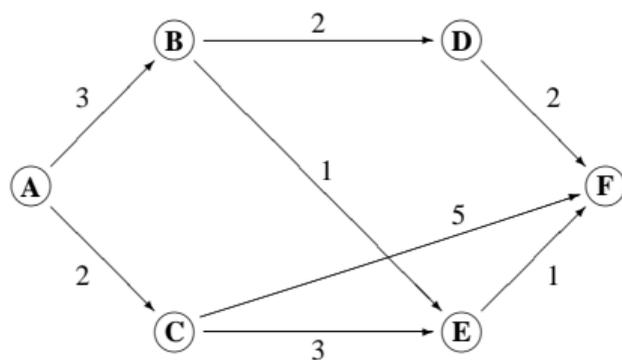


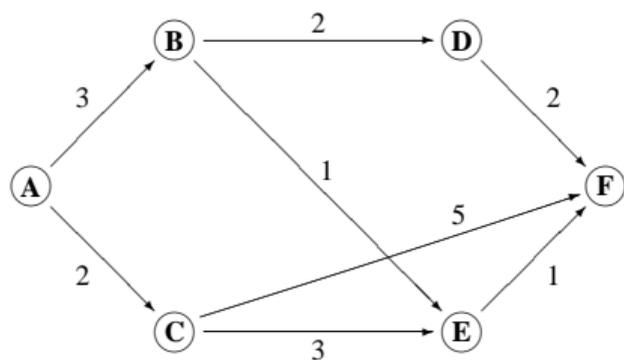
Selfish routing example



- What outcome will be selected by χ ?



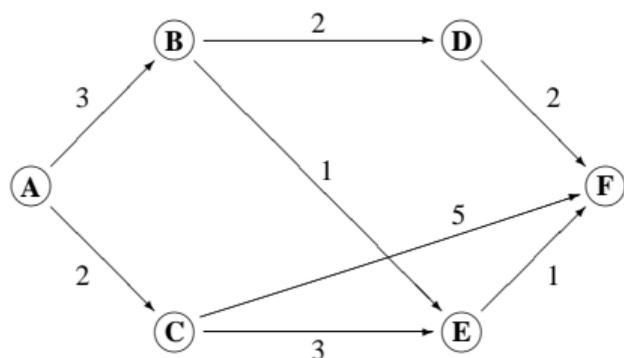
Selfish routing example



- What outcome will be selected by χ ? path $ABEF$.

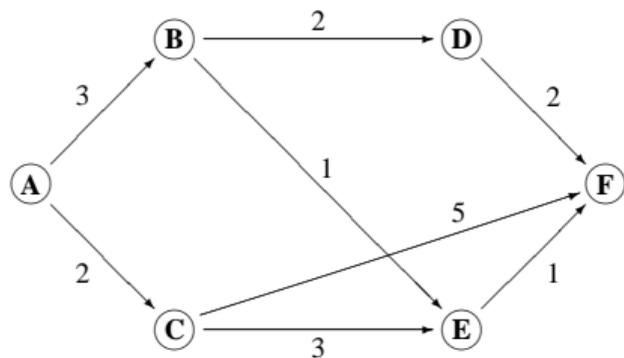


Selfish routing example



- What outcome will be selected by χ ? path $ABEF$.
- How much will AC have to pay?
 - The shortest path taking AC 's declaration into account has length 5, and imposes cost -5 on agents other than AC . The shortest path without AC 's declaration also has length 5. Thus, $p_{AC} = (-5) - (-5) = 0$.
 - This is what we expect, since AC is not pivotal.
 - Likewise, BD , CE , CF and DF will all pay zero.

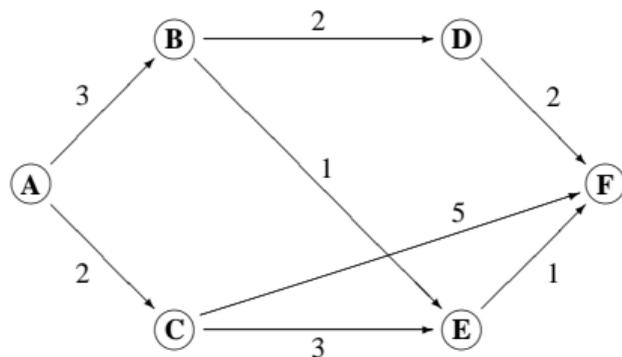
Selfish routing example



- How much will AB pay?

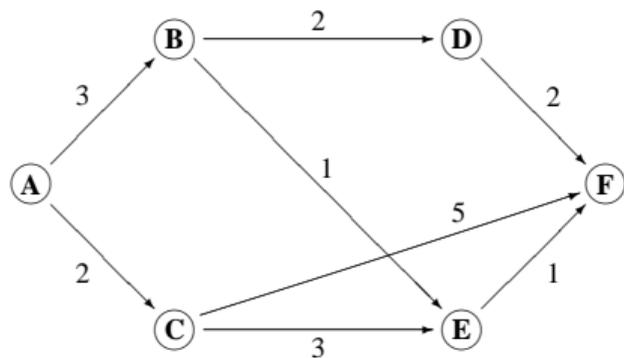


Selfish routing example



- How much will AB pay?
 - The shortest path taking AB 's declaration into account has length 5, and imposes cost 2 on other agents.
 - The shortest path without AB is $ACEF$, which has cost 6.
 - Thus $p_{AB} = (-6) - (-2) = -4$.

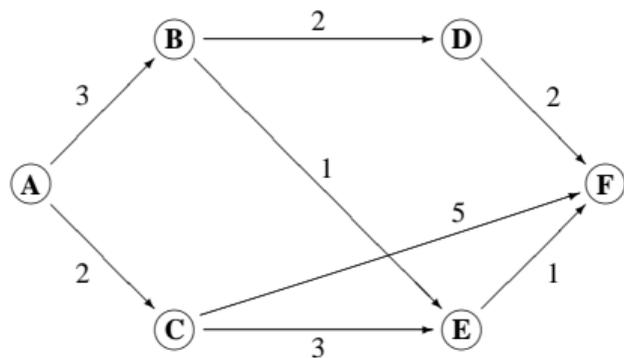
Selfish routing example



- How much will BE pay?



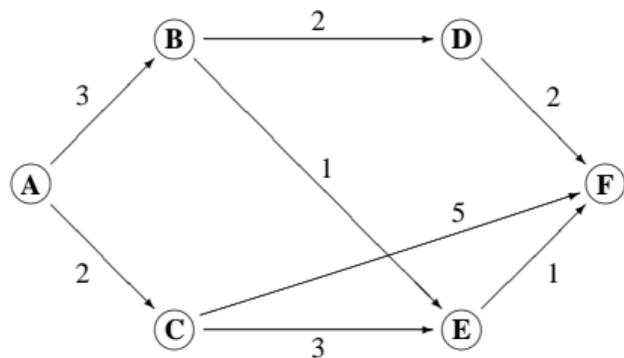
Selfish routing example



- How much will BE pay? $p_{BE} = (-6) - (-4) = -2$.



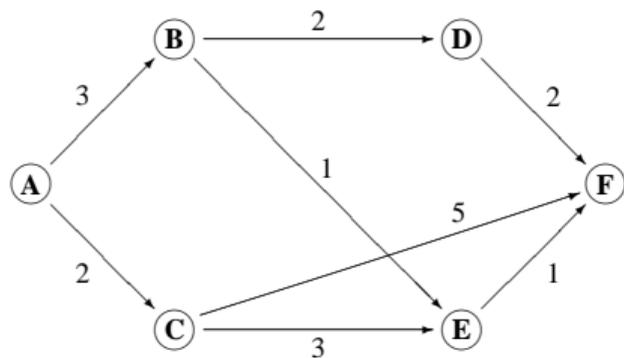
Selfish routing example



- How much will BE pay? $p_{BE} = (-6) - (-4) = -2$.
- How much will EF pay?



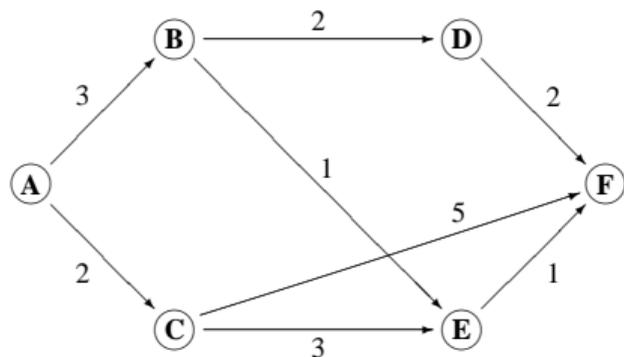
Selfish routing example



- How much will BE pay? $p_{BE} = (-6) - (-4) = -2$.
- How much will EF pay? $p_{EF} = (-7) - (-4) = -3$.



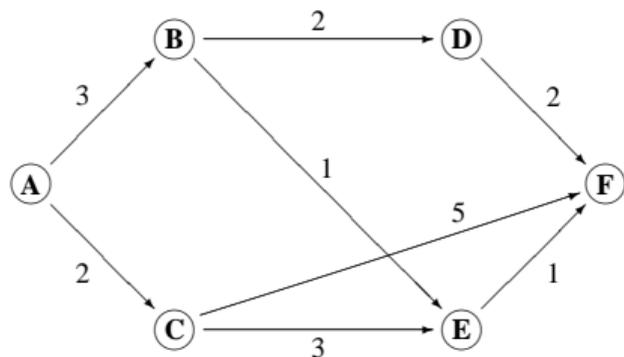
Selfish routing example



- How much will BE pay? $p_{BE} = (-6) - (-4) = -2$.
- How much will EF pay? $p_{EF} = (-7) - (-4) = -3$.
 - EF and BE have the same costs but are paid differently. Why?



Selfish routing example



- How much will BE pay? $p_{BE} = (-6) - (-4) = -2$.
- How much will EF pay? $p_{EF} = (-7) - (-4) = -3$.
 - EF and BE have the same costs but are paid differently. Why?
 - EF has more **market power**: for the other agents, the situation without EF is worse than the situation without BE .