Topics to discuss

1. Findings
2. Possible mechanisms
3. Details to decide

Findings

- Incumbent workers experience an increase in their wages
- Probability of hiring
- Wages of new starters

Mechanisms

Why does a higher carbon price influence firms' workers?
→ Open to additions
→ Find ways to differentiate among these channels

1. Cost channel
2. Cash flow channel
3. Productivity/efficiency channel
4. Operational leverage channel

Cost channel

- Higher carbon price reduces firms' profit margins, ceteris paribus.
  → On the one hand, firms insure their workers against negative shocks (a few famous papers on this). This suggests that higher carbon prices should not affect the workers.
  → On the other hand, if higher carbon prices are perceived as permanent, firms may want to share this burden with their employees.
- We can relate higher carbon prices to higher corporate tax rates. Fuest et al. AER look at this and find that firms pass half of the costs of higher corporate taxes to their workers.
- Our findings so far do not support this channel.
  → What else should we show to rule out this channel?

Cash flow channel

- The firms with permit deficits experience a higher cost. Yet, the ones with permit surplus experience an increase in their assets/cash flows. Firms may reflect these effects on their workers.
- Immediate implication: firms w/ surpluses and firms w/ deficits should behave differently.
- Due to the design of ETS, the permit surplus decreases over time $\Rightarrow$ treatment intensity increases $\Rightarrow$ most of the firms don't have a surplus in 2020.
- To test this channel, we need to check the size of the permit surpluses and if the firms sell these permits. The size of the surplus may be smaller than the cash flow effect that higher wages imply, for example.
  $\rightarrow$ I don't think that firms have to sell the permits to generate a cash flow effect. Firms can use permits as collateral to get a loan.
- Implicit assumption: This channel suggests that firms are willing to share the cash flow with their employees. This can happen, of course. But, showing this willingness seems to be important for this channel.

Productivity/Efficiency channel

- Higher (expected) carbon prices may increase the value of the workers who can lower carbon emissions, incentivizing the firms to pay higher wages.
- Note that this effect is true for all workers, not just firms with permit surpluses.
- Not all workers are beneficial for reducing emissions. Thus, the effect must be stronger for more useful workers.
- Changing productivity may be easier for firms if they hire/fire workers. This begs the question: why do we observe higher wages for incumbent workers?
- Corollary of this channel: Higher carbon price makes the skill of reducing emissions more valuable. Thus, workers with this skill may face a higher labor demand, increasing their wages (better outside offers). This can be tested by looking at the workers who switch from ETS companies to other companies. Do their wages increase, for instance?

Operational leverage channel

- Similar to the cost channel, higher carbon prices increase firms' operational leverage.
- Firms may react to this rigidity in their operations by altering their labor decisions in tandem
  $\rightarrow$ Firms may opt for a more flexible workforce
  $\rightarrow$ Firms may consider the developments in the ETS framework risky and want to reduce their risk-taking in their labor decisions.
- A popular argument in Labor&Finance literature: firms reduce their leverage when their operational leverage increases via their labor. We can relate our findings to this literature.

Details to decide

- What are the differences between a typical corporate tax and carbon price? This question may come up as people may compare these two things with each other.
- Does a firm's price-setting power play a role as a mechanism?
  $\rightarrow$ I don't think that ETS firms have strong market power. But, we may want to consider this mechanism. Maybe, we can do a heterogeneity test at some point.

Details to decide

- What is the best variable to capture a firm's exposure to ETS/carbon prices? Right now, we are using uncovered emissions (emissions minus free permits). I think this is an interesting measure but there are two things that bother me.
  - Free permits. Probably, free permits explain an important part of this measure, and free permits heavily depend on industry. In other words, uncovered permits may be picking up industry effects. Also, I do think that a higher carbon price should affect the firms with both permit surplus and deficit.
  - Similarly, uncovered permits increase over time due to the policy design. This means that the measure that we use changes over time exogenously in the post period. I am not sure if this is a problem, though. Maybe, it is OK.
  - What happens if we use just carbon emissions, scaled by number of employees or the size? This measure is more similar to an efficiency measure.