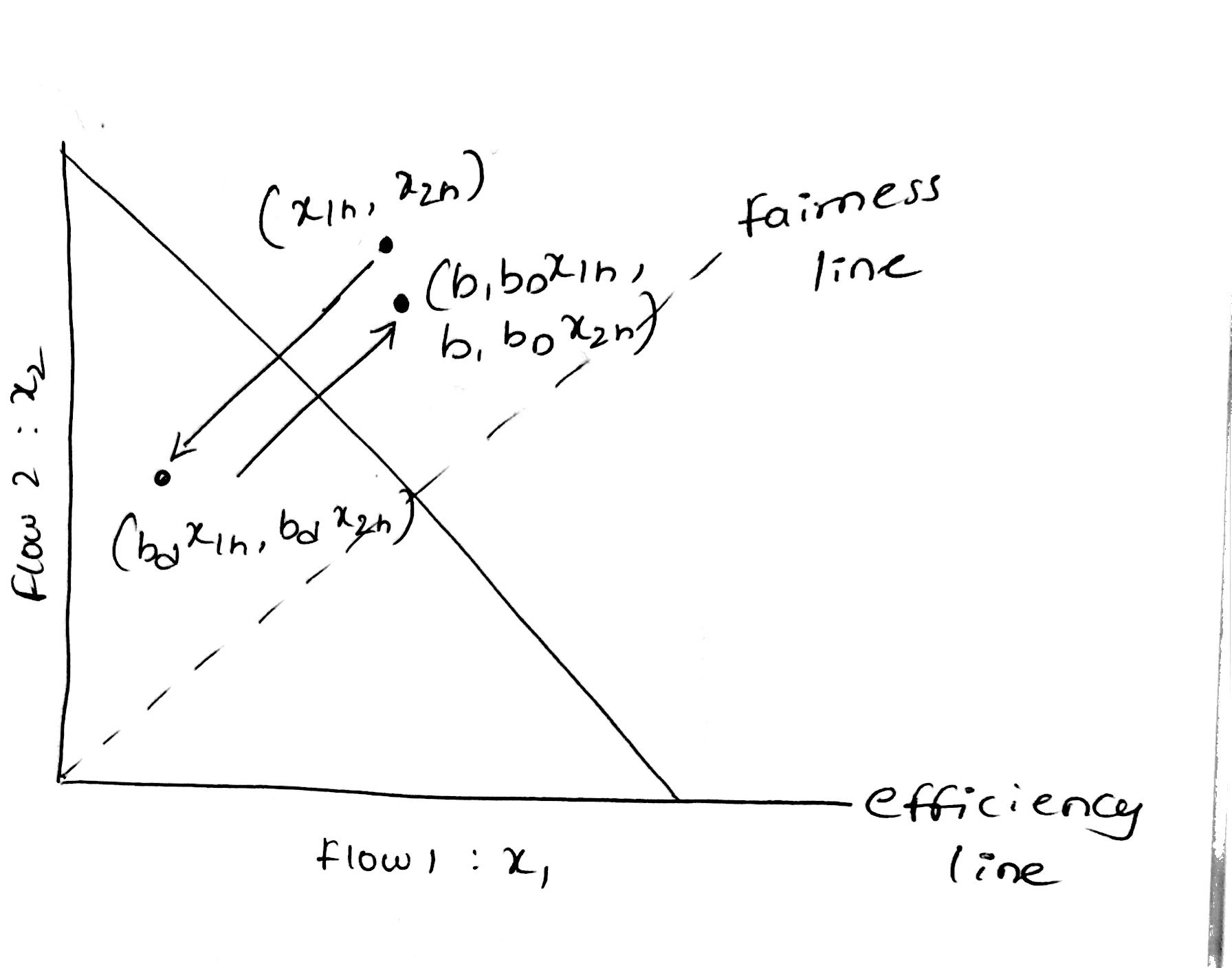
Multiplicative changes move along a line through the current point and the origin, whereas Additive changes move in a 450 angle.

Multiplicative Increase Additive Decrease: As you can see in the figure, if you decrease by value aD and increase by multiplication factor of b1, the point moves away from fairness and efficiency. Thus, it would not converge to fairness and to efficiency.

Additive Increase and Additive Decrease: if we increase by aI and decrease by aD, it would never converge to fairness nor to efficiency.

Multiplicative Increase and Multiplicative Decrease: If we decrease by multiplication factor of bD and then increase by a multiplication factor of bI, it would never converge to fairness, but could converge to efficiency iff bI >= 1 and 0 <= bD < 1.

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